

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15686
Exam Date: 07/24/2015

1. Current Owner:
THE DAVID & TERI SMALL FAMILY TRUST 529 MOUNT IDAHO GRADE RD GRANGEVILLE ID 83530-5090

2. Accompanied by: David Small
Phone No: 661-201-6249
Address: Same as above
Relationship to permit Holder: Current Owner, Permit holder

3. **SOURCE:**
MILL CREEK

Tributary
SOUTH FORK CLEARWATER 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
85-10077	SPRING	Stockwater & Domestic	DECREED

Comments: Decreed Right 85-10077 uses a spring water source for stockwater & domestic use with a generic 40 ac tract POU shape designated during the SRBA. The license shape for 85-10077 appears to accurately depict the water right's POU, which consists of parcel RP30N03E276450. Regardless, the spring source and water uses are not associated with the Permit holder's parcel and do not cause concern for overlap with 85-15686.

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

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

MILL CREEK SW¼ SW¼, Sec. 27, Twp 30N, Rge 03E, B.M. IDAHO County

Method of Determination: GPS. POD is located at -116°4.530, 45°54.302

PLACE OF USE: IRRIGATION STORAGE, STOCKWATER STORAGE, & RECREATION 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	
30N	03E	27											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	
30N	03E	27											1.6						1.6

Total Acres: 1.6

PLACE OF USE: STOCKWATER 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	
30N	03E	27											X						

Method of Determination: beneficial use field examination & 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:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.6 \text{ ac} \times 3.0 \text{ afa} = 4.8 \text{ af}$$

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

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 4.8 \text{ af}$$

2. Volume Calculations for Other Uses: Volume Calculations for Other Uses: Stockwater Storage annual volume = 10 head mixed stock (cow/horse) x 12 gpd x 365 day = 43,800 gal per year / 325,850 gal per af = **0.1 af** considering department rounding standards.

- See attached Pond Analysis Worksheet

G. NARRATIVE/REMARKS/COMMENTS

An initial field exam was performed by department staff on 7/24/2015 but inadequate data was collected to finalize the Permit for licensing purposes. A follow-up exam was conducted on 6/8/2022 with the current property owner/Permit holder, David Small, which showed water from the Mill Creek source being used for Stockwater Storage & Stockwater from Storage, Recreation Storage, and Irrigation Storage & Irrigation from Storage use(s). At the POD, a pond with earthen dam was excavated with a vertical culvert overflow device installed. There isn't a diversion rate associated with the in-stream pond development.

At time of initial exam department staff met with the original permit holder, Darrel Stucky, to conduct the exam. Review of initial exam notes offered little information that is helpful toward illustrating the beneficial use of water by Mr. Stucky. As such, a second beneficial use exam was completed to capture all development of water use on the property. I attempted to capture water usage from the Permit's development period, 6/23/2009 -7/9/2012, but the current owner/Permit holder could not provide information related to stockwater and irrigation as direct flow components. As there was no proof of established pumping systems found in Mill Creek above or below the storage pond, and Mr. Small hasn't been diverting from the creek since purchasing the property in 2019, I am recommending that both Irrigation & Stockwater beneficial use components be removed from the permit prior to licensing.

During licensing review Arcmap aerial imagery was used to accurately trace out the pond's surface area which equals 0.4 ac. The pond's maximum depth = 13 ft, average depth = 5.2 ft, pond volume capacity = 2.1 af, seepage and evaporation rate loss = 0.8 af, stockwater storage/from storage multiple fill volume = 0.1 af, irrigation storage/from storage multiple fill volume = 4.8 af, and total volume required annually = **7.8 af** which is recommended as the maximum diversion volume for licensing purposes. The stockwater from storage annual volume of **0.1 af** is based on 10 head of stock using a stock tank filled by frost free hydrant. The recreation storage component annual diversion volume equals 2.1 af (pond capacity) + 0.8 af (seepage/evaporation loss rate) = **2.9 af**. The pond has a 15 ft length of 24-inch culvert installed vertically with screened cover with 90-degree bend to allow overflow discharge from the pipe. This allows for the pond dam to maintain approximately 4 feet of free board.

