

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-7634

Exam Date: 08/17/1999

1. Current Owner:
MICHAEL ASKER 104 S A ST GRANGEVILLE ID 83530-1400 AND/OR
LORRIE ASKER 104 S A ST GRANGEVILLE ID 83530-1400

2. Accompanied by: Michael Asker

3. **SOURCE:**
UNNAMED STREAM

Tributary
THREE MILE CREEK

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

2. Other water rights with the same point-of-diversion: None

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

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

UNNAMED STREAM NE¼ SE¼, Sec. 31, Twp 30N, Rge 03E, B.M. IDAHO County

Method of Determination: Google Earth and Arcmap. POD located at -116° 07.163, 45° 53.712

PLACE OF USE: IRRIGATION 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	31													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	31													1.0				1.0

Total Acres: 1.0

PLACE OF USE: WILDLIFE 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	31													X				

PLACE OF USE: 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	31													X				

Method of Determination: Google Earth and Arcmap.

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
5 gallon bucket						

2. Measurements: 5 gallon bucket filled in 5 sec, 5.1 sec, and 5.0 sec for average of 5 seconds.
 5 gallon / 5 seconds = 1 x 60 seconds = 60 gpm or 0.13 cfs

E. FLOW CALCULATIONS

Measured Method: N/A

____ Additional Computation Sheets Attached

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses: See attached pond analysis sheet for actual size of pond which is more than license. License is issued for what was applied for, applicant has filed new application to cover actual storage and actual irrigation from storage.

G. NARRATIVE/REMARKS/COMMENTS

Northern Region was tasked with licensing permits that had been examined during the late 1990's and early 2000's. This file required a 2nd field exam to try and verify the diversion rate, place of use, and annual volume. The original field exam was performed on 8/17/1999 and was conducted by Cindy Zimmerman.

The 2nd field exam was performed on 6/13/2018 with Mike Asker the applicant. The exam showed a pond that was being fed from an unnamed stream. The applicant's property was very nicely landscaped and very green. The original field exam was performed in August and showed nearly no flow through the pond. The original exam measured the diversion rate through an outlet pipe returning flow to the unnamed stream. The examiner measured a diversion rate of 5 gpm or 0.01 cfs. They recommended a diversion to storage rate of 0.10 cfs with an irrigation rate of 0.03 cfs. The measurements did not match up with rates that were recommended for licensing. I was able to perform a 5 gallon bucket test on the same outlet and it was filled in an average of 5 seconds which is equal to 60 gpm or 0.13 cfs. The discrepancy in flow rates can probably be explained by the time of year each was performed. Mr. Asker did say that the stream did have really good flow all year because something was done to springs further up the hill. A water right point of diversion was found for the City of Grangeville from springs further up the hill. It was decided to give the diversion rate of 0.13 cfs because that flow was probably obtained earlier in the season during the original exam.

It was unclear why the original application and permit were for such small volumes for all uses. The applicant had only applied for 0.1 acre-feet for all uses including the irrigation of 1.0 acre. The pond itself had a surface area of 0.1 acres and had a maximum depth of 17 feet. The actual storage of the pond was equal 0.7 acre-feet with minimal seepage and 0.1 acre-feet for evaporation. The applicant was also irrigating around 1.5 acres of land. A new application was submitted by the applicant to correctly cover the storage of water in the pond and receive the proper irrigation volume for 1.5 acres of irrigation. The new application was given water right number 85-15797. Because we cannot enlarge a permit, the license will be issued for all uses receiving 0.1 acre-feet.

The original application listed a spring and unnamed streams as the sources. The source spring was removed from license as there was no evidence of a spring feeding the pond. The source of unnamed streams was plural which no longer an acceptable source. That source was changed to unnamed stream on the license. The season of use for irrigation from storage was also corrected on the license from 3/15 to 11/15 to 4/1 to 10/31. Condition R57 was changed to not show a diversion rate from storage which condition R58 is limiting it to 3.0 acre-feet per acre. Condition 219 was added to minimally describe the pond with an annual storage volume 0.1 acre-feet. Condition 004 was also added. There are no overlap concerns.

