

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

A. GENERAL INFORMATIONExam Date: 12/28/20231. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y N

- a. X Irrigation of 5 acres or less
 b. Storage of up to 14.6 AF for stockwater purposes only
 c. Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 d. Other < >

2. Current Owner: Terry Anderson

Owner of Record Correct? NAddress of Record Correct? N

If No Explain: N/A

3. Beneficial Use Fees have been paid: X Y N Receipt No: C117360

4. Source: Tributary:
 Lake Pend Oreille Pend Oreille River

Method of Determination: GIS, Tax Parcel Data, and the permit holders Statement of Completion for Proof of Beneficial Use.

Change 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
96-8953	Lake Pend Oreille	Municipal	License, Claim

Comments: The municipal water right 96-8953 overlaps the proposed place of use. Since the water right is for Municipal use and is not directly appurtenant to the proposed place of use a combined limit between 96-8953 and the permit is not necessary.

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

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments: N/A

C. DIVERSION AND DELIVERY SYSTEM

1. Location of Point(s) of Diversion:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Lake Pend Oreille			NE	SE	10	57N	01W	B.M.	Bonner
Lake Pend Oreille			NE	SE	10	57N	01W	B.M.	Bonner
Lake Pend Oreille			NE	SE	10	57N	01W	B.M.	Bonner

Method of Determination: GIS, Tax Parcel Data, and a system diagram provided by the permit holder on December 15th, 2023. The permit authorizes two points of diversion in the NESE within the Tax Parcel Boundary. However, the system diagram indicated two other points of diversion, not within the Tax Parcel Boundary, but still within the NESE Quarter/Quarter are used to irrigate the place of use. The permit holder confirmed all three points are used to irrigate the place of use on December 27th, 2023. An amendment would be required to add an additional point of diversion in the NESE.

Change in POD? X Y N Amendment Required? X Y N

2. Place of Use: Irrigation, Fire Protection

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	01W	10													0.2, X			0.1	0.3
		Lot #																	
Total Acres =																		0.3	

Method of Determination: GIS, Tax Parcel Data, a system diagram provided by the permit holder on December 15th, 2023, and 2023 Bonner County Aerial Imagery.

Change in POU? X Y N Amendment Required? X Y N

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

X Aerial Photo Attached, including the location of the POD/POU (required for irrigation of 10+ acres).

 Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
		1 per Pump			

*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
N/A						

2. Measurement Comments: The permit holder provided a pump horsepower of 1 and a lift of 6 ft was determined using Google Earth. Therefore, a diversion rate calculation is possible. However, since the permit holder confirmed two additional points are used to irrigate portion of the place of use the system capacity should include two additional 1 hp pumps. A lift and 3 ft and 4 ft were determined using Google Earth Imagery.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Since the permit holder provided a pump horsepower of 1 each for 3 pumps and a lift of 6 ft, 3 ft and 4 ft was determined a diversion rate calculation was possible. According to the calculation the system could handle 0.18 cfs with a 40-psi discharge pressure per pump. According to Administrative Processing Memo #17 the standard diversion rate/acre for the irrigation of 5 acres or less is 0.03 cfs/acre, 0.3 acres * 0.03 cfs/acre = 0.009 cfs or 0.01 cfs rounded. The permit authorized a 0.05 cfs diversion rate for irrigation and 0.20 cfs for fire protection. I am recommending a 0.01 cfs diversion rate for irrigation and 0.06 cfs for fire protection.

$$Q = (1 \text{ hp}) (8.8) (70\% \text{ efficiency}) / (6 \text{ ft of lift}) + (2.31) * (40 \text{ psi discharge pressure}) = 0.06 \text{ cfs}$$

$$Q = (1 \text{ hp}) (8.8) (70\% \text{ efficiency}) / (4 \text{ ft of lift}) + (2.31) * (40 \text{ psi discharge pressure}) = 0.06 \text{ cfs}$$

$$Q = (1 \text{ hp}) (8.8) (70\% \text{ efficiency}) / (3 \text{ ft of lift}) + (2.31) * (40 \text{ psi discharge pressure}) = 0.06 \text{ cfs}$$

Measurement = 0.18 cfs

Permit allowed = 0.20 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (0.3 \text{ acres}) * (3.0 \text{ af}) = 0.9 \text{ af}$$

I.R.

$$V = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.01 \text{ cfs}) * (214 \text{ days}) * (1.9835 \text{ af/day}) = 4.2 \text{ af}$$

D.R.

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

I.R. D.R.