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 1.6 ac. The annual volume for irrigation storage/from storage beneficial uses equals 1.6 acres x 3.0 afa = **4.8 af**. The from storage system was developed to use gravity flow from the pond down grade using buried poly pipe to a shutoff valve and splitter located near the outflow culvert from the pond. From the junction two runs of poly pipe route to frost free hydrants which are used by Mr. Small for irrigation by hose & sprinkler. At time of exam active irrigation was observed. Irrigation is for lawn, garden, roadside shrubs, and trees.

The stockwater from storage water is primarily used by Mr. Small for cattle and horses which are brought in by neighbors each year to graze down the substantial ground cover foliage located on the northern extent of the property. At time of exam in early summer the mixed stock had not arrived, but the stock tank is on site and shows evidence of multiple years usage by stock. The stockwater from storage POU was traced out using Arcmap to reflect the portion of the applicant's parcel that is north of the shop as indicated by Mr. Small during the exam.

Review of aerial imagery and Idaho County tax parcel map information identify Mr. Small's parcel to be on both the east and west side of Mt. Idaho Grade Rd, causing the pond to appear to be not on property owned by Mr. Small. USGS DRG layer imagery shows a minor shift versus aerial imagery. Mr. Small asserts that his parcel does not include acreage on the east side of the roadway. Based on this information the applicant's parcel was traced out and shifted to align with the western side of the road resulting in the pond being fully within the property line. The irrigation from storage & stockwater from storage use aligns within the property boundary regardless of shift. I recommend licensing with the POU shape being shifted to conform to the information listed above.

Mr. Small does have a residence connected to a groundwater well, D0053780, located SE of the home. There are no recorded water rights for this beneficial use of water, but it conforms to the Domestic deferrable water use. I spoke to Mr. Small about his options and provided application for permit forms if he so chose to apply and/or seek a late claim through the adjudication process. Mr. Small asserted he uses the well for in-home use only and has relied on the storage pond for irrigation uses since purchasing the property in 2019. The domestic use is not being considered for overlap concerns; if filed on in the future combined use for irrigation should be considered for the GW well & 85-15686 (1/2 acre).

Conditions 26A, 029, X02, & 01M were removed from the permit during licensing. Condition 18B was removed following verification the pond volume meets requirements following 2016 dam requirement being revised to incorporate dam height and/or storage volume as metrics to consider. Condition R66 was replaced by R58 to describe irrigation from storage use. A text comment was added to describe the recreation use by the permit holder. Conditions 259 & 220 were added to describe pond size, volume, and water uses. Condition 004 shall be carried forward to licensing.

Decreed Right 85-10077 uses a spring water source for stockwater & domestic use with a generic 40 ac tract POU shape designated during the SRBA. The license shape for 85-10077 appears to accurately depict the water right's POU, which consists of parcel RP30N03E276450. Regardless, the spring source and water uses are not associated with the Permit holder's parcel and do not cause concern for overlap with 85-15686. There are no additional overlap concerns for this WR.

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	04/01 to 10/31	4.8 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	4.8 AF
STOCKWATER STORAGE	01/01 to 12/31	0.1 AF
STOCKWATER FROM STORAGE	01/01 to 12/31	0.1 AF
RECREATION STORAGE	01/01 to 12/31	2.9 AF

