

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 96-9688Exam Date: 2/1/2018

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y N
- a. Irrigation of 5 acres or less
 - b. Storage of up to 14.6 AF for stockwater purposes only
 - c. Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - d. Other < >

2. Current Owner: Name: Joan C. Sutton
Owner of Record Correct? X Y N
Address of Record Correct? Y N
If No: Address

Tax lot data shows Joan Sutton as the owner of the property. Please Note: The aerial photos does not match the tax parcel data or the Public Land Survey (PLS) data.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C104615

4. **SOURCE** **TRIBUTARY**
Lake Pend Oreille River Pend Oreille River
Method of Determination: GIS and Tax Parcel Data
Change in Source: Y X N

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-9671	Ground Water	Domestic	License

Comments: Water right 96-9671 is a domestic use for in-house use only for the same property. It is from ground water, and should not be an issue with this irrigation right. Water right 96-8248 also appears to overlap the place of use, but it appears to be for property in Government Lot 1 (SENE) and not anywhere near the location for this permit.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: Water right 96-9671 is for a ground water right on the same property, but it is from ground water and not from the lake.

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Lake Diversion	3		NE	NW	30	57N	1W	B.M.	BONNER
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Lot data.Change in POD? X N Amendment Required? X N**2. PLACE OF USE:** Use: Irrigation

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	1W	30					0.3												0.3
		Lot #					3												
Total Acres =																			0.3

Method of Determination: GIS and Tax Lot DataChange in POU? X N Amendment Required? X N Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

 X Aerial Photo Attached (required for irrigation of 10+ acres). 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	1/2			

*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: No measurement is required for an in-house exam.

E. FLOW CALCULATIONS
AttachedYES Additional Computation Sheets

Measured Method:

There was very little information in the file describing the pumping system for this permit, so a theoretical calculation using several assumptions to see if the flow rate seemed reasonable. The application for permit did provide that the pump being used was a ½ Hp pump. I was able to use this information in a theoretical calculation.

Theoretical Calculation 0.04 cfs**Acre Limits = 0.3 acres X 0.03 cfs per acre = 0.01 cfs****Permit allowed = 0.03 cfs for irrigation and 0.04 cfs for fire protection.**

I am recommending a diversion rate of 0.03 cfs for irrigation and 0.04 cfs for fire protection. The permit allowed a higher than standard diversion rate, which is reasonable for a yard irrigation system. Most yard irrigation systems use approximately 12 gpm per irrigation zone, which is 0.026 cfs, therefore, I am recommending that the diversion rate remain at 0.03 cfs for irrigation.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \text{ acres} \times 3 = 0.9 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 214 \times 1.9835 = 12.7 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 0.9 \text{ af}$$

Please Note: This is a surface water right, so no volume will be included on the water right license.

2. Volume Calculations for Other Uses:

No Volume can be calculated for fire protection, since water use is only allowed to fight an existing fire.

G. PURPOSE OF USEIrrigation X Y N # Stock Domestic # of Homes Other: Fire ProtectionChange in Purpose of Use? Y NMethod of Determination: Taxlot data and conversations with owner.If Yes: From Use To Use Amount CFS AFA **H. NARRATIVE/REMARKS/COMMENTS**

This permit qualifies for an in-house field examination. Water from the lake is used to irrigate the yard area. The trees along the road appear to very thick, and do not appear to have any mechanical devices that would allow them to be irrigated, so I contacted the permit holder to ensure the area irrigated. The permit holder supplied a map on February 26, 2018, showing the acres that are actually irrigated. The total acres irrigated are approximately 0.3 acres. The point of diversion was copied from the permit, even though it should have been at the point where the pipeline left the water onto the property.

The permit required a fish screen, and the permit holder stated on the proof of beneficial use form that they a fish screen was not required. The permit holder was contacted to determine if they have complied with the conditions of the permit, and the permit replied by email on February 21, 2018, confirming that the fish screen was installed.

All of the conditions listed on the permit should be carried forward to licensing except for condition 3 (R58). Condition R58 should be changed to condition X31 to address the unusual diversion rate for a small acreage.

Have conditions of permit approval been met? X Yes No

I. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Irrigation	04/01 to 10/31	0.03 CFS	0.9 AFA
Fire Protection	01/01 to 12/31	0.04 CFS	
<u>Totals:</u>		0.04 CFS	0.9 AFA

Please Note: This is a surface water right, so no volume will be included on the water right license.

