

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-11878
Exam Date: 08/25/2016

1. Current Owner:
SAM TOROLOPOULOS 23835 N RIMROCK RD HAYDEN ID 83835-7870 AND
CAROLYN TOROLOPOULOS 23835 N RIMROCK RD HAYDEN ID 83835-7870
2. Accompanied by: Sam and Carolyn Torolopoulos
Phone No: 817-881-2323
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
UNNAMED STREAM

Tributary
SINKS

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

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

UNNAMED STREAM L6 (NW¼ SW¼), Sec. 4, Twp 52N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS. POD is a pump with intake pipe in an unnamed stream located at -116°43.141, 47°52.722.

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	
52N	03W	4											X L7						

Method of Determination: Field exam and Arcmap aerial imagery.

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
STREAM DIVERSION		1		STA-RITE	

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Diversion system and piping from POD to the pond was a continuous run, with the discharge into the pond occurring beneath the surface of the pond. Inadequate pipe requirements caused a flow measurement to be unattainable.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Applicant used a 1hp STA-RITE pump. Internet research identified that a pump of this make and HP has a flow rating equal to 22 gpm. A theoretical pumping equation was completed, with the pump lifting water 50 feet operating at 45 psi, which derived a flow rate 20.5 gpm or 0.046 cfs. The theoretic pump equation supports the pump manufacturer's technical specifications, and considering department rounding standards the diversion rate for either 22 gpm or 20.5 gpm rounds to 0.05 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses:

See attached pond analysis worksheet

G. NARRATIVE/REMARKS/COMMENTS

Administrative note: permit 95-11878 was approved with two separate water sources. During the field exam, it was found the water uses from each source were independent and did not co-mingle. As a result, permit 95-11878 was split into 2 rights. 95-11878 accounts for the unnamed stream source and recreation storage beneficial use. 95-18055 shall account for the spring source, stockwater beneficial use, and irrigation beneficial use. There is no overlap between water rights on the permit holder's property.

An initial field exam was performed on 8/25/2016 with the current permit holder(s), Sam and Carolyn Torolopoulos that showed a pump with screened intake pipe diverting water from an unnamed stream for recreation storage use. A follow-up exam was performed on 5/26/2017 to validate that the originally permitted water sources were not connected. The permit holder(s) use a 1hp STA-RITE pump at the POD. Internet research identified that a pump of this make and HP has a flow rating equal to 22 gpm. A theoretical pumping equation was completed, with the pump lifting water 50 feet operating at 45 psi, which derived a flow rate 20.5 gpm or 0.046 cfs. The theoretic pump equation supports the pump manufacturer's technical specifications, and considering department rounding standards the diversion rate for either 22 gpm or 20.5 gpm rounds to **0.05 cfs**, which will be applied as the diversion to storage rate and maximum diversion rate for licensing purposes.

The diversion system used 1 inch poly pipe routed from the stream up-grade to the recreation storage POU (pond), where it discharged below the high water mark into the pond. When full, overflow discharge was allowed to flow out of the pond via a 6 inch pipe. Overflow discharge returned ground (sinks) on the applicant's property. The pond area was sketched out during the field exam, and traced out using Arcmap aerial imagery during licensing review. Multiple year's imagery were referenced, and none adequately illustrate the pond full of water, but during the second exam in 2017 in mid-May the pond was found to be full.

The pond had a surface area of 0.1 acres, a maximum depth of 8 ft, an average depth of 3.2 ft, pond capacity of 0.3 af, and seepage/evaporation loss of 0.4 af annually. The total volume required equals **0.7 af** annually, which shall be designated as the recreation storage annual volume and maximum diversion volume applied at time of licensing. The permit was approved with stockwater storage/from storage use and irrigation storage/from storage use, but during the field exam the permit holders identified the pond was only used for recreation purposes. As a result, the stockwater and irrigation storage/from storage components were removed from the permit during licensing review. Two spring PODs associated with the pond were also removed from the pond, as they were not developed and/or not associated with the storage pond use.

Conditions X02, 111, 26A, and R66 were removed from the permit as they are associated with the spring source split from this right. 219 and 220 were update to reflect post field exam derived pond size and volume components. All other conditions on the permit will remain on the license. There are no overlap concerns for this 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>Rate of Diversion</u>	<u>Annual Volume</u>
RECREATION STORAGE	01/01 to 12/31		0.7 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.05 CFS	