Totals: 7.8 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

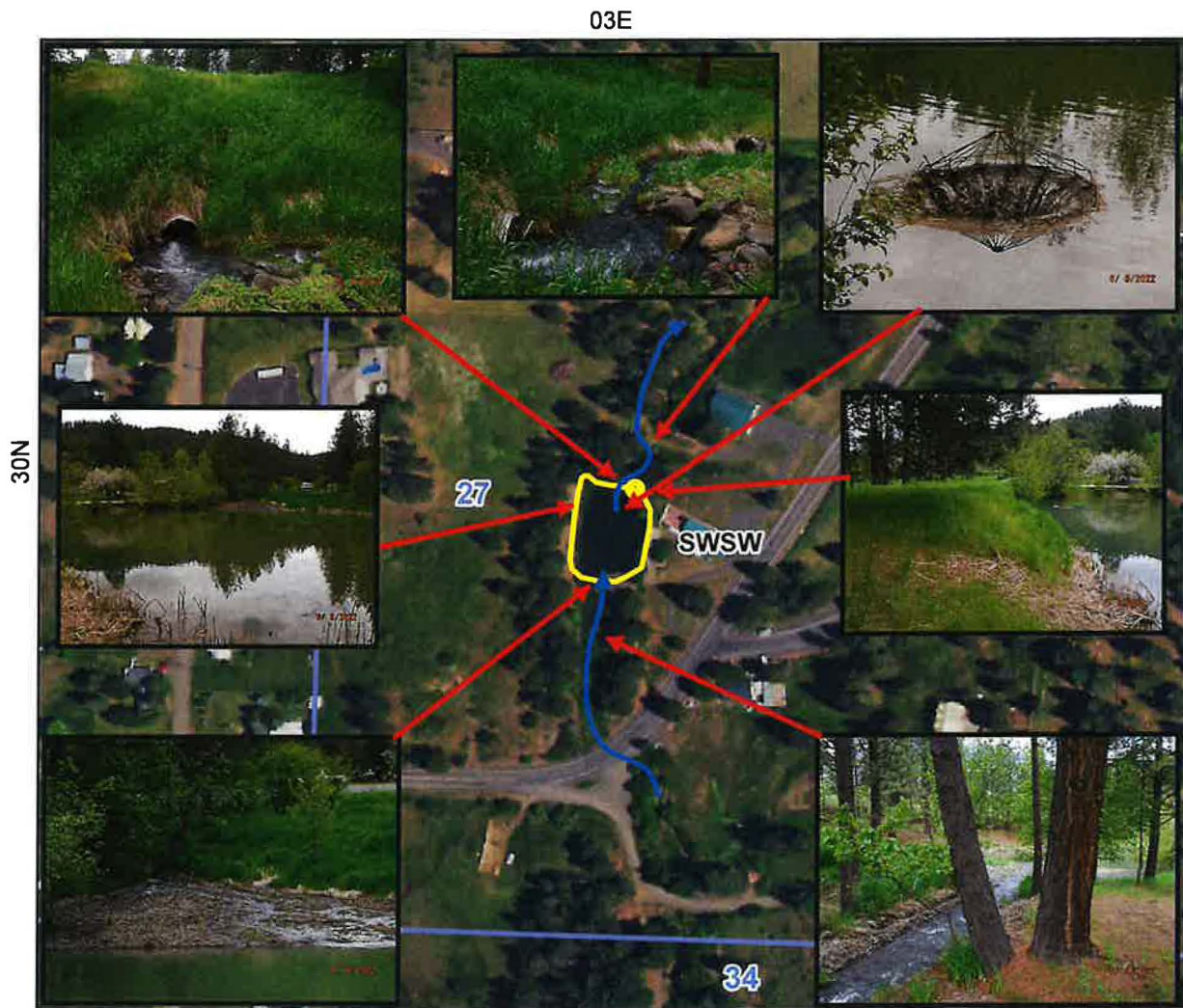
Luke Bates -

Field Examiner's Name  Date 6/27/2022

Reviewer Ad Fink Date 7/21/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
85-15686

IRRIGATION STORAGE, STOCKWATER STORAGE, & RECREATION STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
Attachment to Field Exam
85-15686

IRRIGATION FROM STORAGE system diagram.