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

Other: < >

J. AUTHENTICATION – DANIEL A. NELSON – WATER RIGHT ANALYST 3

Field Examiner's Name  Date 3-7-17

Reviewer _____ Date _____

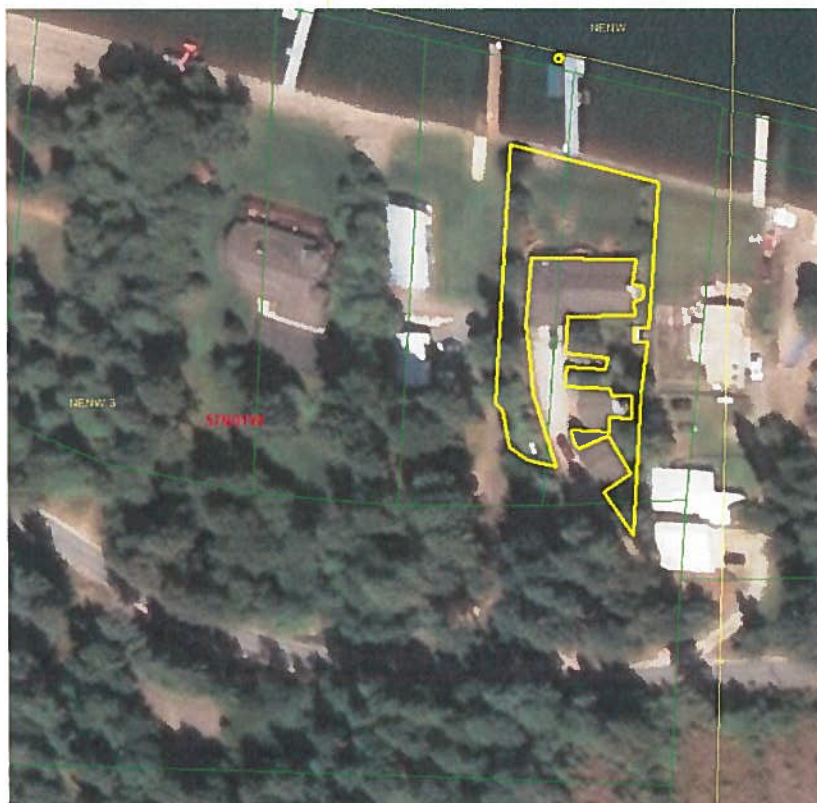
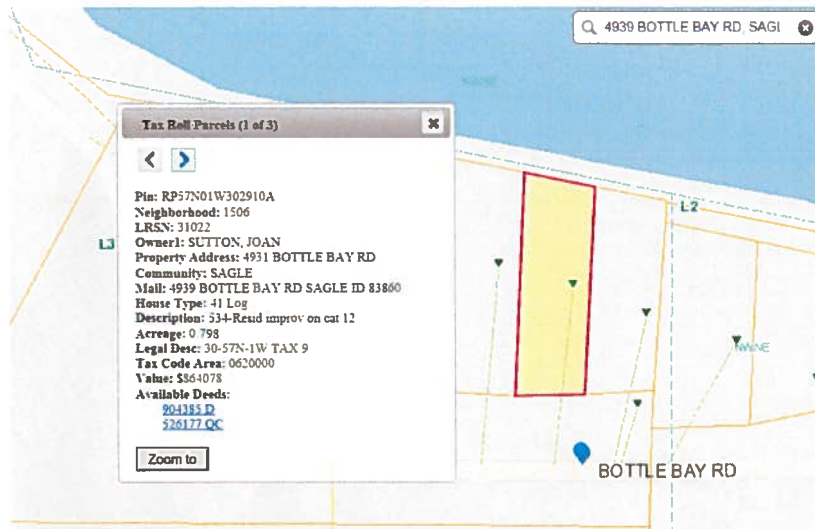
Field Exam Map Permit 96-9688

The 2011 aerial photo shown below provides a good view of the area being irrigated. The yellow border shows the area irrigated and the yellow dot shows the point of diversion. The tax parcel lines do not line up with the aerial photo. The tax parcel is 30-57N-1W-Tax 9 or parcel number RP57N01W302901A. I decided not to move the place of use to the tax parcel, since it would look like it is on the neighbors property. I also moved over the place of use for the fire protection to match the aerial photo. The place of use for fire protection would represent the adjusted tax parcel. The adjusted tax parcel has a green border.



Permit 96-9688 – Tax Parcel review map

As you can see below the tax parcel data does not match up with the aerial photography. This could be a justification problem with the aerial photo or the tax parcel information, so I used the aerial photography so the location of the irrigation use would make more sense.



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-9688
 Reviewer: Dan Nelson
 Date of Review: 2/12/2018

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario 1
0.5
0
18
30
0.04
16

Scenario 2
0.5
0
18
40
0.03
13

Scenario 2
0.5
0
18
50
0.02
10

Average
 0.03
 14.18

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:

There was very little information on this system. I estimated the lift by taking the average lake level of 2,062 feet and a the nearest contour line of 2080. resulting in an estimated lift of 18 feet. The pressure was estimated at between 30 and 50 psi. A pressure of 50 psi would probably be the highest for this type of system. Normal operating pressure of the irrigation system would proably be around 40 psi. The fire protection would propably entail the sprinkler system and possibly a garden hose or two, so it would propably be a lower pressure than the irrigation system. The diversion rates allowed by the permit seem reasonable.

Permit Field Exams Photos Permit 96-9688

The photo below was retrieved from Google Earth from a street view. The photo is from the road looking into the property. As you can see, the trees in front of the home are not being irrigated.