2. Volume Calculations for Other Uses: According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.iv if a permit authorizes fire protection, then a diversion volume is not required for that use at licensing.

G. PURPOSE OF USE

G. PURPOSE OF USEIrrigation X Y N # Stock N/A Domestic # of Homes N/A Change in Purpose of Use? Y X NMethod of Determination: GIS, Tax Parcel Data, a system diagram provided by the permit holder, and 2022 Bonner County Aerial Imagery.**H. NARRATIVE/REMARKS/COMMENTS**

This permit qualifies for an in-office examination. According to Tax Parcel Data the property was developed in 1983. The permit authorizes fire protection and the irrigation of 1.7 acres. After an initial review of 2022 Bonner County Imagery, it was difficult to determine how many acres were irrigated. After a phone conversation with the permit holder on December 13th, 2023, it was confirmed they provide a system diagram demonstrating system specifications and irrigated acres. The document was received on December 15th, 2023. Paring the described irrigated area provided by the permit holder and 2022 Bonner County Aerial Imagery 0.3 acres of irrigation was confirmed to have occurred within the development period.

The Tax Parcel boundary and physical property were inconsistent. The irrigated place of use was updated to match the physical property boundary. A portion of the place of use is within a Quarter/Quarter, the SESE, is not authorized on the permit. Therefore, an amendment is required to update the legal description of the irrigated place of use. The system diagram seemed to indicate three points of diversion are used to irrigate the place of use. After a phone conversation with the permit holder on December 27th, 2023, the permit holder confirmed two additional points of diversion within the NESE are used to irrigate the place of use. Since this permit already authorizes two PODs within the NESE an amendment is required to add only one additional point of diversion. Connections to other points were not included in Map 2 of the system diagram and created inconsistencies from Map 1. The permit holder explained Maps 2-4 only show the system as connected to the point of diversion contained within each parcel.

The permit holder confirmed on their Statement of Completion for Proof of Beneficial Use that a fish screen was installed meeting the fish screening and passage requirements of the Idaho Department of Fish and Game. Since the permit holder provided pump horsepower's of 1 for each pump and a lift of 6 ft, 4 ft, and 3 ft was determined using Google Earth a diversion rate calculation was possible. The calculation determined the combined systems can handle 0.18 cfs with a 40-psi discharge pressure. The permit authorizes 0.20 cfs total and for fire protection. According to the system diagram only one pump is connected to the fire protection system. Therefore, the recommended diversion rate for fire protection should be 0.06 cfs. The standards set in Administrative Processing Memo #17 were used to make a diversion rate recommendation for irrigation. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.iv if a permit authorizes fire protection a diversion volume is not required at licensing. All of the conditions have been met and it has been confirmed a beneficial use was developed within authorization on the permit. Therefore, I am recommending a 0.06 cfs total diversion rate and 0.9 af diversion volume for irrigation.

Conditions 077, and 004 should remain on the license. Condition R66 should be changed to X31 because irrigation is less than 1 acre. Condition 029 should be removed because the permit holder installed a fish screen that meets the fish screening and passage requirements of the Idaho Department of Fish and Game. All other conditions should be removed as standard with 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>	<u>ANNUAL VOLUME</u>
Irrigation	04/01-10/31	0.01 CFS	0.9 AF
Fire Protection	01/01-12/31	0.06 CFS	
	<u>Totals:</u>	0.06 CFS	0.9 AF

2. Recommended Amendments:

 Change P.D. as reflected above X Add P.D. as reflected above None X Change P.U. as reflected above Add P.U. as reflected above None**J. AUTHENTICATION**Field Examiner's  Date 12/28/2025Reviewer  Date 8/2/24

Field Exam Map

Map showing the authorized point of diversion (yellow point), irrigated place of use (orange outline) and fire protection place of use (green outline).



2022 Bonner County Aerial Imagery

Imagery and a map/diagram provided by the permit holder indicated 0.2 acres of irrigation occurred within the development period.

96-12740 2022 Aerial Imagery



12/18/2023

Road Centerlines

- Primary
- Secondary
- Local; Ramp

Parcels

- World Boundaries and Places
- World Imagery
- Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

30cm Resolution Metadata

1:1,102

0 0.0075 0.015 0.03 mi
0 0.01 0.02 0.04 km

Esri, HERE, Garmin, (c) OpenStreetMap

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-12740
 Examiner: Skyler C.
 Date of Field Exam: 12/28/2023

	PUMP 1	PUMP 2	PUMP 3
P/D No.:			
PUMP HORSEPOWER	1	1	1
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	6	4	3
DISCHARGE PRESSURE	40	40	40
FRICTION	0	0	0
RATE OF FLOW (cfs)	0.06	0.06	0.06
(gpm)	28.1	28.7	29.0

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.