03E



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

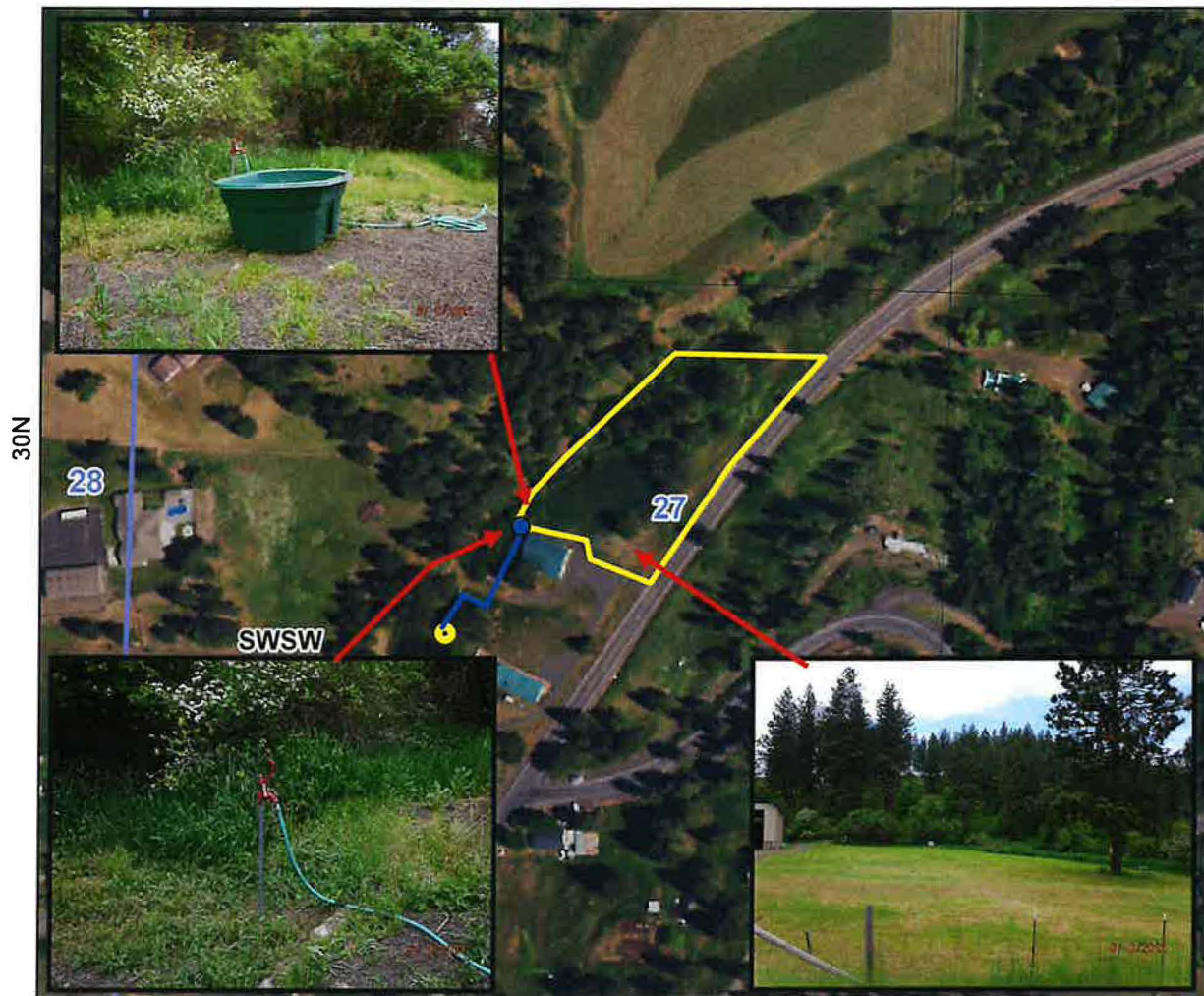
0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
Attachment to Water Right License
85-15686

This map depicts the STOCKWATER FROM STORAGE 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.

