

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

A. GENERAL INFORMATIONPermit No: 95-11639

Exam Date: 6/18/2015

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

2. Current Owner: Name: Thomas and Lisa Cunningham
- Owner of Record Correct? X Y N
- Address of Record Correct? Y N
- If No: Address

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0

4. SOURCE TRIBUTARY
- Spokane River Columbia River

Method of Determination: GIS and Taxlot DataChange in Source: Y X N**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-9189	Gound Water	Municipal	License

Comments: There are several water rights that appear to overlap this place of use. However, only water right 95-9189 is the only water right that may be used on the property. Water right 95-9189 is a municipal right for the City of Huetter that according to the application supplies the in-house use for this property. Written information on a letter received on Nov. 24, 2009 suggests that there is also an exempt domestic well that supplies the in-house use and river pump supplies the landscaping. Permit 95-16931 is for Lot 2 Blk 1 or the next lot to the west of this property. Water rights 95-4063 and 95-4116 are statutory claims that show the entire section as the place of use, but the points of diversion for both rights are on the south side of the river. Water right 95-9226 is an irrigation right for Lot 3 Blk 1, which approximately 3 lots west of the property associated with this right.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: Permit 95-16931 and license 95-9226 are both located in the same 40 acre tract, but are for separate properties as described above in the place of use analysis.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Lake Pump	3		NW	NE	8	50N	4W	B.M.	Kootenai
								B.M.	
								B.M.	

Method of Determination: GIS, Permit, and Taxlot 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	
50N	4W	8													1				1
		Lot #													3				
Total Acres =																		1	

Method of Determination: GISChange 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
River pump	Unknown	Unknown	Unknown	Unknown	Unknown

*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, but a theoretical calculation was used to determine if the diversion rate is reasonable.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method:

A theoretical analysis shows that a diversion rate of 0.03 cfs is possible with a 3/4 Hp pump. This is an in-house exam, so no pump data was supplied. However, it does seem reasonable to allow the 0.03 cfs for this system.

Estimate = 0.03 cfs

Permit allowed = 0.03 cfs

I recommend licensing this permit for 0.03 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ ac} \times 3 \text{ af/ac} = 3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 246 \text{ days} \times 1.9835 = 14.6 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 3 \text{ af}$$

2. Volume Calculations for Other Uses:

This is a domestic use. According to processing memo #22, and Domestic use for in-house and yard irrigation can have up to 1.2 acre feet of annual water use. I am recommending 1.2 af for this permit.

G. PURPOSE OF USEIrrigation X Y N # Stock Domestic # of Homes 1

Other: < >

Change 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 is qualified for an in-house exam. I didn't have confirmation of the pump size, but this is a minimal irrigation use, so the diversion rate seems reasonable for this system. The place of use was done by using 2013 aerial imagery. There was no 2011 imagery of the irrigation use. The proof beneficial use statement states that the fish screen has been installed on this system.

I am going to leave the conditions 004, and R66, on the license, but I am going to remove condition X15 since the owner confirmed that this condition has been complied with. Condition 26A was also removed at licensing.

RE-STATEMENT OF PERMIT

Proof of beneficial use was submitted 25 days after it was due. A review of the aerial photos confirm that irrigation did occur in 2013. There is a notable difference between the 2011 and 2013 aerial photos. The yard was not in place in 2011, but it was in 2013. Therefore this permit should be re-instated.

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	3.0 AF
<u>Totals:</u>		0.03 CFS	3.0 AF

2. Recommended Amendments

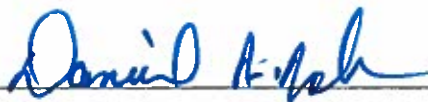
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None