Examiners Notes:

Lifts were determined using Google Earth. Hp's for each pump was provided by the permit holder's Statment of Completion for Proof of Benifical Use. A standard psi of 40 to 60 psi was used to estimate the pressure against

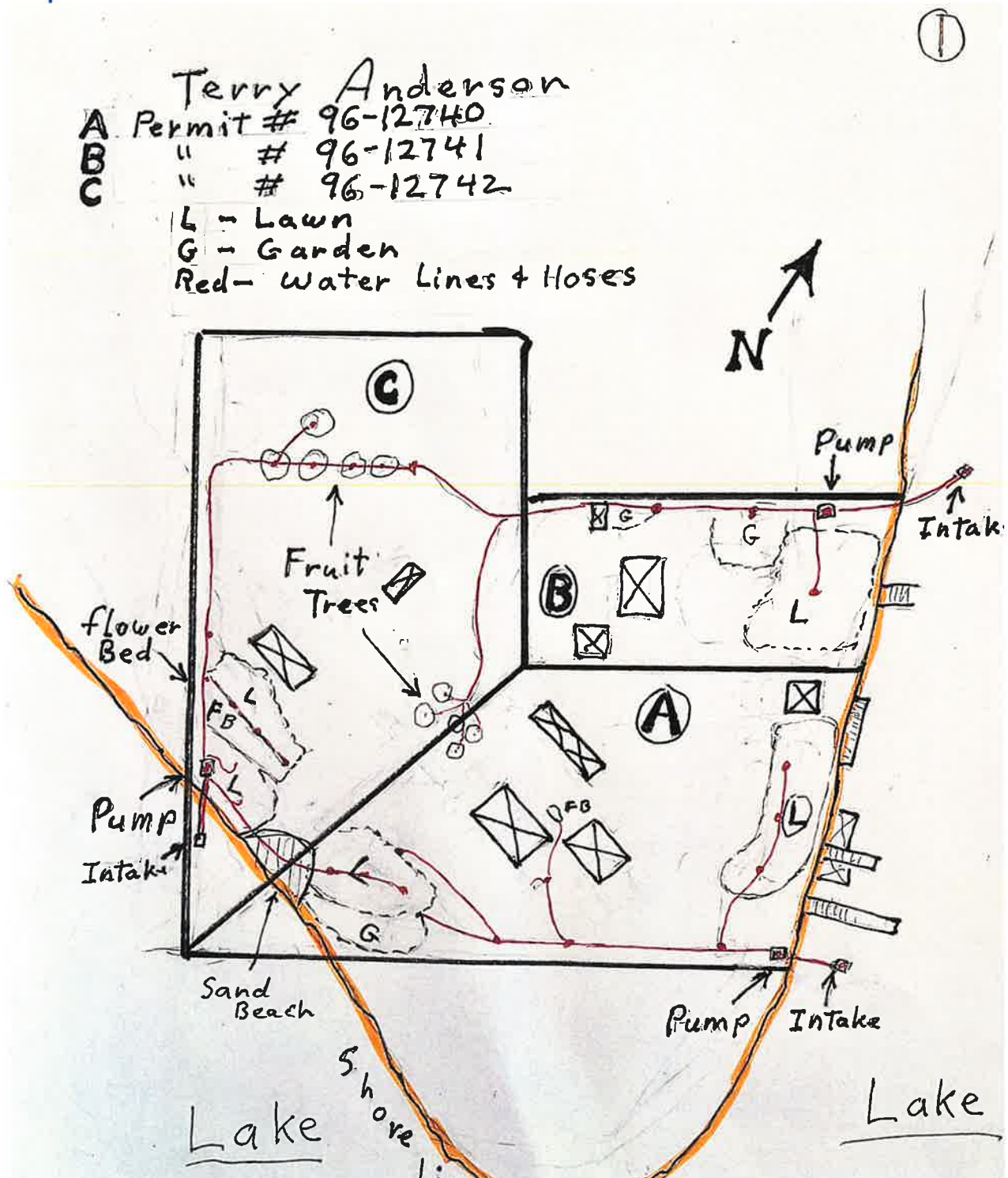
From: Devon dchapwoman@hotmail.com
Subject: Fwd: Terry Anderson Permit drawings
Date: December 15, 2023 at 8:59 AM
To: Skyler.Cheever@idwr.idaho.gov