03E



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

0 0.035 0.07 0.14 Miles



Total Storage Calculations

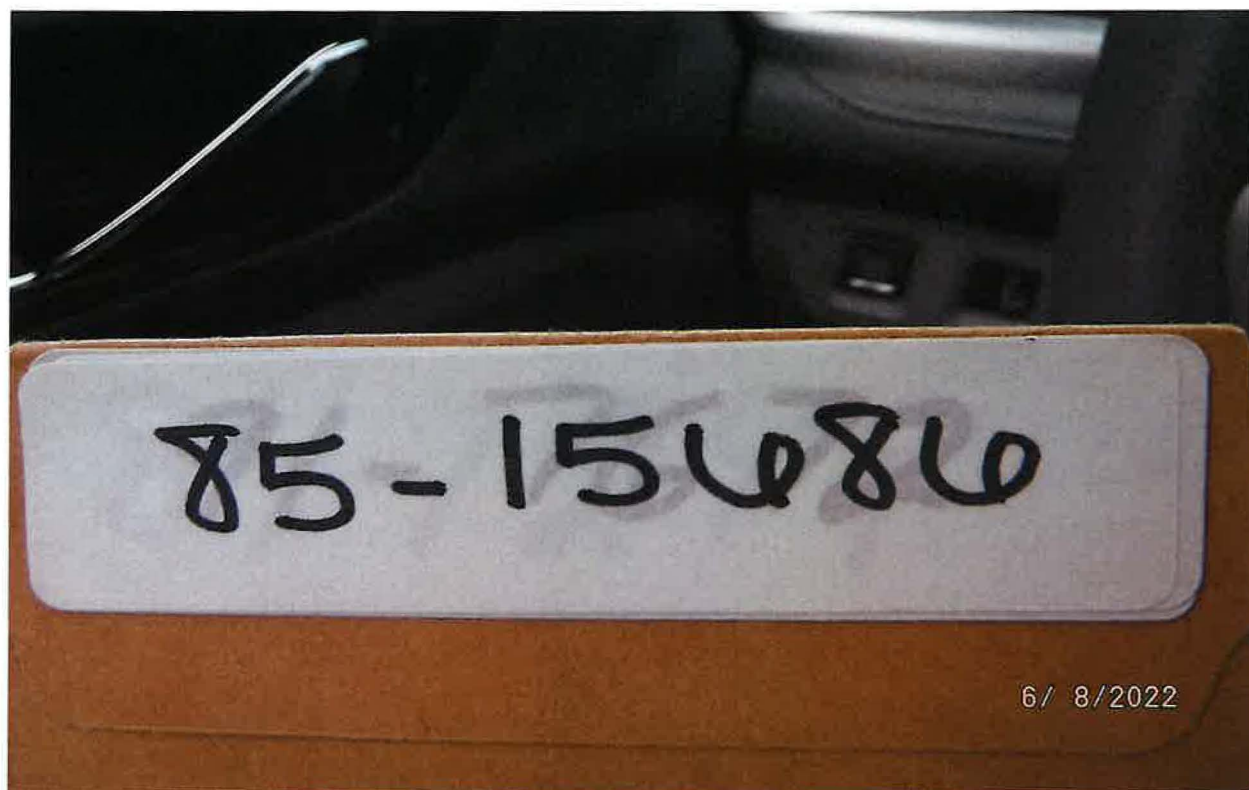
FILE NUMBER	85-15686
REVIEWER	LUKE BATES
DATE	6/23/2022