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 STORAGE	1/01 to 12/31		0.1 AF
IRRIGATION FROM STORAGE	04/01 to 10/31		0.1 AF
WILDLIFE STORAGE	1/01 to 12/31		0.1 AF
RECREATION STORAGE	1/01 to 12/31		0.1 AF
DIVERSION TO STORAGE	1/01 to 12/31	0.13 CFS	

Totals:

0.13 CFS

0.1 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

Adam Frederick - Water Resource Agent, Senior

Field Examiner's Name Adam Frederick Date 3/18/2019

Reviewer Douglas Jones P.E. Date 3/19/2019

State of Idaho
Department of Water Resources
Attachment to Field Exam
85-7634

IRRIGATION STORAGE, WILDLIFE STORAGE, and RECREATION STORAGE / SYSTEM DIAGRAM



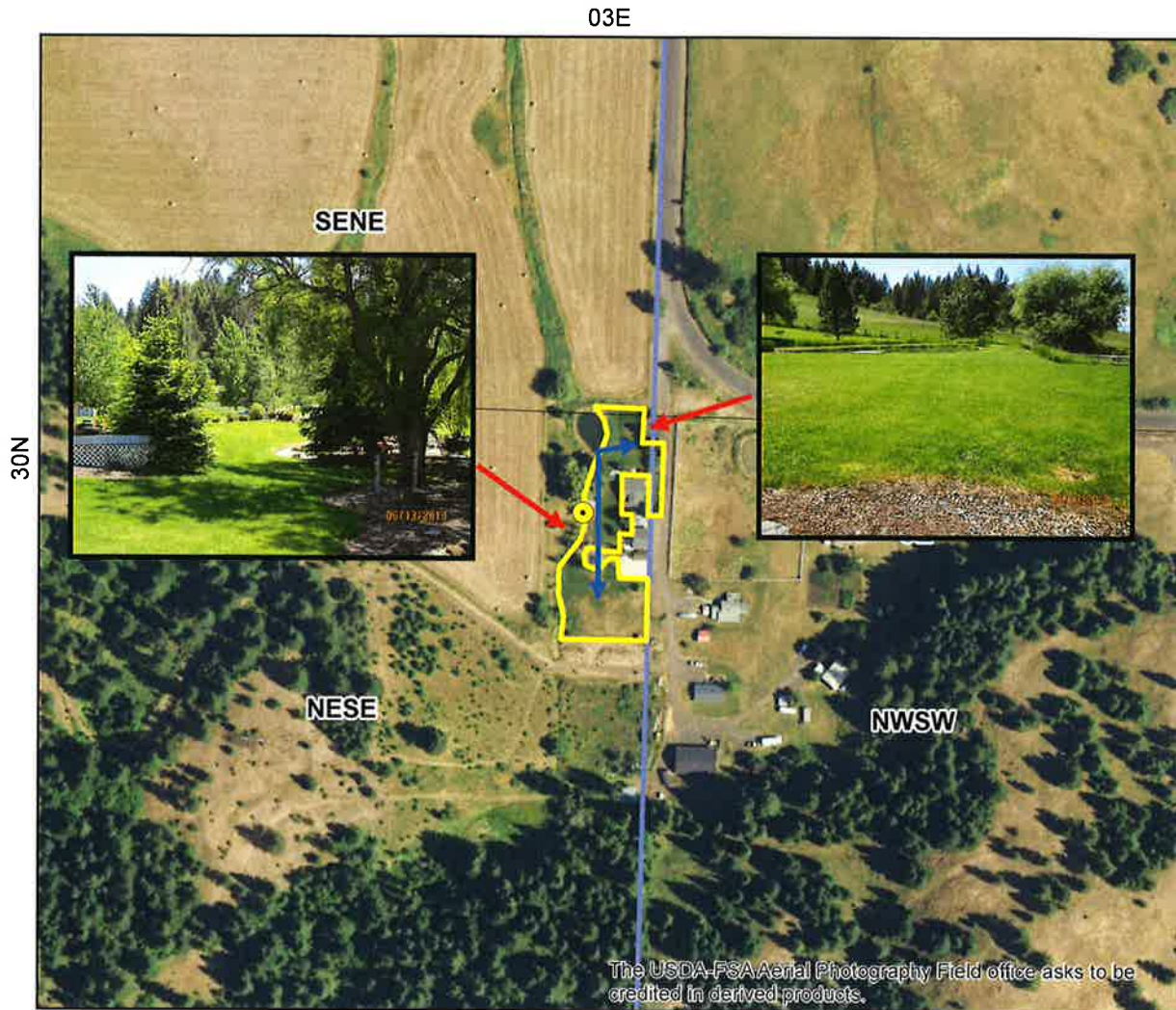
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.025 0.05 0.1 Miles