Other: < >

J. AUTHENTICATION Daniel A. Nelson, Staff Hydrologist.

Field Examiner's Name



Date



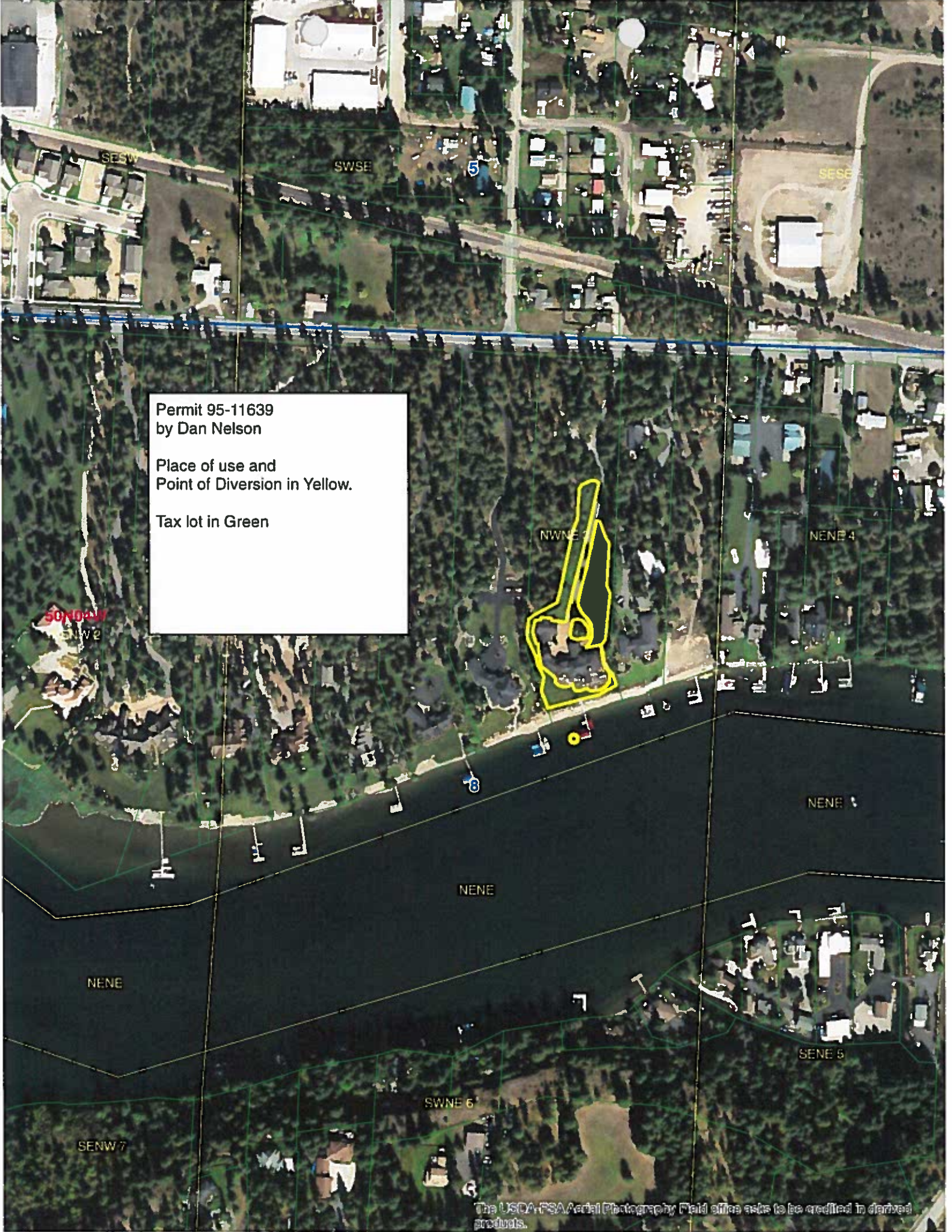
Reviewer

Date

Permit 95-11639
by Dan Nelson

Place of use and
Point of Diversion in Yellow.

Tax lot in Green



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-11639
 Reviewer: Dan Nelson
 Date of Review: 6/18/2015

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario 1
0.5
0
20
50
0.02
10

Scenario 2
0.75
0
20
50
0.03
15

Scenario 3
1
0
20
20
0.09
42
0.15
67.27

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:

This is an in-house field exam, so the pump information was not available. I used the contour lines in Arcmap to estimate the lift at approximately 20 feet. The standard pressure for a sprinkler system is between 40 to 60 psi, so I used an estimated psi of 50 psi. Using three possible pump horse powers, I determined that a 3/4 Hp pump would provide enough water to supply the 0.03 cfs under these parameters. Therefore, I feel it reasonable to recommend this permit for 0.03 cfs.