

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
								B.M.	

Method of Determination: GIS, Tax Parcel Data, and a system diagram provided by the permit holder. The system diagram indicated another point of diversion is utilized to irrigate the place of use. An amendment is required to add an additional point of diversion.

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				0.2
		Lot #																	
Total Acres =																			0.2

Method of Determination: GIS, Tax Parcel Data, a system diagram provided by the permit holder, and 2022 Bonner County Aerial Imagery.

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

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

Indicate weir size/pipe as applicable:

 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			

*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 3 ft was determined using Google Earth. Therefore, a diversion rate calculation is possible. Since the permit holder confirmed another point of diversion is used to irrigate the place of use an additional 1 hp pump should be included in the diversion rate calculation. A lift of 4 ft was determined using Google Maps.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Since the permit holder provided a pump horsepower of 1 for two pumps and a lift of 3 ft and 4 ft was determined, a diversion rate calculation was possible. According to the calculation the system could handle 0.12 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, 0.2 acres * 0.03 cfs/acre = 0.006 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 0.12 cfs for fire protection.

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

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

Measurement = 0.12 cfs

Permit allowed = 0.20 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (0.2 \text{ acres}) \times (3 \text{ af}) = 0.6 \text{ af}$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 0.6 \text{ af}$$

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 a diversion volume is not required for that use at licensing.

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. The permit authorized fire protection and the irrigation of 1.5 acres. After an initial review of 2022 Bonner County Aerial Imagery, it was difficult to determine how many acres were irrigated. The permit holder was contacted on December 13th, 2023, and confirmed they would provide a system diagram indicating which acres are irrigated and irrigation system layout. The document was received on December 15th, 2023. The system diagram pared with 2022 Bonner County Aerial Imagery confirmed 0.2 acres of irrigation occurred. The Tax Parcel boundary and physical property boundary were inconsistent. The irrigated place of use was based on the physical property boundary and the likely shifted Tax Parcel boundary.

Map 1 and 3 on the system diagram seemed to indicate another point of diversion within the NESE is used to irrigate the place of use. After a phone conversation with the permit holder on December 27th, 2023, it was confirmed two points of diversion are used to irrigate place of use. An amendment would be required to add an additional point of diversion. The connections in the system between the parcels were inconsistent between Map 1 and 4. Irrigation lines from Parcel C to A were not included in Map 4. After the same phone conversation with the permit holder, he confirmed Map 1 indicates the complete system with all the connection between the parcels and Maps 2-4 indicate the system as connected to the point of diversion present on the designated parcel.

According to the permit holders Statement of Completion for Proof of Beneficial Use 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 a pump horsepower of 1 for two pumps and a lift of 3 ft and 4 ft was determined using Google Earth a diversion rate calculation was possible. The calculation indicated the system can handle 0.12 cfs with a 40-psi discharge pressure per pump. The permit authorizes 0.20 cfs for fire protection. According to the system diagram the fire protection system utilizes two points of diversion. Therefore, the recommended diversion rate should be 0.12 cfs. The standards set in Administrative Processing Memo #17 determined a irrigation diversion rate recommendation. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35.01j a permit that authorizes fire protection a diversion volume is not required for the use at licensing. All of the conditions have been met and it was confirmed a beneficial use was developed within authorization on the permit. Therefore, I am recommending a 0.12 cfs total diversion rate and 0.6 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 meeting 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:

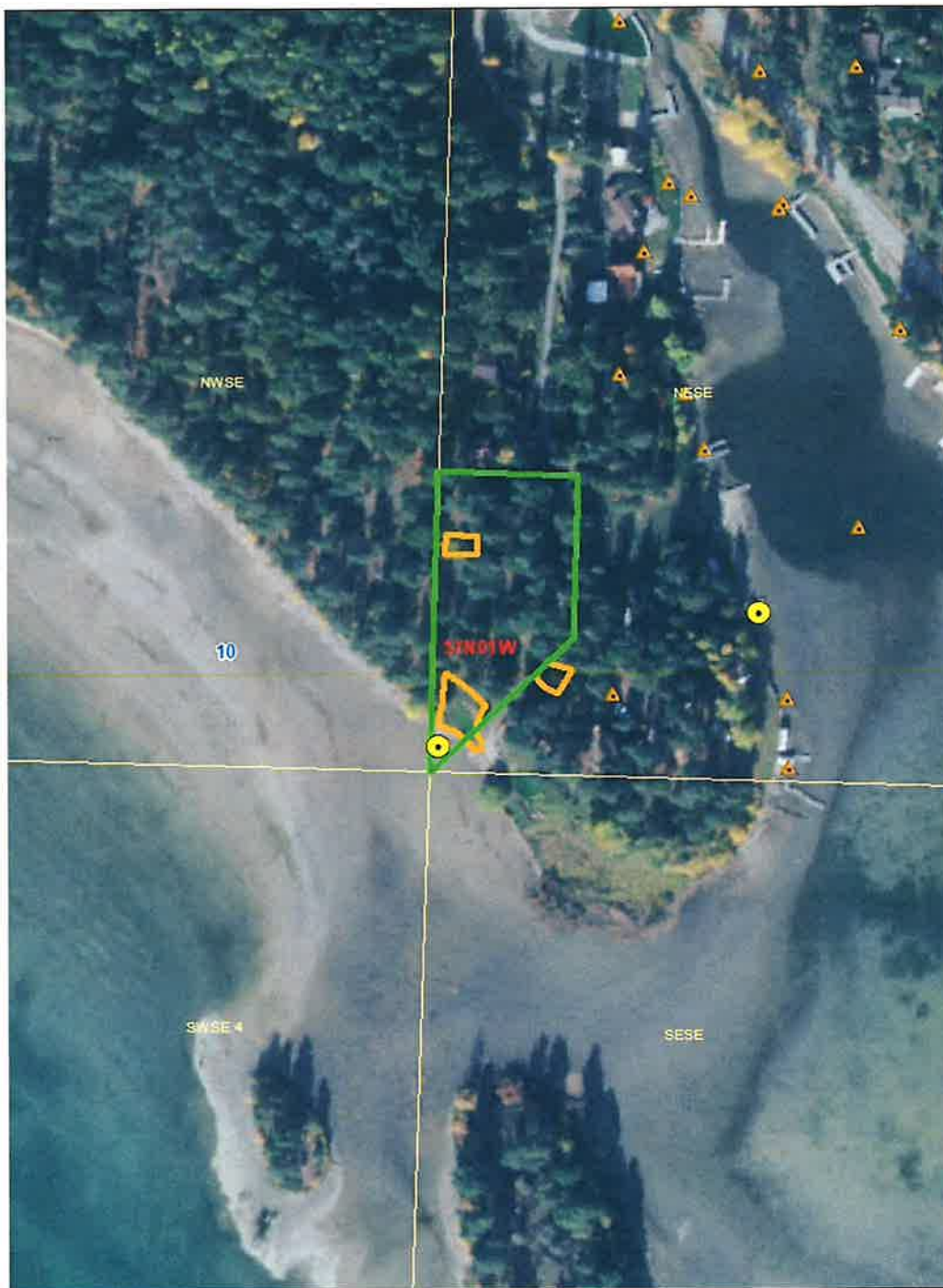
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Irrigation	04/01-10/31	0.01 CFS	0.6 AF
Fire Protection	01/01-12/31	0.12 CFS	
<u>Totals:</u>		0.12 CFS	

2. Recommended Amendments:

 Change P.D. as reflected above X Add P.D. as reflected above None Change P.U. as reflected above Add P.U. as reflected above X None**J. AUTHENTICATION**Field Examiner's  Date 11/28/2024Reviewer  Date 8/2/24

Field Exam Map

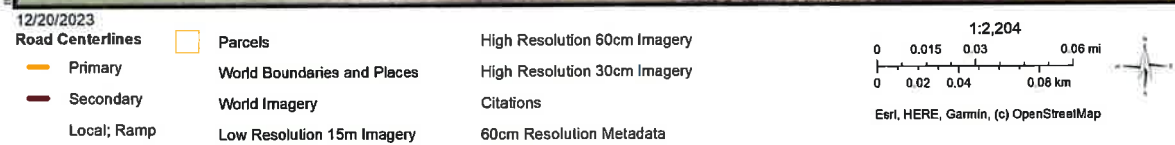
Map showing the authorized point of diversion (yellow point) and place of use (orange outline).



2022 Bonner County Aerial Imagery

Imagery and a map/diagram provided by the permit confirmed 0.2 acres of irrigation occurred.

