

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9454

Exam Date: 5/23/2013

1. Current Owner: JEFF WINKLER
43 STILL RIVER RD
BOLTON MA 01740-9219
(978)270-2663
2. Accompanied by: No One – Owner lived out of state, and was unable to accompany field examiner, so the owner gave permission to field examine without him being there.

Phone No: (978) 270-2663Address: 43 Still River Rd, Bolton, MA, 01740-9219Relationship to Permit Holder: N/A3. **SOURCE**

LAKE PEND OREILLE

TRIBUTARY

PEND OREILLE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE
2. Other water rights with the same point of diversion: NONE

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

LAKE PEND OREILLE L3 NE1/4SW1/4 Sec. 17, Twp 56N, Rge 01E, B.M. BONNER County

Method of Determination: GPS and Visual Inspection

2.

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
56N	01E	17	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
											X								
											L 3								

Method of Determination: GIS and Visual Inspection

3. YES Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- YES Aerial Photo Attached (required for irrigation of 10+ acres).
- YES Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Lake Pump	Unknown	1	1	Unknown	½ inch

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

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

2. Measurements: The pump wasn't operating at the time of our field visit. This exam was done early in the year, so irrigation wasn't needed.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method:

Theoretical Calculation = 0.04 cfs
 Standard Domestic Use = 0.04 cfs
 Permit allowed = 0.04 cfs

I recommended 0.04 cfs for this permit.

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

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

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

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

2. Volume Calculations for Other Uses:

Domestic use for in-house use and up to ½ acre of yard irrigation limited to 1.2 acre feet per administrative processing memo #22.

G. NARRATIVE/REMARKS/COMMENTS

The water for this system is diverted out of Pend Oreille Lake with a 1 Hp pump located under the boat dock. From the pump, the water travels in a northwesterly direction to the home. There is a small 16 by 15 foot yard on the lake side of the home.

Water rights 96-9508, 96-9387, 96-9443, and 96-9446 appear to be overlaps, but are all for different parcels in the same area. There is no overlapping water rights for this property.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

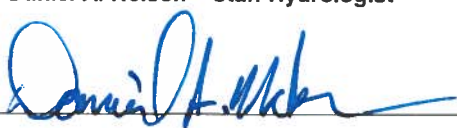
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.040 CFS	1.20 AF
	<u>Totals:</u>	0.040 CFS	1.20 AF

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 ☐ Other

I. AUTHENTICATION Daniel A. Nelson – Staff Hydrologist

Field Examiner's Name  Date 11-12-13

Reviewer _____ Date _____

State of Idaho
Department of Water Resources

Field Exam

96-9454

This map depicts the DOMESTIC 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.

01W



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

0 0.01 0.02 0.04 Miles



System Diagram – 96-9454 – By Dan Nelson

This is a simple system of a small 1 Hp pump in the lake that delivers water to a small residence with a very small yard. The yard is approximately 16 X 15 feet.

NESW3

17

56N01E

Place of Use

Mainline of Home

Pump Site

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-9454
 Reviewer: Dan Nelson
 Date of Review: 5/23/2013

P/D No.:	Senerio 1	Senerio 2	Senerio 3	
PUMP HORSEPOWER	1	1	1	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	40	40	40	
DISCHARGE PRESSURE	40	50	60	
				AVE
RATE OF FLOW (cfs)	0.05	0.04	0.03	0.04
	21	18	15.4793281	18

The above calculates the formula =
$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

The pump lift was estimated at 40 feet per the topographical map. The pressure was estimated at the standard for in-house pressure tank settings. The owner informed me that the pump is 1 Hp pump. The permit was for 0.04 cfs, so this system seems to match what was applied for in the permit. I recommend that this system be licensed for 0.04 cfs

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 5/23/2013

FILE NUMBER 96-9454



The photos above show the home and the small yard. The yard is in pretty rough shape and is mostly rocks, but it does appear to have some grass on it where the surrounding areas don't. I am assuming that some irrigation is needed.

The photos below show the location of the pump at the end of the dock, and the location of the piping where it comes out from underneath the dock and heads underground to the home.