RECEIVED

Dec 15, 2023

DEPARTMENT OF
WATER RESOURCES

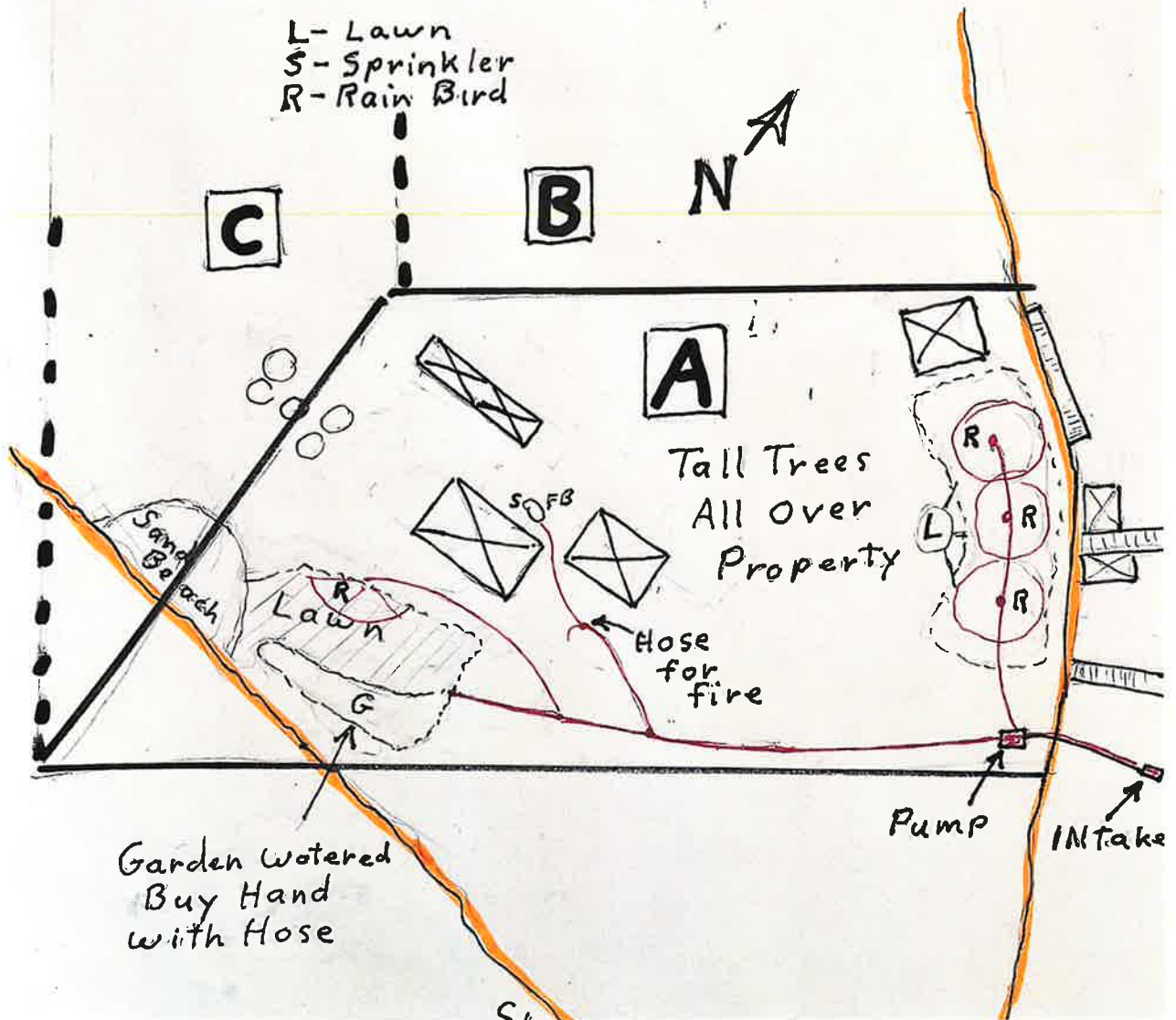
D



(2)

Terry Anderson
A. Permit # 96-12740

L- Lawn
S- Sprinkler
R- Rain Bird



Shore Line

③

This pump is the first
to be used each season
the intake is the deepest
4 feet of water

Intake

Ⓑ

Shore
Line

Lake

Fruit Trees

Terry Anderson
[C] Permit # 96-12742
L-Lawn Grass
S-Sprinkler
R-Rain Bired

(4)

