

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

A. GENERAL INFORMATIONPermit No: 95-17490Exam Date: 5/3/2019

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: Mike Mc Nall
Owner of Record Correct? X Y N
Address of Record Correct? Y N
If No: Address

Tax Parcel data shows Mike Mc Nall as the owner of the property.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C106621

4. **SOURCE** **TRIBUTARY**

Spokane River

Columbia River

Method of Determination: GIS and Tax Parcel DataChange 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
95-14179	Spokane River	Domestic	Claim
95-7557	Spokane River	Municipal	License
95-8613	Ground Water	Municipal	License
95-9082	Ground Water	Municipal	License
95-9531	Ground Water	Municipal	License

Comments: Adjudication claim 95-14179 is a direct overlapping water right on this property, but it was recommended as disallowed, since the home was built after the mandatory permit date of May 20, 1971. The home was built in 1972. Water rights 95-7557, 95-8613, 95-9082, and 95-9531 are for Greenferry Water and Sewer District, and they supply the water for the in-house use and can supply water for irrigation of the yard also if needed. Water right 95-2128 is an irrigation right that is in the same 40 acre tract, but the maps show the river front properties were excluded in the place of use for 95-2128. There are a number of other rights that have been licensed or claimed in the NIA, but all of these rights are for the neighbors on other properties.

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

Water Right No.	Source	Purpose of Use	Basis
95-14179	Spokane River	Domestic	Claim

Comments: Adjudication claim 95-14179 is a direct overlapping water right on this property, but it was recommended as disallowed, since the home was built after the mandatory permit date of May 20, 1971. The home was built in 1972. Water rights 95-7557, 95-8613, 95-9082, and 95-9531 are for Greenferry Water and Sewer District, and they supply the water for the in-house use and can supply water for irrigation of the yard also if needed. Water right 95-2128 is an irrigation right that is in the same 40 acre tract, but the maps show the river front properties were excluded in the place of use for 95-2128. There are a number of other rights that have been licensed or claimed in the NIA, but all of these rights are for the neighbors on other properties.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
River Diversion	6		SE	NW	12	50N	5W	B.M.	Kootenai County
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Parcel 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	5W	12								0.3									0.3
		Lot #								L6									
Total Acres =																			0.3

Method of Determination: GIS and Tax Parcel 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
Submersible Lake Pump	Unknown	0.5			

*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. I used the standard irrigation requirements allowed for the irrigation of property less than 5 acres of 0.03 cfs per acre allowed in Processing Administrative Memorandum #17.

Theoretical Calculation = 0.02 cfs

Acre Limits = 0.3 acres X 0.03 cfs per acre = 0.009 cfs Rounded to 0.01 cfs

Permit allowed = 0.01 cfs

I am recommending a diversion rate of 0.01 cfs, since that is the limited authorized by the permit. The pumps can supply up to 0.02 cfs, so there is no doubt that 0.01 cfs can be diverted through the system.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.01 \text{ cfs} \times 246 \times 1.9835 = 4.9 \text{ af}$$

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

2. Volume Calculations for Other Uses:

N/A

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

Other: < >

Change in Purpose of Use? Y X 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 exam. The only real issue with this permit is the overlapping municipal water right that supplies water to the home. One of the municipal rights is from the same water source, but I don't think that would be an issue. We have been instructed not to create combined limits with municipal water rights, so the X31 condition should be adequate to ensure that the irrigation limitations for this property are not exceeded.

The place of use for the permit included the tax parcel and more acres of irrigation were actually requested than was developed. This is a standard practice with most permits. The actual acres irrigated were 0.3 acres, and shown in the yellow border of the field exam maps. The actual irrigated acres is 0.3 acres. No other irrigation was found in the aerial imagery.

The Proof of Beneficial Use Statement shows that the fish screen requirements were addressed and that a fish screen has been installed.

Condition R66 will be replaced with condition X31 which is used on rights less than 1 acre. Conditions X15 and 004 will be carried forward to licensing.