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IRRIGATION FROM STORAGE



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

0 0.035 0.07 0.14 Miles



Total Storage Calculations

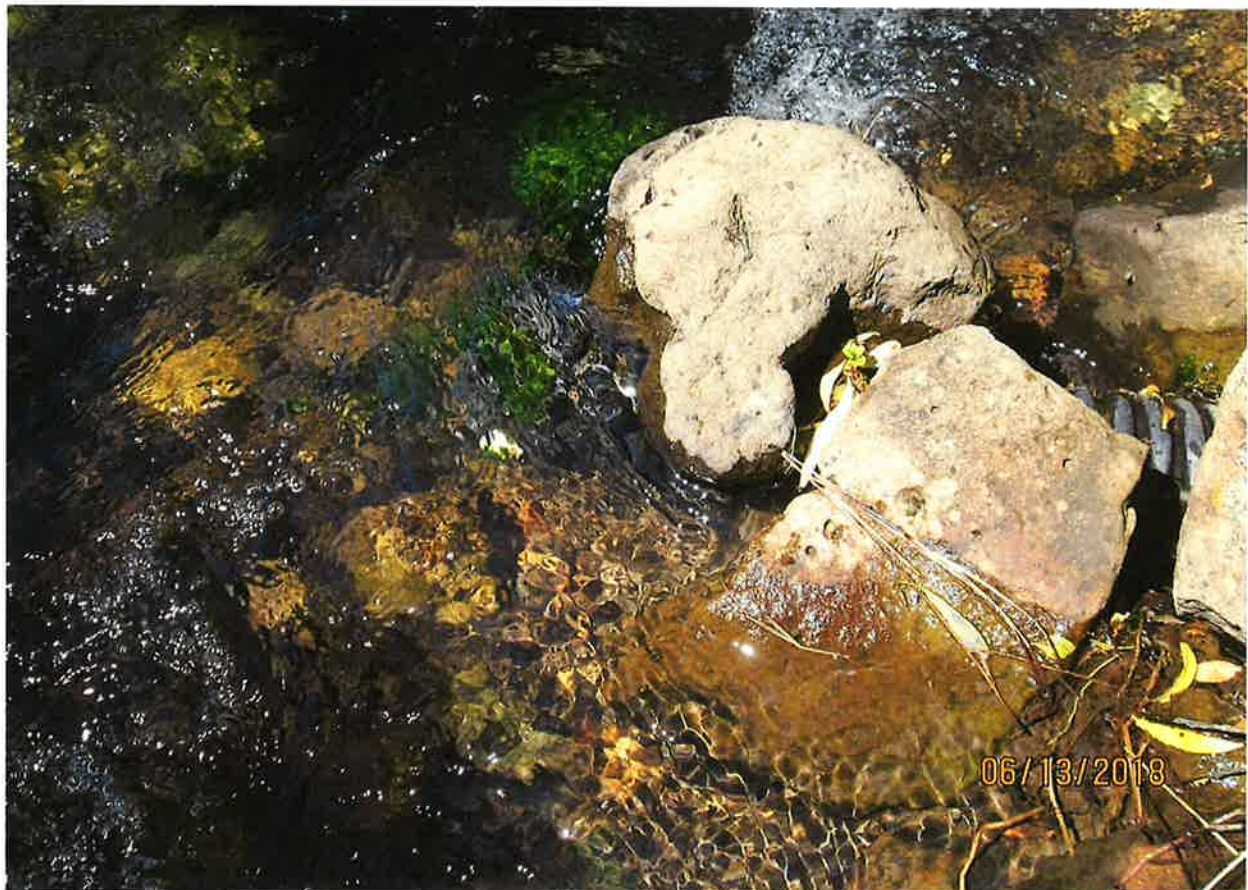
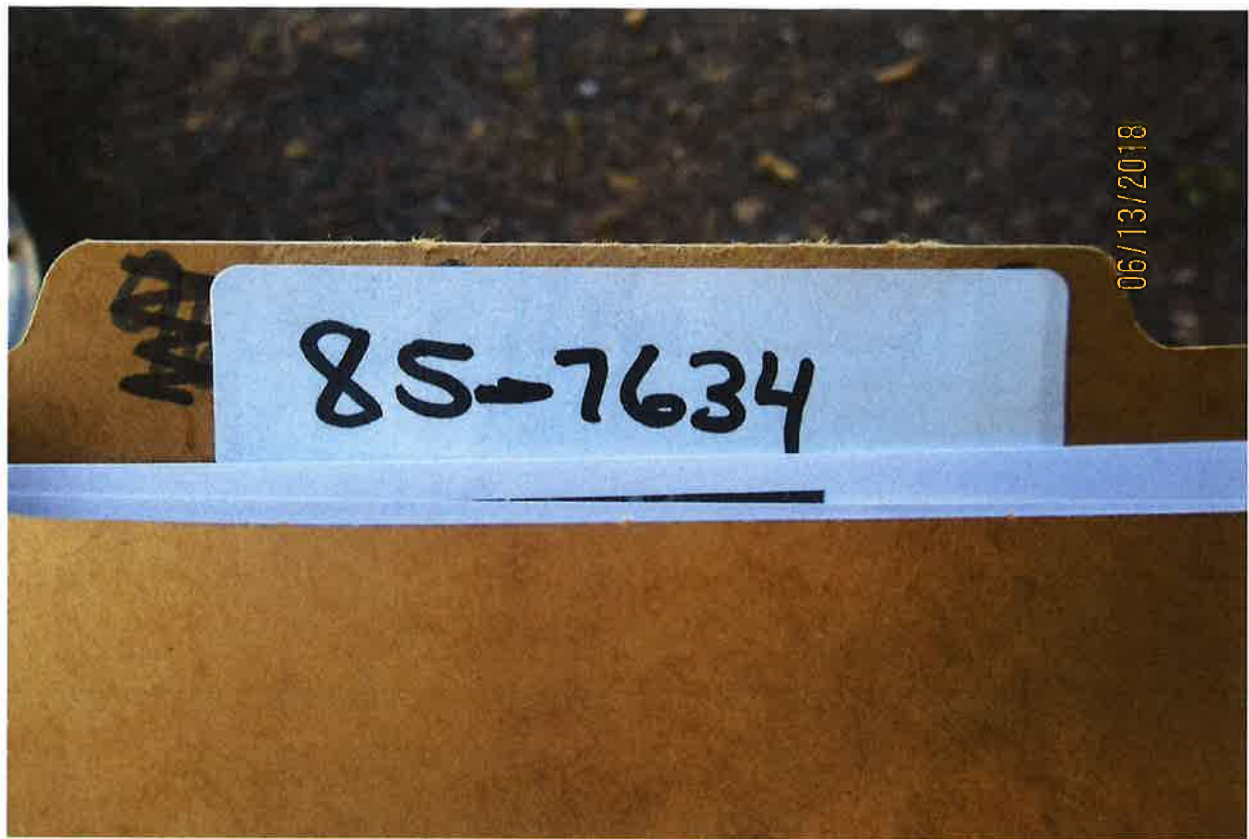
FILE NUMBER	85-7634
REVIEWER	Adam Frederick
DATE	3/18/2019

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.)	6.8	"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)	0.7	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. <i>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.</i>
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	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). <i>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</i>
Estimated Seepage Loss (AF)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	0.8	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.

