

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 97-7400

Exam Dates: 06/14/2001 & 08/28/2018

1. Current Owner:

ROBERT NEWMAN 158 TANGLEWOOD DR PRIEST RIVER ID 83856 AND/OR
SHERYL NEWMAN 158 TANGLEWOOD DR PRIEST RIVER ID 83856

2. Accompanied by: Sheryl Newman

Relationship to permit Holder: Applicant

3. **SOURCE:**

PRIEST RIVER

Tributary

LAKE PEND OREILLE

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

PRIEST RIVER SW¼ SW¼, Sec. 9, Twp 58N, Rge 04W, B.M. BONNER County

Method of Determination: Maps and GPS. POD located at -116° 52.329, 48° 23.365

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
58N	04W	8																1.2	1.2
58N	04W	9											0.8					0.8	0.8

Total Acres: 2.0

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	
58N	04W	8																X	
58N	04W	9											X						

Method of Determination: Google Earth, Arcmap, and DRG.

3.

X Delivery System Diagram Attached (required). Indicate all major components and distances between components. 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
	Honda				

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 5.5 sec, 5.5 sec, and 5.3 sec which is averaged to 5.4 seconds
 5 gal / 5.4 sec X 60 sec = 55.5 gpm or 0.12 cfs

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.0 \text{ AC} \times 3.0 \text{ AF} = 6.0 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.06 \text{ CFS} \times 214 \times 1.9835 = 25.5 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 6.0 \text{ AF}$$

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

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 6/14/2001 and was conducted by Wayne Baldwin.

The 2nd field exam was performed on 8/28/2018 with Sheryl Newman. The exam showed a Honda 5.5 portable pump used to fill a pond and for irrigation. The applicant did ^{not} use the pond for irrigation storage to irrigate. Irrigation storage and irrigation from storage will be removed from the license. A 5 gallon bucket test was performed and filled in an average of 5.4 seconds or 55.5 gpm or 0.12 cfs. The applicant had 3 sections of irrigation pipe with 9/64 heads. The original field examiner had stated there were 12 sections of pipe during original exam. The applicant would currently run those sprinklers along with some hose connections from those pipes that would run additional hose sprinklers. The applicant traced out where they irrigated when the statement of completion was submitted. The actual acreage was equal to 2 acres of land and applicant still irrigated same land. The original exam stated there were 12 sections of pipe but only 3 being used at time of 2nd exam. The original examiner recommended 5 acres of irrigation but using current aerial photography it was only equal to 2 acres. The diversion rate for irrigation will be licensed at 0.06 cfs. The 9/64 heads could potentially produce 12 gallons a minute at 40 psi with the additional sprinklers it would probably be equal to around 25 gpm which would be equal to 0.06 cfs. The pond had a surface area of 0.1 acres and had a maximum depth of 16 feet. The original application was applied for during a time that seepage and evaporation was not accounted for. I used the pond analysis tool to determine the actual storage of the pond which was equal to 0.8 acre-feet. The 0.8 acre-feet included seepage and evaporation and is within the 1.0 acre feet of recreation storage which was applied for. The applicant did have fish in the pond which is why they applied for recreation storage.

The maps appear to show some of the place of use located in different QQ. When you look at the DRG layer which clearly shows the proper location of the section line they are not irrigating outside the applied for 40 acre tracts. This license will not need to be corrected because they applied for the usage of water in the correct tracts and did not exceed the acreage applied for.

Conditions 01M and 004 will remain on license from permit. Condition about MSF will be changed to condition 227 which will include gauging station to monitor river flows. Condition R62 will be changed to R66 because the irrigation is less than 5 acres. Condition 219 and 220 will be added to license to put conditions on the storage in the pond. There are no overlap concerns.

