

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 75-14828

Exam Date: 11/5/2020

1. Current Owner:
STATE OF IDAHO
DEPT OF FISH AND GAME
PO BOX 25
BOISE, ID 83707-0025

2. Accompanied by: None

3. **SOURCE:**
CARMEN CREEK

Tributary
SALMON RIVER

Method of Determination: Field exam and GIS

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
75-7570	Carmen Creek	Irrigation	License
75-4087	Springs	Irrigation	Decreed
75-10477	Springs	Stockwater	Decreed
75-7035	Groundwater	Domestic	Decreed

2. Other water rights with the same point-of-diversion:

Water Right No.	Source	Purpose of Use	Basis
75-69A	Carmen Creek	Irrigation	Decreed
75-69H	Carmen Creek	Irrigation	Decreed
75-69L	Carmen Creek	Irrigation	Decreed
75-69N	Carmen Creek	Irrigation	Decreed
75-70A	Carmen Creek	Irrigation	Decreed
75-70H	Carmen Creek	Irrigation	Decreed
75-70L	Carmen Creek	Irrigation	Decreed
75-70N	Carmen Creek	Irrigation	Decreed
75-4002	Carmen Creek	Irrigation	Decreed
75-7570	Carmen Creek	Irrigation	License
75-10061A	Carmen Creek	Irrigation	Decreed
75-10061AE	Carmen Creek	Irrigation	Decreed
75-10061Q	Carmen Creek	Irrigation	Decreed
75-10061R	Carmen Creek	Irrigation	Decreed
75-10061U	Carmen Creek	Irrigation	Decreed
75-10061Y	Carmen Creek	Irrigation	Decreed
75-10062A	Carmen Creek	Irrigation	Decreed
75-10062AC	Carmen Creek	Irrigation	Decreed
75-10062P	Carmen Creek	Irrigation	Decreed
75-10062S	Carmen Creek	Irrigation	Decreed
75-10062W	Carmen Creek	Irrigation	Decreed
75-14237	Carmen Creek	Irrigation	Decreed
75-14248	Carmen Creek	Irrigation	Decreed
75-14282	Carmen Creek, Freeman Creek	Irrigation	Decreed
75-14283	Carmen Creek	Irrigation	Decreed
75-14284	Carmen Creek, Freeman Creek	Irrigation	Decreed

75-14285	Carmen Creek	Irrigation	Decreed
75-14286	Carmen Creek, Freeman Creek	Irrigation	Decreed
75-14287	Carmen Creek	Irrigation	Decreed
75-14288	Carmen Creek, Freeman Creek	Irrigation	Decreed
75-14289	Carmen Creek	Irrigation	Decreed
75-14365	Carmen Creek	Irrigation	Decreed
75-14366	Carmen Creek, Freeman Creek	Irrigation	Decreed
75-14431	Carmen Creek	Irrigation	Decreed
75-14441	Carmen Creek	Irrigation	Decreed
75-14442	Carmen Creek	Irrigation	Decreed
75-14443	Carmen Creek	Irrigation	Decreed
75-14507	Carmen Creek	Irrigation	Decreed
75-14539	Carmen Creek	Irrigation	Decreed
75-14540	Carmen Creek	Irrigation	Decreed
75-14541	Carmen Creek	Irrigation	Decreed
75-14697	Carmen Creek	Irrigation	Decreed
75-14699	Carmen Creek	Irrigation	Decreed

Comments: The purpose of this fish propagation right is to allow IDFG to provide a screened diversion with fish bypass to satisfy the water rights listed above.

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

CARMEN CREEK L3 (NE¼ NW¼), Sec. 2, Twp 22N, Rge 22E, B.M. LEMHI County

Method of Determination: Field exam and GIS

PLACE OF USE: FISH PROPAGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
22N	22E	2					X Lot 3	X Lot 4											

Method of Determination: Field exam and GIS

D. FLOW MEASUREMENTS

1. Measurements: None taken. The configuration of this diversion does not allow for the direct measurement of only the Fish Propagation portion of the water being diverted.

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

The following equation has been used historically by IDWR for similar IDFG fish bypass structures:

$$Q = C_d A_o \sqrt{(2gh)}$$

Where:

Q = flowrate (cfs)

C_d = coefficient of discharge

A_o = Area of orifice opening (ft^2)

g = gravitational acceleration $\left(32.2 \frac{\text{ft}}{\text{s}^2}\right)$

h = Measured head above center of orifice opening (ft)

The orifice diameter for this structure is 4 inches, which results in $A_o = 0.09 \text{ ft}^2$.

The high water mark measured above the orifice center was 2.0 ft.

The standard coefficient of discharge used by IDWR for similar IDFG diversion structures is 0.67.

$$Q = 0.68 \text{ cfs}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: $0.68 \text{ cfs} \times 1.9835 \text{ AF/cfs/day} \times 214 \text{ days/season} = 289 \text{ AF/season}$

G. NARRATIVE/REMARKS/COMMENTS

This diversion structure is similar to many other diversions built by Fish & Game throughout the Lemhi and Salmon River basins to protect fish from entering the irrigating works. The calculated flowrate does not meet the permitted rate. It is recommended the calculated rate replace the permitted rate on the license.

