

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 22-13221

Exam Dates: 09/16/2024, 05/05/2025

Accompanied by: Charles McCamy (president) and others

1. Current Owner:

TRAIL CREEK SPRINGS HOME OWNERS ASSOCIATION
1285 W 7000 S
VICTOR, ID 83455

2. **SOURCE:** Trail Creek

TRIBUTARY: Teton River

B. OVERLAP REVIEW

1. Place of Use: No overlapping rights

2. Point of Diversion: No overlapping rights

C. DIVERSION AND DELIVERY SYSTEM

A screened intake rests on the bed of Trail Creek. The intake goes into a 6" pvc pipe underground that flows out into a decorative constructed inlet channel into the large east pond. There is a connecting channel that allows water to fill the west pond.



1. POINT OF DIVERSION:

TRAIL CREEK NE¼ SW¼, Sec. 11, Twp 03N, Rge 45E, B.M. TETON County

Method of Determination: Site inspection, GPS

2. PLACE OF USE: RECREATION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Total s
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N	45E	11							X	X									

PLACE OF USE: RECREATION

Twp	Rng	Sec	NE				NW				SW				SE				Total s
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N	45E	11							X	X									

Method of Determination: Site inspection. Aerial imagery.

D. Flow Measurement

Flow was measured using the SonTek FlowTracker at the outlet stream between the pipe outflow and the pond inlet (3/5 method). The measurement site was chosen at a site with the best possible hydraulic uniformity. The measurement was taken on 9/16/2024.

Total Q = 0.20 cfs

A Licensing Amendment was received on 10/15/24 and listed a diversion rate of 1.00 CFS. A theoretical pipe flow calculation was initially used to find this 1.00 CFS rate, because at the first field examination, there was a concern that the measured flow did not accurately represent the capacity of the diversion due to a seasonally low hydraulic head. During the 5/05/25 field visit, despite a higher flow at Trail Creek, there was no noticeable change in the discharge into the ponds, so the license was issued to reflect the initial 9/16 measurement, as this measurement was determined to be more accurate after seeing the diversion across the seasons.

F. VOLUME CALCULATIONS

The surface area of both ponds was calculated to be 0.5 acres using GIS.

Depth = 11 ft

0.4 factor x 11 feet x 0.5 acres = 2.2 acre feet recreation storage.

Pond evaporation spreadsheet attached for evaporation storage = 0.8 AF

Recreation flow-through: $0.2 \times 1.9835 \times 365 = 145$ AF

G. NARRATIVE/REMARKS/COMMENTS

At the location where the diversion discharges into the decorative stream, a 4" and 6" pipe were visible. Measurement of the temperature of the outflow confirmed that these pipes convey the same Trail Creek water and were constructed for recreational purposes.

The ponds have an return flow channel tributary to Trail Creek. The small pond extends into the SWNW of sec 11, and the POD was GPS located to be in the NESW of sec 11. The permit was amended to reflect this actual development.

Ownership of the permit was changed to reflect the current owning entity (Trail Creek Springs HOA) before licensing.

Diversion to storage was added as a beneficial use to reflect current guidance on storage rights. Diversion to storage and recreation flow share the same system and are limited to 0.2 cfs. Evaporation of the ponds was found to be 0.8 AF/yr, and carryover storage 2.2 acre feet.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
Recreation	01/01 to 12/31	0.20 CFS	145 AF
Recreation Storage	01/01 to 12/31		3.0 AF
Diversion to Storage	1/01 to 12/31	0.20 CFS	
Totals:		0.20 CFS	145 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

I. AUTHENTICATION Christian Stewart, IDWR Senior Water Resource Agent

Field Examiner's Signature Christian J Stewart
Date 5/28/25

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	22-13221
REVIEWER	Christian Stewa
DATE	1/1/2025

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =ET-P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at X:/Spatial/Climate/ETIdahostations.shp.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station: Driggs (NWS -- USC00102676)

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.57	31	0.00
Feb	-0.06	28	0.00
March	0.48	31	14.88
April	1.27	30	38.10
May	1.70	31	52.70
June	3.19	30	95.70
July	3.30	31	102.30
August	3.10	31	96.10
September	2.04	30	61.20
October	0.71	31	22.01
November	-0.28	30	0.00
December	-0.76	31	0.00