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>
Irrigation	03/15 to 11/15	0.01 CFS
<u>Totals:</u>		0.01 CFS

ANNUAL VOLUME~~0.9 AF~~

AG

6/4/19 *

~~0.9 AF~~

AG

6/4/19 *

* PER IDAPA 37.03.02.035.01

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

5-6-19

Reviewer

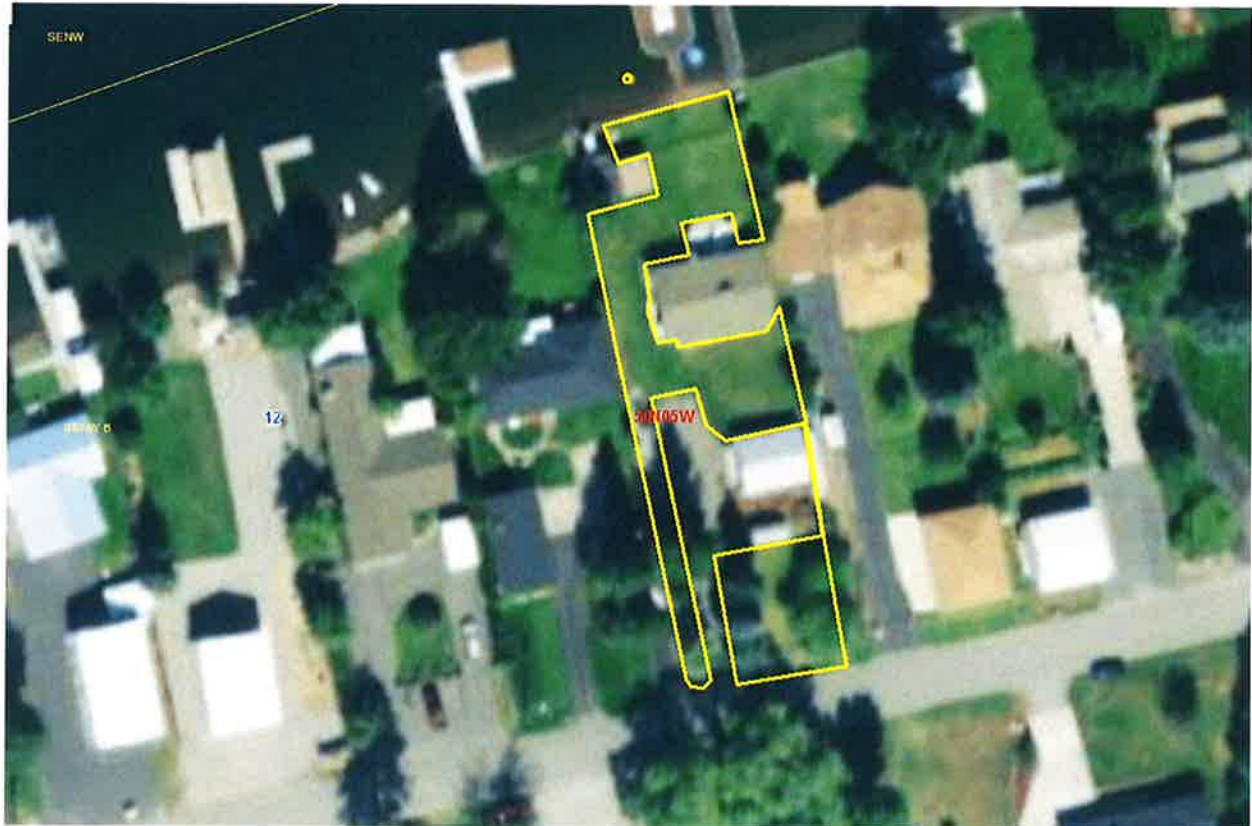


Date

5/31/19

Permit 95-17490 – Field Exam Map

The 2013 aerial imagery below shows the place of use and point of diversion in yellow.



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-17490
 Reviewer: Dan Nelson
 Date of Review: 5/6/2019

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

North Well
0.5
0
40
40
0.02
10

South Well
0.5
0
40
50
0.02
9

Dairy 2 Well
0.5
0
40
60
0.02
8

AVE
 0.02
 9.02

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 calculation is based on information received in the application for permit. The application stated that a 0.5 Hp pump was used on this system. I used the contour lines in ArcMap to determine the maximum lift, which was approximately 40 feet. I also used the standard domestic pressures of 40 to 60 psi. Using this information, I have determined that the pump delivers approximately 0.02 cfs, which seems reasonable for this size system. The permit limits the use to 0.01 cfs, so there shouldn't be any issues with granting the permitted amount.