Totals: 0.05 CFS 0.7 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

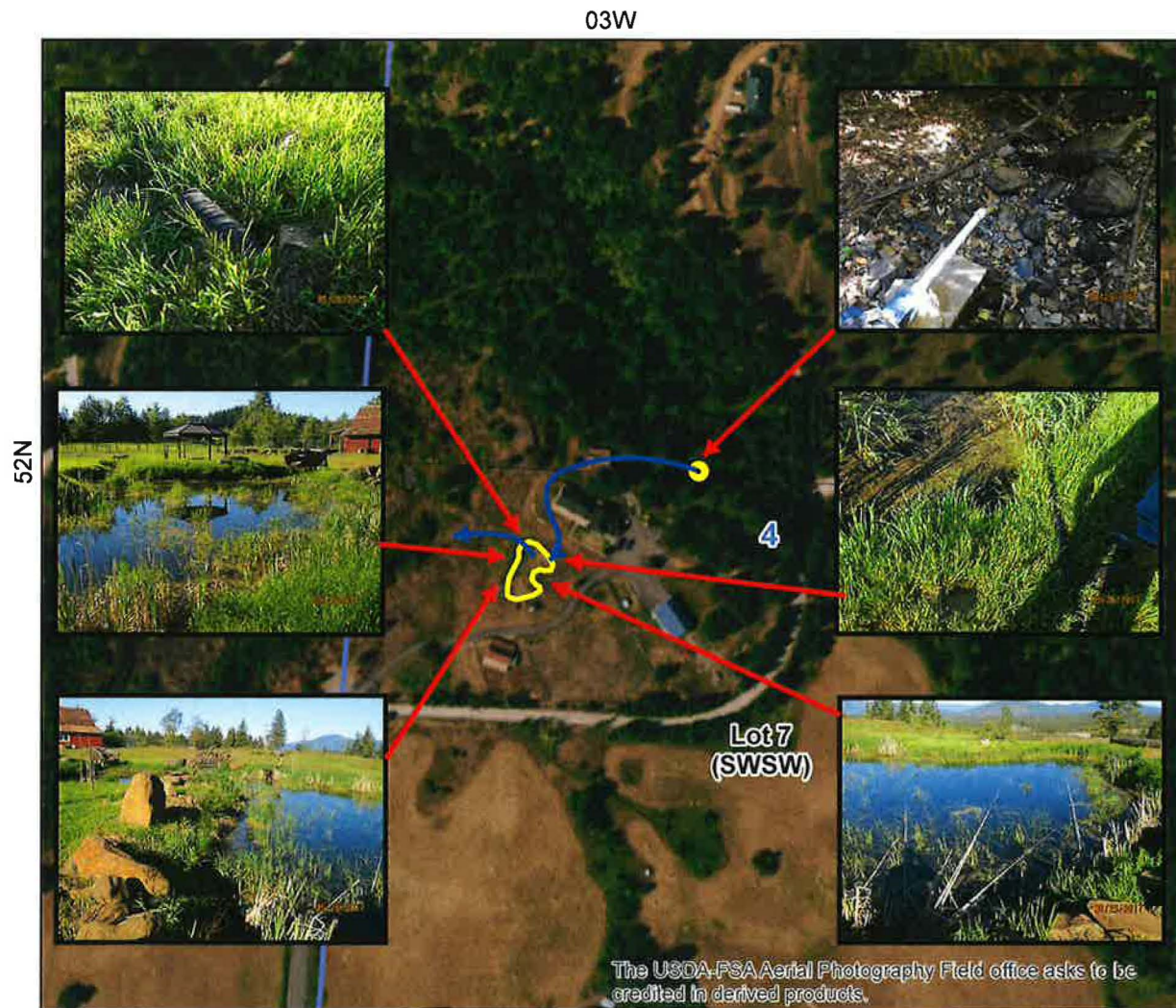
I. AUTHENTICATION Luke Bates - Water Resource Agent

Field Examiner's Name Luke Bates Date 12/30/2020

Reviewer Ash Fink Date 1/11/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-11878

RECREATION STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles



[Home](#) [Pumps](#) [Water Well Pumps](#) [Jet Pumps](#)

Sta-Rite Industries

Sta-Rite Industries**ProJet™ 1 hp Cast Iron Shallow Well Jet Pump**

Part #SSNEL Item #1623559 Manufacturer Part #SNE-L

**\$984.00** EACH

(Pricing is for 1 hp)

Quantity **Horsepower:****Packaging Info:**

Quantity Per Each: 1, Inner pack: 1

**IN STORE AVAILABILITY**0 Available for pick-up in Boise, ID
[Check Other Stores >](#)**SHIPPING INFORMATION**

Call for Availability

Product Details

For use in water systems and sprinklers for home, farm, and cottage applications

Excellent performance with strong pressure wells up to 25' deep

Quality, corrosion-resistant construction

Precision molded diffuser primes pumps faster and handles more air

Superior insulation materials protect motor windings against excessive moisture and contaminants to ensure a longer motor life