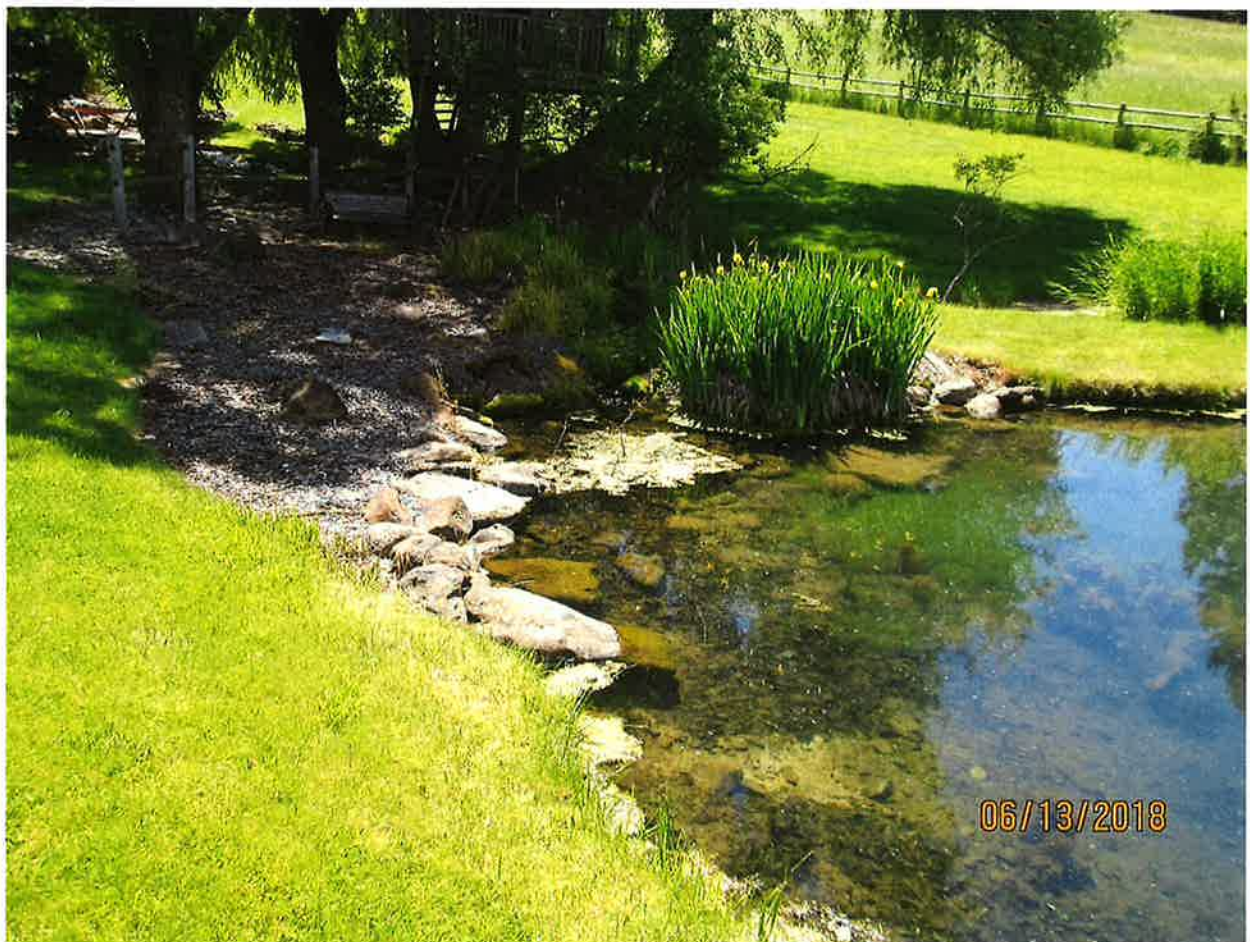
Flow Rate into Pond (CFS)	0.13	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	3.00	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	0.00	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	0.00	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	3	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.
Days Required to Fill the Pond at 13,000 Gallons per Day	17	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond. Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.



Point of diversion. 4 inch pvc pipe.



Water entering pond.





Storage place of use.





Storage place of use.





Return flow to creek. 6 inch pvc pipe.



Irrigation place of use.



Irrigation place of use.