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

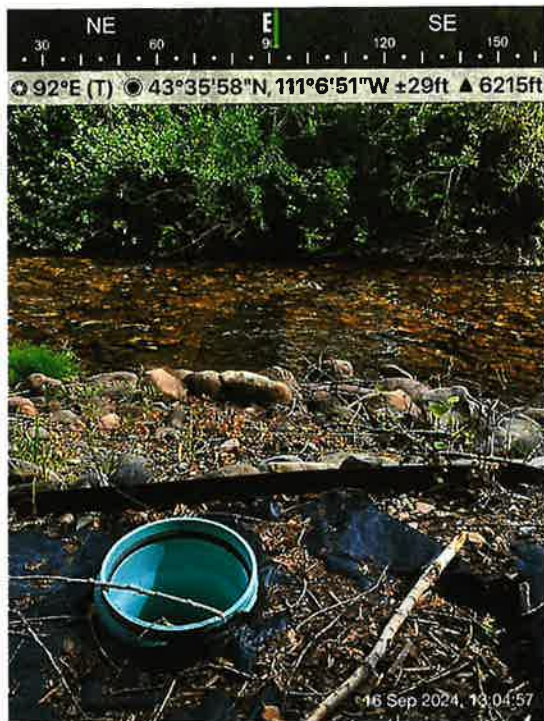
As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

Total mm/year = **482.99**

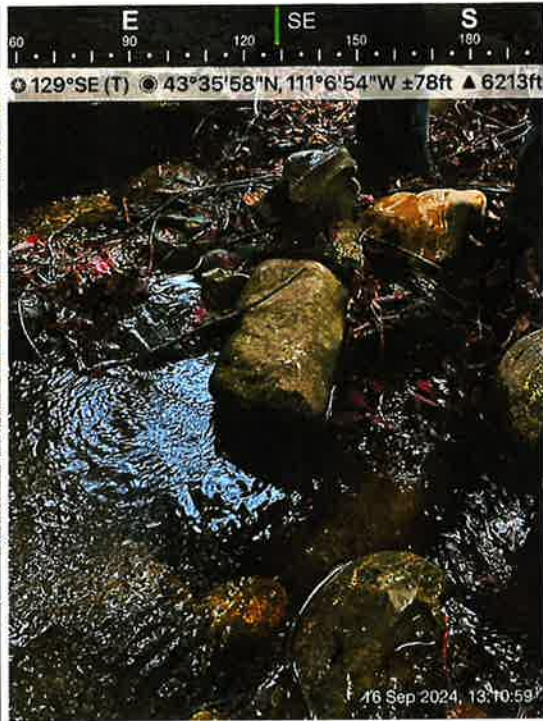
$$((482.99 \div 304.8) \times 0.50) = 0.8 \text{ AFA}$$

[(mm/yr) ÷ (convert to feet)] X (Surface area of pond, in acres) = Evaporation Loss in Acre Feet

