

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

A. GENERAL INFORMATIONPermit No: 65-23382

Exam Date: 10/5/2015

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: US Forest Service – Boise National Forest
 Owner of Record Correct? X Y N
 Address of Record Correct? Y N
 If No: Address

Please Note: Used local Forest Service Office address per Data Entry Standards.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0
 4. SOURCE TRIBUTARY
 Couer D Alene Lake Spokane 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
NONE			

Comments: Water rights 65-4057 and 65-13061 appear to overlap this area, but they are for the private resort on the other side of the river. There are numerous other filings further south of this campground for a subdivision and the resort. There are no direct overlapping water rights for this place of use.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: Water right 65-13061 appears to overlap this permit, but it is for a separate well associated with the resort and not connected to the campground.

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

Source	Govt. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.		County
Well			SE	NE	36	12N	5E	B.M.	Valley County
								B.M.	
								B.M.	

Method of Determination: The well drilling report has a manually entered GPS location, which matches very closely to the permit POD location.

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	
12N	5E	36	D		D	D													
		Lot #																	
																			Total Acres =

Method of Determination: GIS and a System Diagram supplied in the application for permit. **PLEASE NOTE: A portion of the campground does go into the NWNE of Section 36, but these campsites are not directly served by the water system. The water system goes to specific hydrants and water filling stations, which are all located within the legal descriptions described in the permit.**

Change in POU? ☒ N Amendment Required? ☒ N

☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

☒ 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
Well	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

☐ Additional Computation Sheets Attached

Measured Method:

A theoretical analysis shows that a diversion rate of 0.02 cfs is possible with a 3/4 Hp pump. The owner didn't know the size of pump when the application for permit was filed, so I used several theoretical calculations to determine if a 0.02 cfs is reasonable. It appears as though a 3/4 Hp pump could be used to supply the water required under this permit.

Theoretical Calculation = 0.02 cfs

Permit allowed = 0.02 cfs

I recommend a diversion rate of 0.02 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\quad\quad\quad} \times 3.5 = \underline{\quad\quad\quad}$$

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

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

2. Volume Calculations for Other Uses:

This is a US Forest Service campground, so according to License Processing Administrative Memorandum #4, a volume of 0.6 AF should be assigned to campgrounds unless additional information is available. Therefore, I am recommending a volume of 0.6 af/

G. PURPOSE OF USE

Irrigation ☒ Y ☐ N # Stock ☐ Domestic # of Homes ☐ 1

Other: < >

Change in Purpose of Use? ☐ Y ☐ N

Method 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. This permit is for the US Forest Service Campground at Silver Creek Plunge. There is a resort and private cabin subdivision southeast of the place of use, but they are private water users and not connected into the forest service campground water system.

The forest service provided a system diagram with the application, and I tried to recreate the system on an aerial photo attached to this report. It appears as though all of the water fill up stations and water hydrants fall within the borders of the campground described in the permit. However, there are approximately 2 camping pads in the NWNE of Section 36 that are not within the borders described in the permit. Where water is not directly piped to these two camping pads, I didn't seek an amendment for the permit. The inclusion of these two camping spots should not affect the amount of water diverted under this right, since it is limited by diversion rate and standard volume limited by License Processing Administrative Memorandum #4.

I am going to carry conditions 004 and X01 onto the license, but I am going to remove conditions 046 and 106 as is the standard. I am leaving 004 on the license, since the water line for this system crosses several roads and bridges, that I am not sure are under the control of the US Forest Service.

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

I. RECOMMENDATIONS

1. Recommended Amounts

BENEFICIAL USE	PERIOD OF USE	DIVERSION RATE	ANNUAL VOLUME
Domestic	5/1 to 10/31	0.02 CFS	0.6 AF
Totals:		0.02 CFS	0.6 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_____

SESW
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Permit 65-23382
by Dan Nelson

This diagram was re-created based off of the system diagram supplied with the application for permit. This is a campground with water filling stations and hydrants throughout the campground. Water is not being supplied to each individual camping spot. Yellow lines show the mainlines, and the green lines show the borders of the place of use.

SWSW 4 30

NENW

NWNE

NENE

NWNW 1

Hydrant

Hydrant

Hydrant

Pump House

Well

Hydrant

Hydrant

Water Filling Station

Storage Tank

Water Filling Station

Hydrant

NESE

NWSE

NESE

NWSW 3

NESW

SESW

SWSE

SESE

SWSW 4 USDA FSA

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 65-23382
 Reviewer: Dan Nelson
 Date of Review: 10/5/2015

P/D No.:

	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	0.75	0.75	0.75
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	147	147	147
DISCHARGE PRESSURE	27	32	37
RATE OF FLOW (cfs)	0.02	0.02	0.02
	10	9	9

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 system is supposed to pump up to a holding tank, and then gravity feed water down to a campground. The Hp of the pump is unknown. The well log determined a pumping water level of 147 feet, and using topographical information, the storage tank has an elevation increase of at least 40 to 50 feet requiring 17 to 22 psi to lift the water that high. A minimum pressure for open discharge requires approximately 10 to 15 psi. Running the numbers using a 10 psi open discharge, it would require a 3/4 Hp pump to supply water to the storage tank. Scenario #3 shows that a 3/4 Hp pump could also provide 0.02 cfs if the open discharge pressure was raised to 15 psi and the elevation difference was 50 feet. Therefore, it is reasonable to assume that a 3/4 Hp pump is being used for this system, and it can easily supply the 0.02 cfs needed to supply water to this campground.

Signature of Principal Engineer and Rig Operator are required.