Nelson, Dan

From: Nelson, Dan
Sent: Monday, February 26, 2018 1:03 PM
To: 'Joan C. Sutton'
Subject: RE: Permit 96-9688

Ms. Sutton,

I wanted to let you know that I received the map from our Northern Region Office. That is perfect.

Thank you very much.

Dan Nelson

From: Joan C. Sutton [mailto:joaniecs@hotmail.com]
Sent: Monday, February 26, 2018 9:25 AM
To: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Subject: Re: Permit 96-9688

Good Morning Dan,
Thanks for the map of my property. I was able to print it and mark the areas that are irrigated. I was not, however, able to scan and re-send it to you. I'd like to blame my computer as sometimes it will scan and other times not but I'm afraid it could be operator error as well. I have a doctor's appointment in Coeur d'Alene later this morning and I go right by your office in CDA. I will try and have them send it to you and, if not, it will be in the mail to you today.

Thank you for your promptness, your thoughtfulness and your support. I hope this will be what you need.

Sincerely, Joan C. Sutton

From: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Sent: Monday, February 26, 2018 1:41 PM
To: Joan C. Sutton
Subject: RE: Permit 96-9688

Hello Ms. Sutton,

I have returned to my office, and I have included the map in the word document attached to this email. You should be able to print it off and make any corrections needed, or you can call me to go over the map. I am in the Boise Office, so visiting me in the office may not be reasonable. If you have any questions, please don't hesitate to call me. Unfortunately, I have meetings this morning, but would be available to speak with you this afternoon if needed.

Respectfully,

Daniel Nelson
Water Right Analyst 3

Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

From: Joan C. Sutton [<mailto:joaniecs@hotmail.com>]
Sent: Wednesday, February 21, 2018 1:17 PM
To: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Subject: Re: Permit 96-9688

Dan, I just sent a reply to your first e-mail regarding the fish screen then found this is my junk mail. I will contact you next week if I don't hear from you in the meantime. Thank you for staying in touch.

Sincerely, Joan C. Sutton

From: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Sent: Wednesday, February 21, 2018 8:10 PM
To: Joan C. Sutton
Subject: Automatic reply: Permit 96-9688

I will be out of the office until February 26, 2018. If you need immediate assistance, please contact our office day person at (208) 287-4800.

Thank you

Dan Nelson

Thank you

Dan Nelson

Irrigation Map for Permit 96-9688

The 2011 aerial photo shows the possible irrigated acres inside the yellow border.



Jean C. Sutton
4939 Bottle Bay Rd
Sagle, ID 83860
208-610-0102

Nelson, Dan

From: Joan C. Sutton <joaniecs@hotmail.com>
Sent: Wednesday, February 21, 2018 1:11 PM
To: Nelson, Dan
Subject: Re: Permit 96-9688

Thank you for your kind letter, Dan. I am currently out of state but will be back in Idaho on Friday February 23rd. I apologize for the error on the fish screen but, yes, my submersible pump is equipped with a fish screen. Sorry but I didn't understand what that was. This has all been an education for me and I have used your representatives is Coeur d'Alene for advice. As to the map showing the exact locations that were being irrigated I do not see a link in your e-mail containing the map you referenced. If you could send it again I would be more than happy to show the area being irrigated or, when I return home I have a copy of the original map I submitted and I can indicate the area and either e-mail or send it to you via USPS.

I have truly appreciated all the help I have received from everyone in the Water Resources Dept. and I intend to do everything I can to expedite this for you.

Sincerely, Joan C. Sutton

From: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Sent: Monday, February 12, 2018 10:22 PM
To: joaniecs@hotmail.com
Subject: Permit 96-9688

Dear Ms. Sutton,

I have been asked to review your permit (96-9688) for licensing. Due to the size of this license, we should not need to visit your property to verify the water use. If you are willing to answer a couple of questions, I believe we can license this permit without sending someone to your property to verify the actual water use.

The first question is in regard to the permit condition that required you to install a fish screen. However, on the proof of beneficial use statement you submitted, you stated that that a fish screen was not required. This can easily be fixed by you sending me an email that confirms that the fish screen has been installed. Most pumps in a stream, river, or lake have screens installed on the intake to avoid clogging of the pump. All I need is an email from you to confirm that your pump has the required fish screen.

The final thing I need from you is to confirm that I have correctly identified the area that you are irrigating around your home. I have attached an aerial photo for review of the area that I believe you are irrigating. The area inside the yellow border is the area that I believe is irrigated. Please review the map and let me know if it is correct. If it isn't correct, please provide me with a drawing or mark on the map I enclosed with this email the area that is being irrigated.

I am required to give you 30 days to supply the above information. If I don't receive this information within 30 days, I will be required by Idaho Code to 219(8) that states that if the applicant has not fully complied with the law and the conditions of permit, the permit shall be voided. However, all that is needed is that the answers

to the above questions be answered by you. You can answer these questions in an email or by letter, which ever method is easier for you.

If you have any questions, please don't hesitate to contact me.

Respectfully,

Daniel Nelson
Water Right Analyst 3
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

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Attn: Dan Nelson
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