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

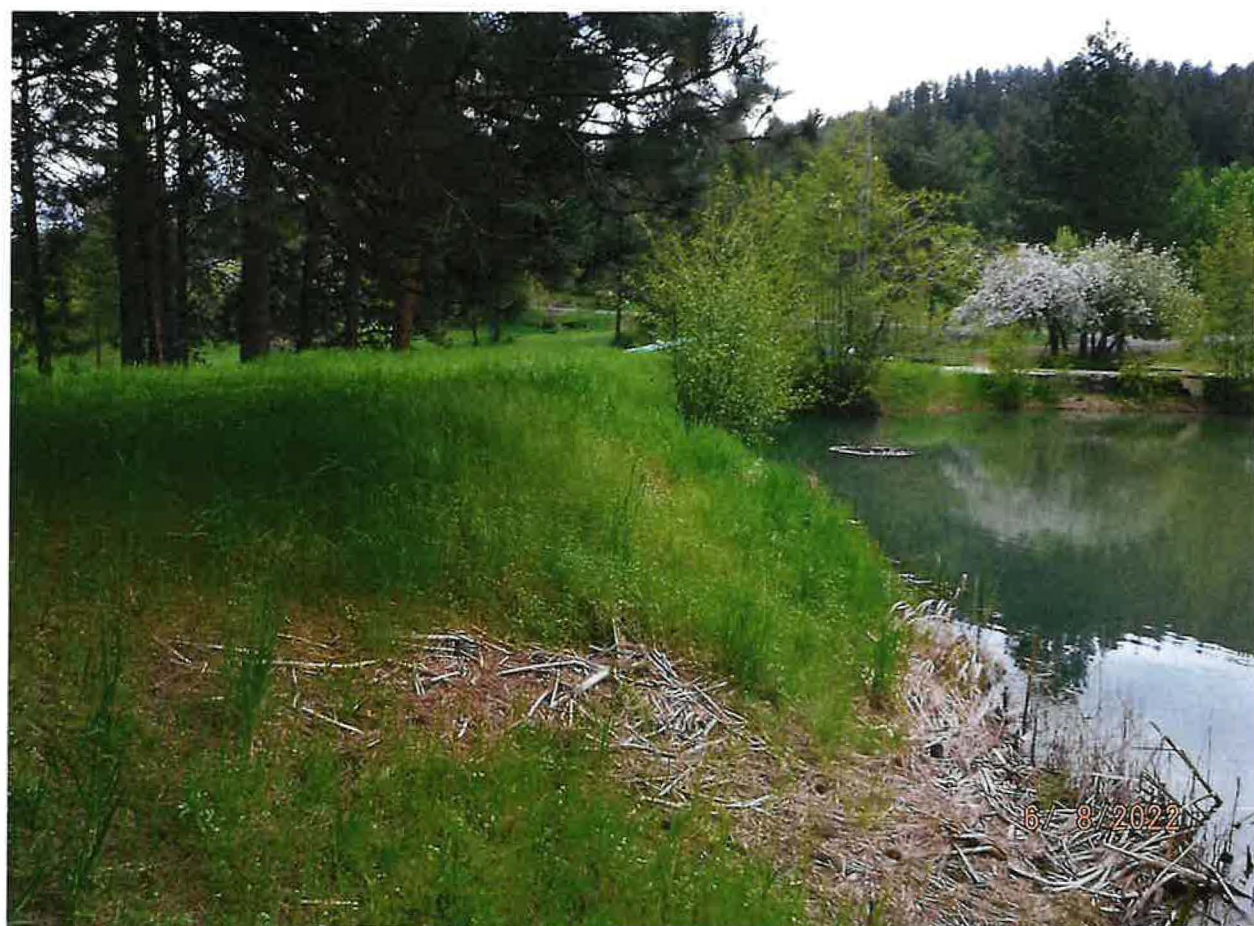
User Input
Calculated value
Formula Explanations

POND MAXIMUM DEPTH = 13 FT

Surface Area (AC.)	0.4	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	5.2	"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)	2.1	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)	4.9	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)	0.4	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)	7.8	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 EXAMINATION DATE 6/8/2022