Diversion Works



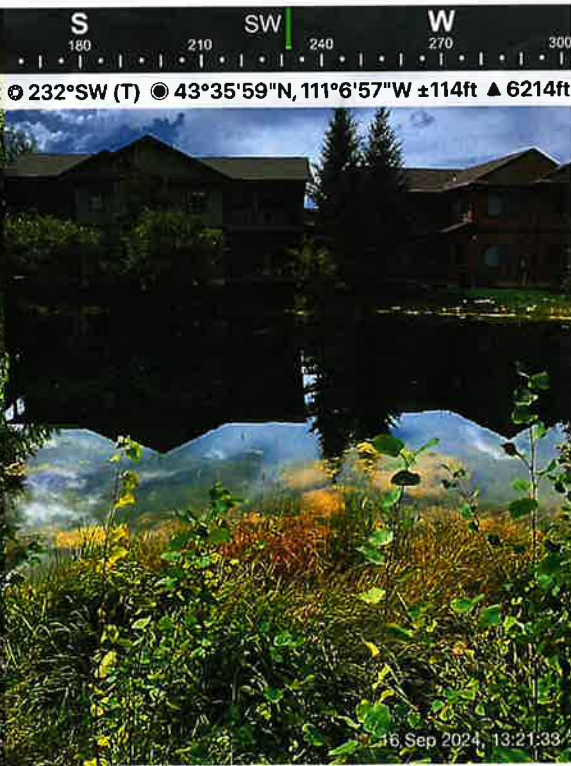
Outflow pipe into pond inlet

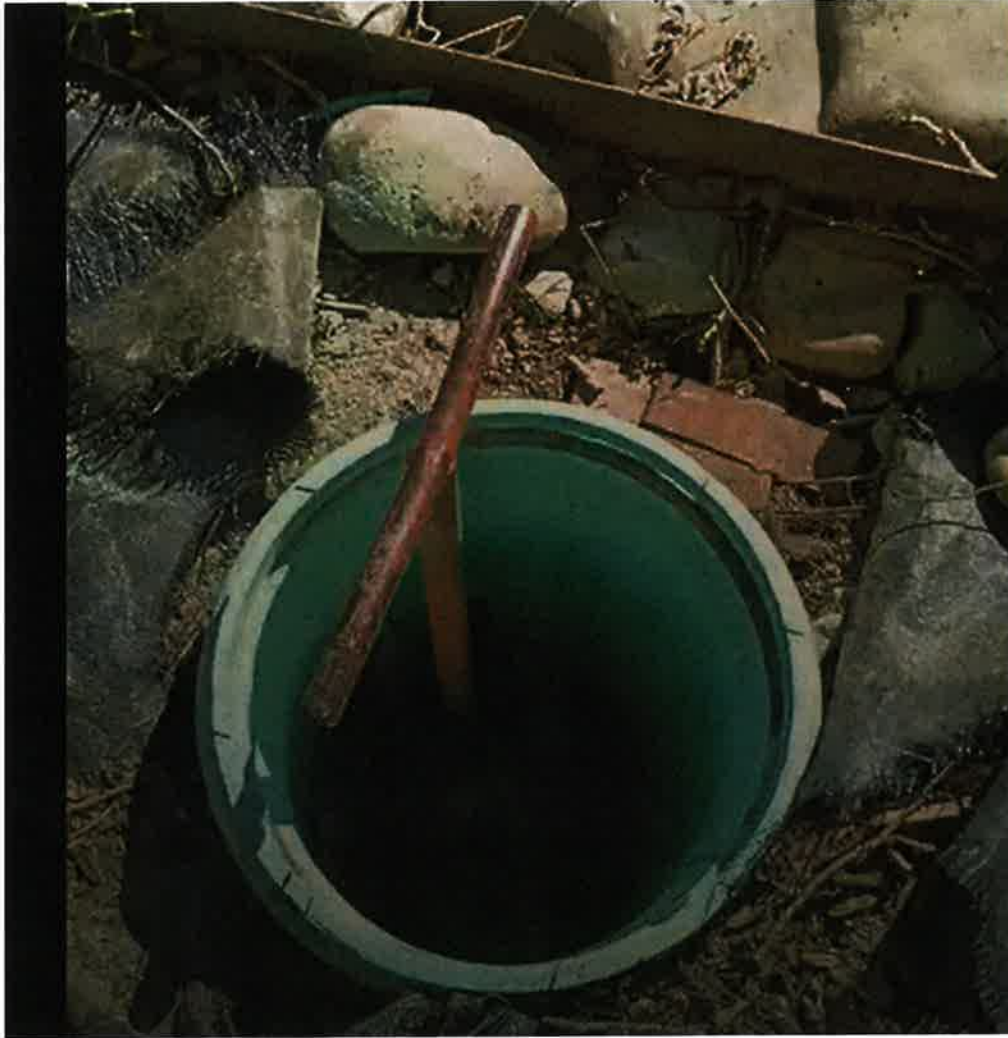


Small west pond



Large pond





Valve Key to close diversion from Trail Creek



Metal plate with hole to attach a lock to close the diversion

State of Idaho
Department of Water Resources

Water Right

22-13221

Trail Creek Springs Home Owners Association

45E



0 0.035 0.07 0.14 Miles

- Place Of Use Boundary
- Point of Diversion
- State Outline
- Townships
- PLS Sections
- Quarter Quarters