96-12742 2022 Bonner County Aerial Imagery



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-12742
 Examiner: Skyler C.
 Date of Field Exam: 12/28/2023

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

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

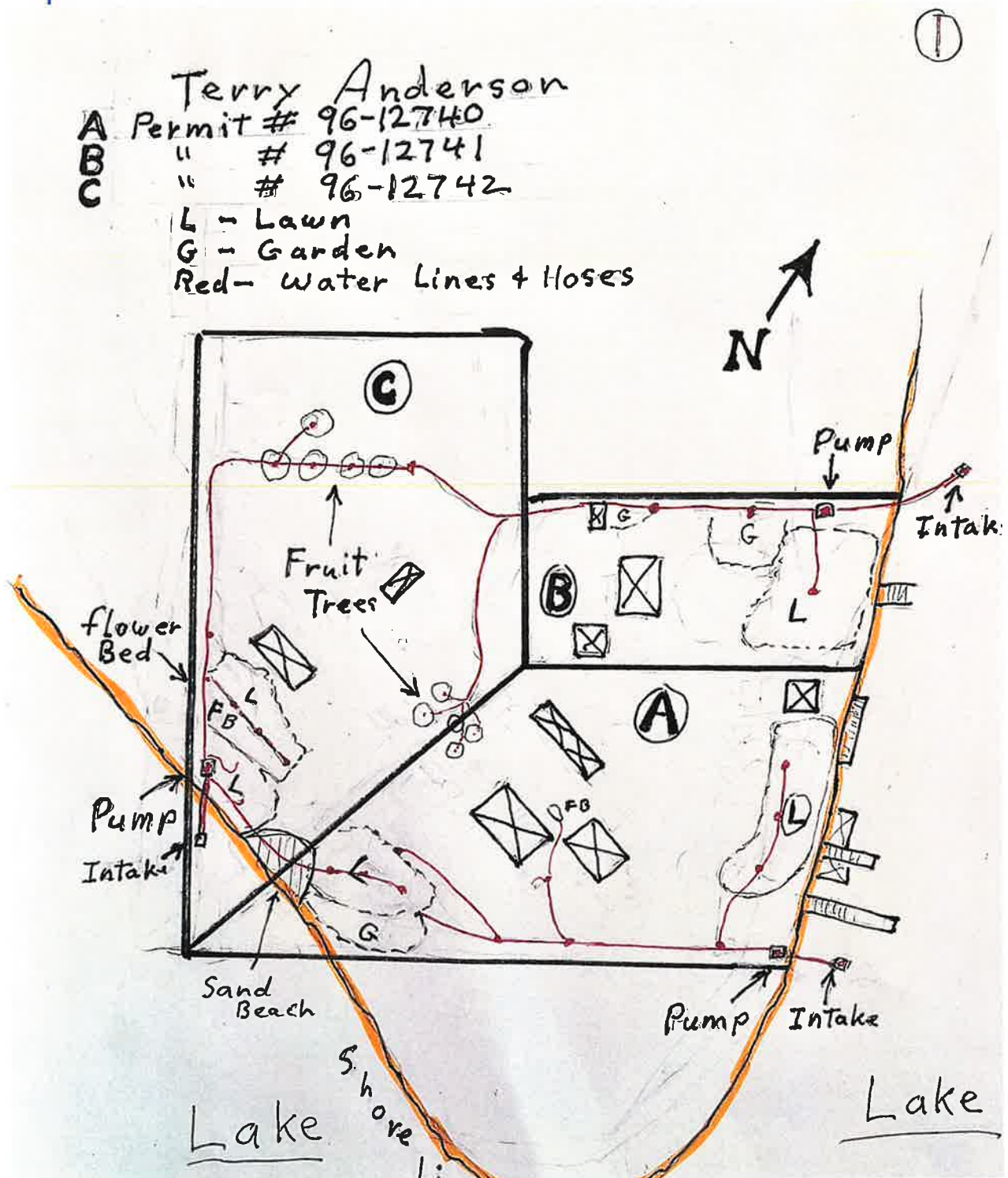
RECEIVED

Dec 15, 2023

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

DEPARTMENT OF
WATER RESOURCES

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②

Hand-drawn map of a property with various features and a legend.