POD – EARTHEN POND DAM



MILL CREEK INFLOW CHANNEL TO STORAGE POND



VERTICAL PIPE TO CULVERT OVERFLOW DEVICE LOCATED ON NORTH SIDE (DAM SIDE) OF POND



STREAM OVERFLOWS TO THE NORTH FROM POND





OVERFLOW PIPE ROUTING DOWNSTREAM AND THROUGH A ROAD CROSSING



POND SET UP WITH MANUAL SHUTOFF VALVE TO FULLY DRAIN FOR MAINTENANCE



IRRIGATION FROM STORAGE MANUAL SHUTOFF VALVE, BURIED POLYPIPE TO FROST FREE HYDRANTS



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



IRRIGATION FROM STORAGE POU – 2EA FROST FREE HYDRANTS RECEIVING GRAVITY FLOW FROM POND
VIA BURIED POLY PIPE





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU



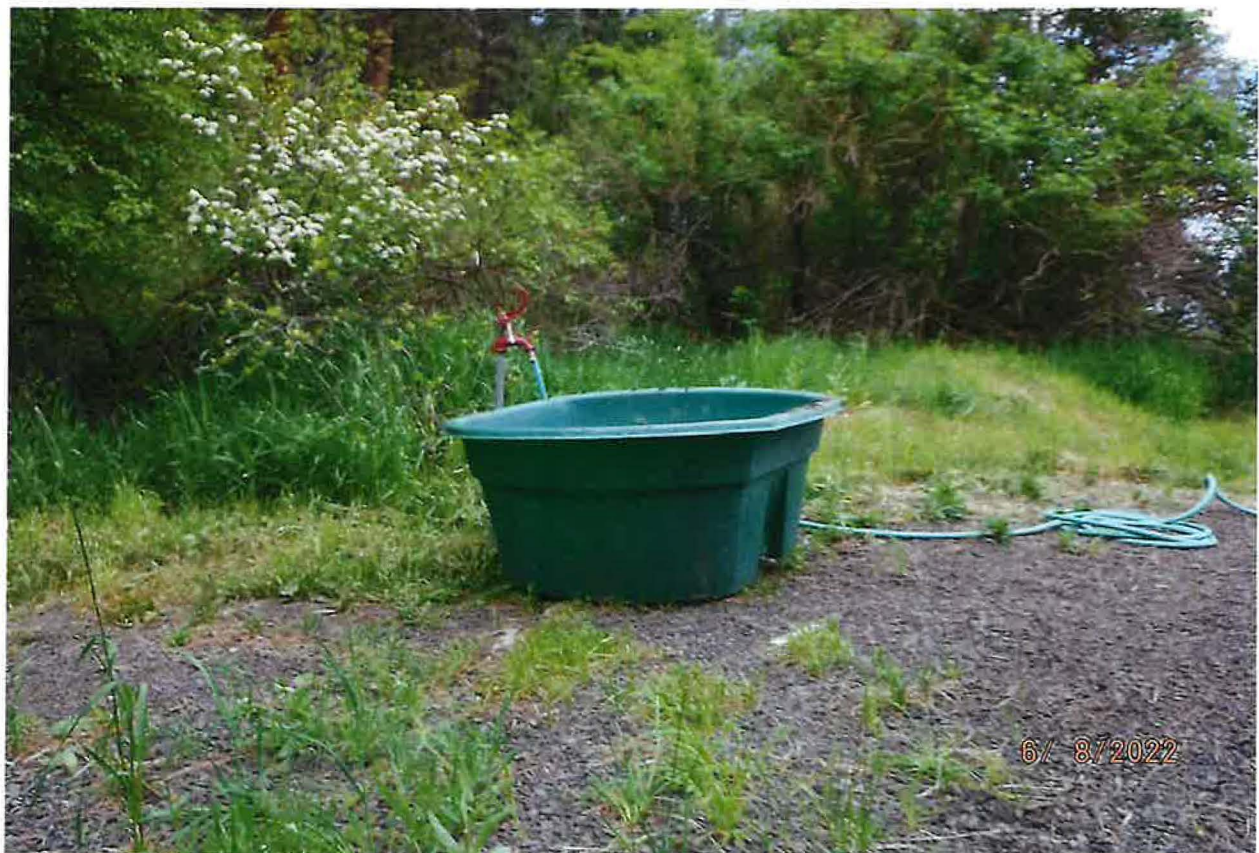


IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU – HOSE TO SPRINKLERS ROTATED THROUGHOUT THE SEASON



STOCKWATER FROM STORAGE POU