Heavy-duty ball bearings ensure extended life and smooth, quiet operation

One-year limited warranty

Lead Law Compliant

Documents[Specification](#)**Specifications****AMP:** [14, 8, 7.4]**Color Finish:** Blue**Diameter:** 12-63/1000 in**End Connections:** FNPT**Flow Rate:** 22 gpm**Impeller:** Noryl®**Length:** 26-813/1000 in**Maximum Pressure:** 50 psi**Pump Application:** Self-priming**Pump Phase:** 1**CSA Certified:** Yes**Color Finish Category:** Blues**Discharge:** 1 in**Fitting Size 1:** 1 in**Height:** 15-563/1000 in**Inlet Service Size:** 1-1/4 in**Material:** Cast Iron**Maximum Temperature:** 140**Pump Body Material:** Cast Iron**UL Listed:** Yes**Collection:** ProJet™**Depth:** 26-813/1000 in**End Connection 1:** FNPT**Fitting Sizes:** 1 in**Horsepower:** 1 hp**Lead Law Compliant:** Yes**Maximum Feet of Head:** 155**Phase:** Single Phase**Pump Motor Type:** ODP**Volts:** 115/230V

Total Storage Calculations

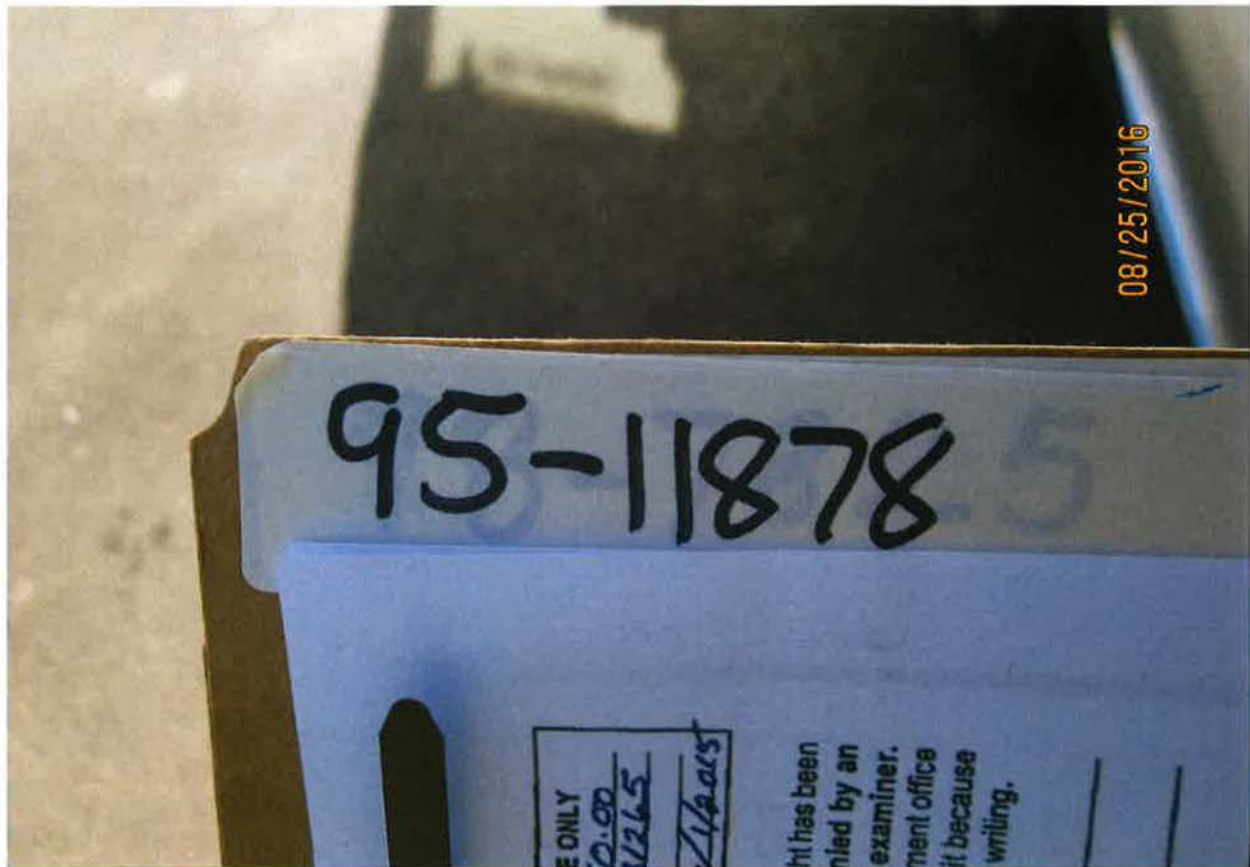
FILE NUMBER	95-11878
REVIEWER	Luke Bates
DATE	12/29/2020

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.)	3.2	"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)	0.3	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)	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). 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)	0.2	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	0.7	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.



POD - PUMP WITH INTAKE PIPE IN UNNAMED STREAM



POD – PUMP WITH INTAKE PIPE IN UNNAMED STREAM



SCREENED INLET – SHOWN AT LOW WATER LEVEL DURING FALL SEASON



POD – INTAKE PIPE IN UNNAMED STREAM, SHOWN AT HIGHER WATER LEVEL SPRING



PIPE ROUTED FROM POD TO POND VIA 1 INCH POLY PIPE



OVERFLOW DISCHARGE PIPE FROM POND



RECREATION STORAGE POU



RECREATION STORAGE POU

