

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 98-7931

Exam Date: 8/26/2015

1. Current Owner: CLIFTY VIEW NURSERY INC
312 CLIFTY VIEW RD
BONNERS FERRY ID 83805
(208)267-7129

2. Accompanied by: Lon Merrifield
Relationship to Permit Holder: Owner

3. SOURCE

UNNAMED STREAM

TRIBUTARY

CABIN CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 98-7637
2. Other water rights with the same point of diversion: 98-7637

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM SE1/4SW1/4 Sec. 8, Twp 61N, Rge 02E, B.M. BOUNDARY County

Method of Determination: GPS and maps. POD location at 48° 38.740, 116° 14.117

2.

PLACE OF USE: DOMESTIC

Twp Rge Sec	NE				NW				SW				SE				Totals
	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
61N 02E 7													X				
61N 02E 8									X								

PLACE OF USE: COMMERCIAL

Twp Rge Sec	NE				NW				SW				SE				Totals
	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
61N 02E 7													X				
61N 02E 8									X								

Method of Determination:

3. ☐ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4.

<u>Well or Diversion</u> <u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge</u> <u>Size</u>
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N/A

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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N/A

2. Measurements:

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

Measured Method: SEE ATTACHED FOR MANNINGS FLOW CALCULATION. 280 FEET OF RISE OVER 2700 FEET OF RUN WITH 2 INCH STEEL PIPE.

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

2. Volume Calculations for Other Uses: DOMESTIC FOR 2 IN HOME USES = 0.6 AF X 2 = 1.2 AF
 COMMERCIAL USE ON AVERAGE IS 3,000 GPD X 300 DAYS OF USE PER YEAR = 900,000 GPY
 900,000 GPY / 325,850 GAL/AF = 2.8 AF
 40 EMPLOYEES X 40 GPD X 300 OPERATING DAYS PER YEAR / 325,850 GAL/AF = 1.5 AF

G. NARRATIVE/REMARKS/COMMENTS

FIELD EXAM SHOWED PROPERLY SCREENED POD THAT FED 2 INCH PIPE THAT RAN DOWN TO POU. APPLICANT HAD 2 CABINS THAT WERE LIVED IN BY EMPLOYEES AND 1 COMMERCIAL PROCESSING PLANT WITH 2 BATHROOMS AND A SHOWER. APPLICANT SAID WATER USAGE VARIED ON THE TIME OF YEAR AND WHAT SEASON IT WAS. HE SAID THE USAGE FOR COMMERCIAL ON AVERAGE WOULD BE ABOUT 3,000 GALLONS PER DAY 300 DAYS A YEAR. APPLICANT SAID AT MOST HE HAD 80 EMPLOYEES WORKING BUT ON AVERAGE HE HAD 40 FULL TIME EMPLOYEES USING THE FACILITIES. UPON IDWR REVIEW FOR LICENSING, IT WAS DISCOVERED THERE WAS ALREADY A WATER RIGHT FOR COMMERCIAL AND DOMESTIC FOR 1 CABIN FROM SAME POD. LICENSE WILL HAVE OVERLAPPING CONDITIONS FOR COMMERCIAL AND DOMESTIC USE.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.060 CFS	1.20 AF
COMMERCIAL	01/01 to 12/31	0.040 CFS	4.30 AF
<u>Totals:</u>		0.100 CFS	5.50 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 ☐ Other