Have conditions of permit approval been met?

☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual volume</u>
FISH PROPAGATION	04/01 to 10/31	0.68 CFS	289 AF

Totals: 0.68 CFS

2. Recommended Amendments

_____ Change P.D. as reflected above _____ Add P.D. as reflected above x None

_____ Change P.U. as reflected above _____ Add P.U. as reflected above x None

I. AUTHENTICATION

Brian Normandeau – Associate Engineer

Field Examiner's Name: Brian Normandeau

Date: 12/7/2020

Reviewer _____ Date _____



Photo 1: Diversion on Carmen Creek



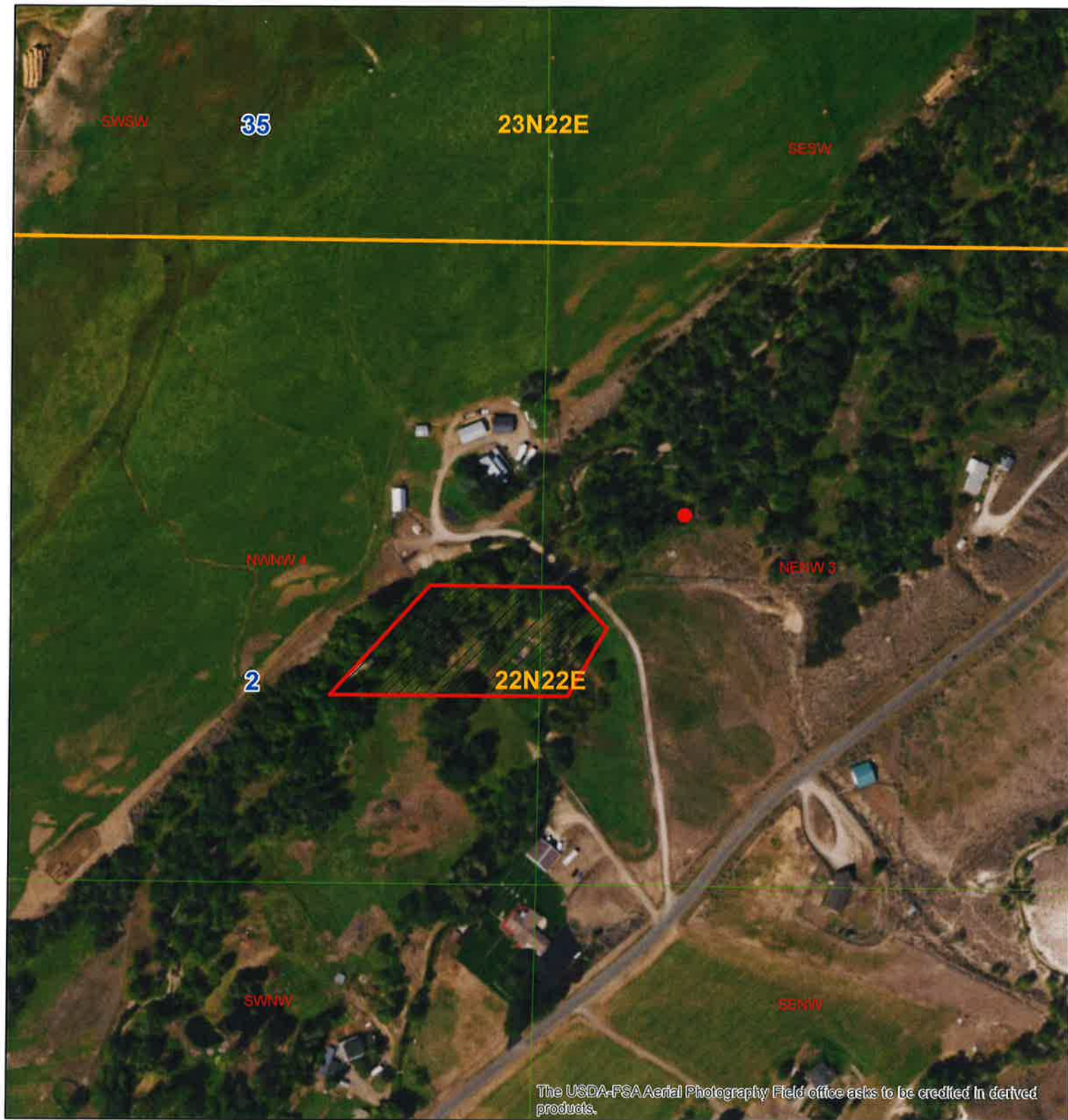
Photo 2: Fish screen/bypass approach



Photo 3: Fish screen structure



Photo 4: Fish bypass return to Carmen Creek



Legend

- Point of Diversion
- Place of Use
- Township/Range
- Sections
- QQ

0 170 340 680 Feet

1 inch = 250 feet