Nelson, Dan

From: Jeffrey Winkler [Jeffrey.Winkler@synopsys.com]
Sent: Tuesday, November 12, 2013 9:07 AM
To: Nelson, Dan
Subject: RE: Field Exam for Water Right 96-9454

Dan –
Thanks for explanation. Let me know if you need anything else.
-Jeff

From: Nelson, Dan [mailto:Dan.Nelson@idwr.idaho.gov]
Sent: Tuesday, November 12, 2013 10:48 AM
To: Jeffrey Winkler
Subject: RE: Field Exam for Water Right 96-9454

Jeff,

I can go with the 1 Hp pump. That will work.

To answer your question why it is important, we must determine the rate of flow for each water right that we license. To do that we can use a theoretical calculation that takes the pump horsepower, the amount feet the pump needs to lift the water from the water source to the home, and the pressure the pump provides for the home to determine the maximum capacity the pump can provide under each specific circumstance. We prefer to actually measure the water being diverted, but we were unable to while we were at your property. The theoretical calculation should give us a reasonable rate of diversion.

Most permits are filed with a grand dream of what the owner thinks they can accomplish. When we do the field exam, we license what they could actually accomplish during the development period. Most of the time the amount actually accomplished is less than what was filed for in the beginning of the process.

For example, a person has a 10 acre parcel. That person plans to irrigate the entire 10 acres. The person files a permit for 10 acres of irrigation and domestic use for in-house use. The owner builds his home, driveway, shop, and a barn on approximately 2 acres of the 10 acre parcel, and there is another 2 acres of rocky ground that don't make any sense to irrigate, so he is only actually irrigating 6 acres. We would only license the water right for the home and the 6 acres that can be irrigated. We would also adjust the diversion rate and volume of the water right to match what is actually being done, or the maximum allowable by Idaho Law.

The person above didn't do anything wrong, in fact we encourage folks to file for the most they possibly will ever use. The reason for this is that during the licensing process we can reduce a permit, but we cannot increase the permit. Therefore, asking for most you can possibly do would be the right option for the homeowner above.

In your case, you filed for a domestic water right that allows you in-house use and up to a ½ acre of irrigation with a diversion rate of 0.04 cfs. I found that you do have a water system that provides this type of domestic use. I am charged with making sure that your water system can provided the needed diversion rate that you applied for in your permit of 0.04 cfs. If you look at the spreadsheet that I have attached to this email, you will notice that with a 1 Hp pump, you could indeed pump the full 0.04 cfs, so you will be given the full amount you applied for in your permit.

I am sorry for the lengthy email, but I want you to feel comfortable with what I am doing. I hope it will let you see what I am doing. If you have any further questions, please don't hesitate to ask me. I would be more than happy to work

through any concerns you may have. Right now, I see this permit being licensed very closely to what you requested when you filed the water right permit.

Daniel A. Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone # (208) 287-4856
Fax (208) 287-6700 (C/O Dan Nelson)

From: Jeffrey Winkler [<mailto:Jeffrey.Winkler@synopsys.com>]
Sent: Sunday, November 10, 2013 10:05 AM
To: Nelson, Dan
Subject: RE: Field Exam for Water Right 96-9454

Dan –

I am guessing it is a 1hp pump. Let me know if you absolutely need to know what was installed. The builder I used has since retired. It would take some time to determine the actual pump.

Why is the exact pump HP so important?
Please call me a call on Monday (978-270-2773)
-Jeff

From: Nelson, Dan [<mailto:Dan.Nelson@idwr.idaho.gov>]
Sent: Friday, November 08, 2013 1:52 PM
To: Jeffrey.Winkler@synopsys.com
Subject: Field Exam for Water Right 96-9454

Hello Mr. Winkler,

Last May I visited your property to verify your water use for water right permit 96-9454 to issue a water right license for this permit. At that time, you told me to visit the property and do what I needed to do, which I did on May 23rd. My field season is over now, and I am starting to work on the licenses for those water rights I field examined earlier this year.

At the time of the field exam, you didn't know what the size of the pump you used was. I was unable to determine that when I visited your property. If you have any information on your pump out Lake Pend Oreille, I would really appreciate it if you could send that information to me.

The most important information I need is the Horsepower of the pump. I am assuming it is between a ½ to 1 horsepower pump, but I wasn't able to confirm that. Is there any way you could let me know the Horsepower of your lake pump? I would appreciate anything that I can get from you.

Daniel A. Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone # (208) 287-4856
Fax (208) 287-6700 (C/O Dan Nelson)