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>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	4/01 to 10/31	0.06 CFS	
RECREATION STORAGE	1/01 to 12/31		0.8 AF
DIVERSION TO STORAGE	1/01 to 12/31	0.12 CFS	

Totals: 0.12 CFS

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

Adam Frederick - Water Resource Agent, Senior

Field Examiner's Name Adam Frederick Date 5/17/2019

Reviewer Douglas Jones P.E. Date 6/27/2019

State of Idaho
Department of Water Resources
Attachment to Field Exam
97-7400

RECREATION STORAGE / SYSTEM DIAGRAM



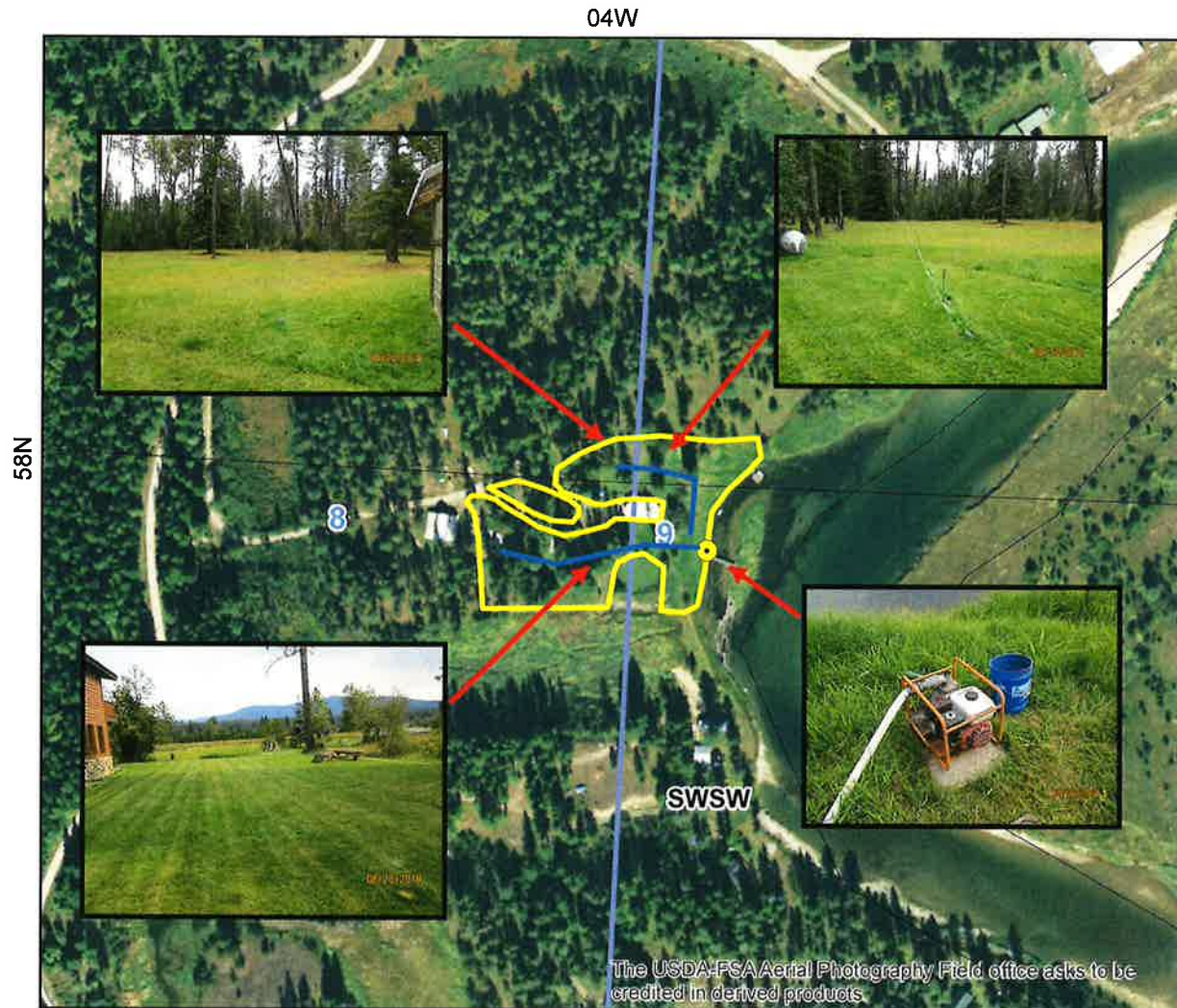
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
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IRRIGATION / SYSTEM DIAGRAM