Legend:

- L - Lawn
- S - Sprinkler
- R - Rain Bird

Map Features:

- Boundaries:** A dashed line on the left and top, and a solid line on the bottom and right.
- Top Labels:** Three boxes labeled 'C', 'B', and 'N' from left to right.
- Right Side:** A dashed line with three circles labeled 'R' (Rain Bird) and one circle labeled 'L' (Lawn). Below this is a 'Pump' and an 'INTake' (intake) with an arrow pointing to it.
- Center:** A box labeled 'A' with the text 'Tall Trees All Over Property' below it. A red line labeled 'Hose for fire' runs from the intake, through a box labeled 'SOFB', and towards a 'Garden' area.
- Bottom Left:** A 'Sand Beach' area. Below it is a 'Garden' area with a note: 'Garden watered Buy Hand with Hose'.
- Other Features:** Several rectangular shapes with an 'X' inside, possibly representing buildings or structures.

Shore Line

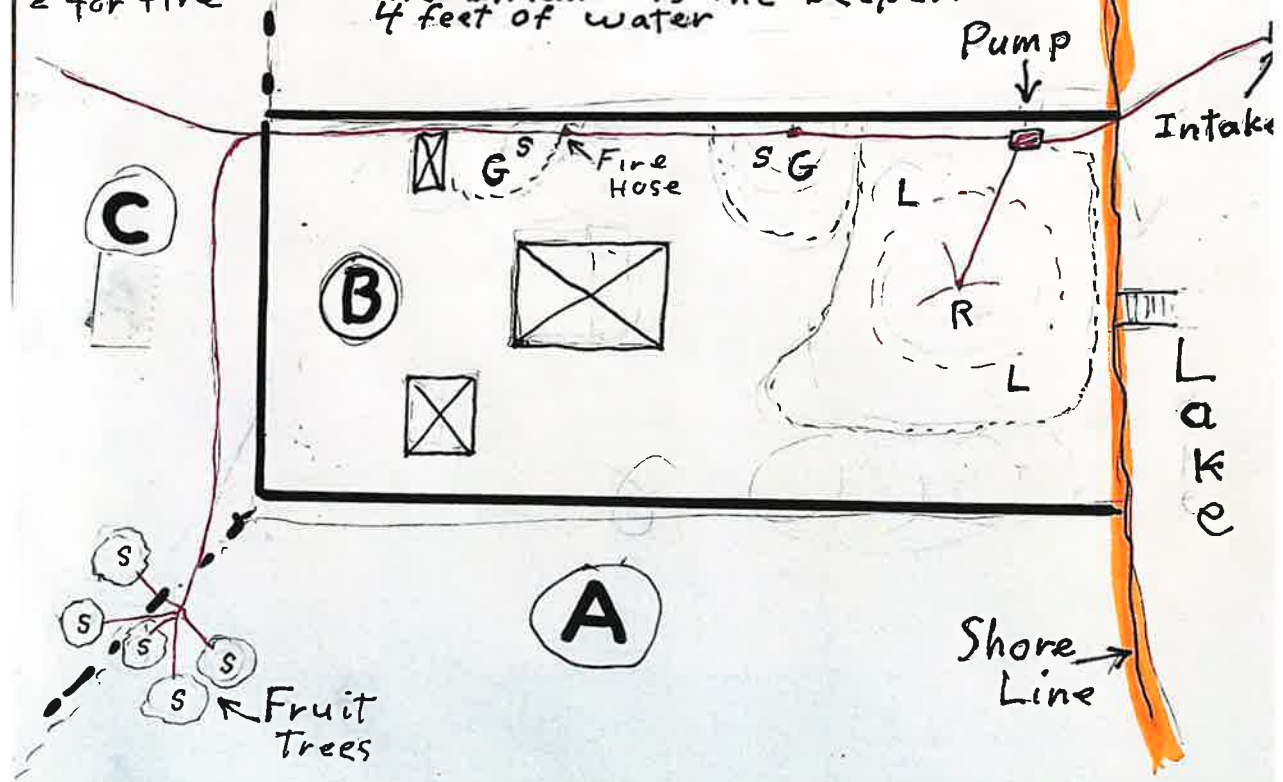
③

- L - Lawn
G - Garden
S - Sprinkler
R - Rainbird



Hose
← for five

This pump is the first
to be used Each Season
the Intake is the Deepest
4 feet of water



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

(4)