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

0 0.035 0.07 0.14 Miles



NATIONAL



58N04W

Mile 25

8

9

17

16

Total Storage Calculations

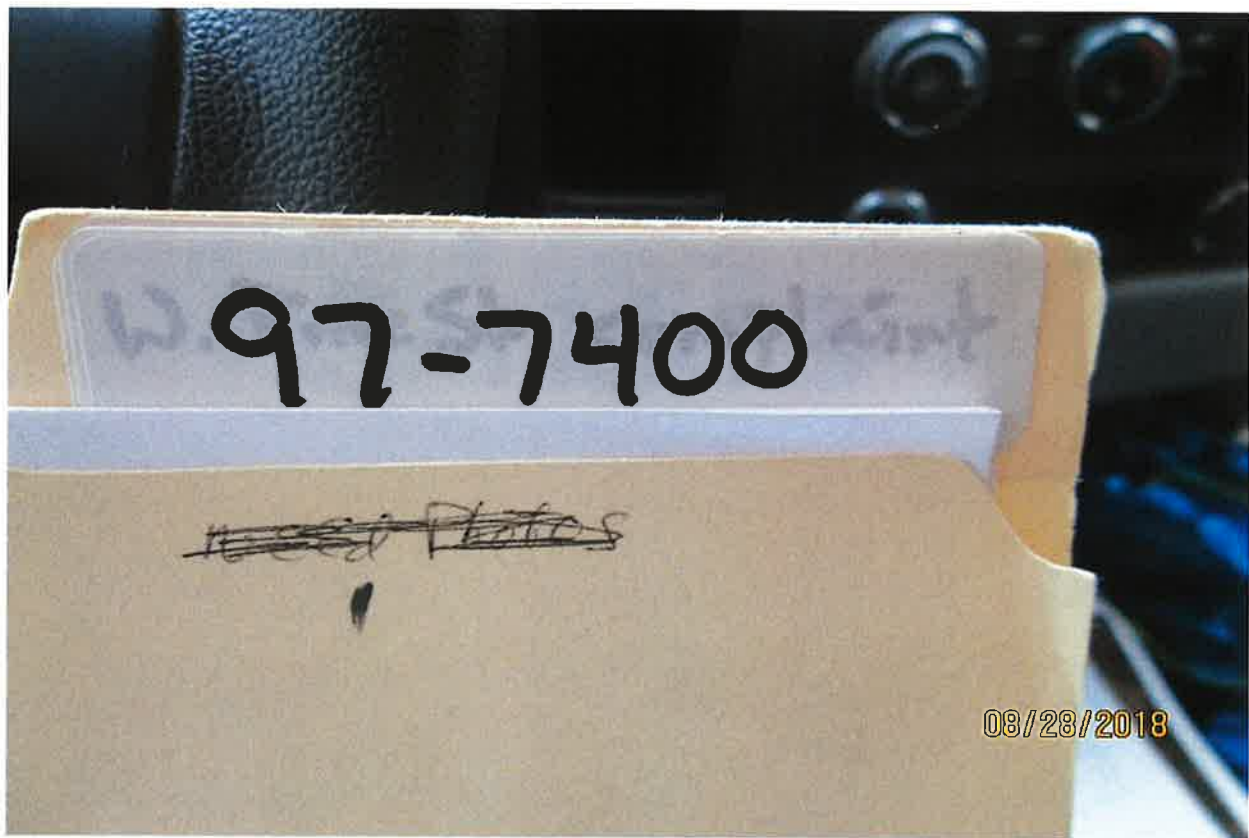
FILE NUMBER	97-7400
REVIEWER	Adam Frederick
DATE	5/8/2019

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.)	6.4	"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)	0.6	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. <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)	0.1	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)	0.12	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)	2.60	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.



Irrigation place of use.





08/28/2018

9/64 inch head on sprinklers.



08/28/2018

Irrigation place of use.



Irrigation and storage place of use.



Irrigation pipe.



Diversion to storage to pond.



Storage place of use.



Pump.



Pump specs.