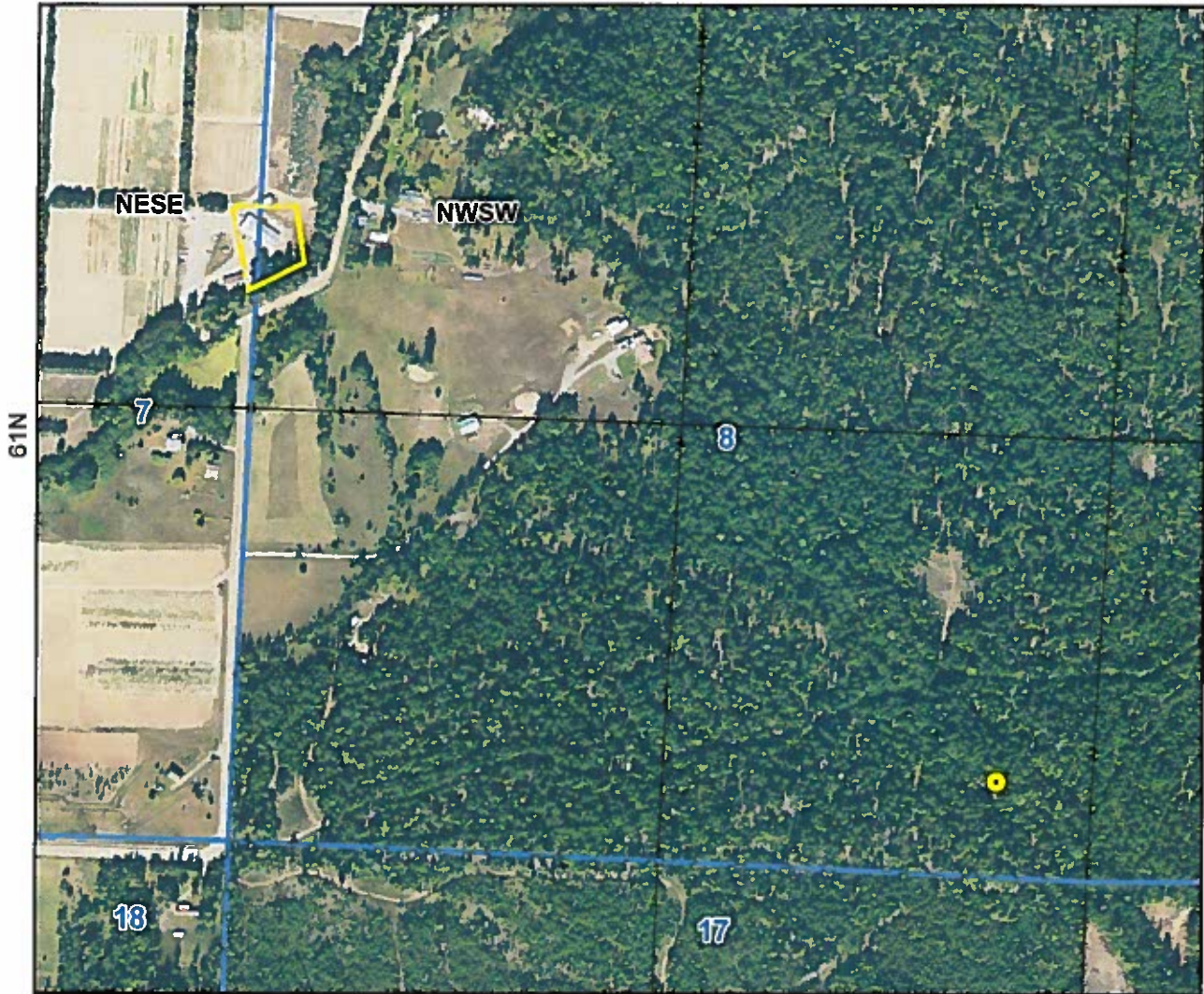
I. AUTHENTICATION

Field Examiner's Name John F. Underhill Date 1-20-2016

Reviewer [Signature] Date 1-21-2016

State of Idaho
Department of Water Resources
Water Right License
98-7931

02E



0 0.05 0.1 0.2 Miles

-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections



READ ME

Manning's Equation Calculator for Flow Rate in a Circular Conduit Flowing Full

S = 0.1037 ft/ft
 n = 0.013 manning's coefficient
 d = 2.0 pipe diameter (inches)
 D = 0.17 pipe diameter (feet)
 r = 0.08 pipe radius (feet)
 A = 0.02 area (ft²)
 WP = 0.52 wetted perimeter (ft)
 R = 0.04 hydraulic radius (ft)

Q = 0.10 flow rate (CFS)

Channel Slope

Slope Options

☐ Manual Entry ☒ Slope Calculator

Slope Calculator

Rise = 280 feet

Run = 2700 feet

Slope, S = 0.1037 ft/ft

Pipe Material, (n):

welded steel pipe

Pipe Diameter (inches)

2.0 inches

Manning's Equation (1), is an empirical formula that solves for velocity (v) in a open channel under uniform flow. The continuity equation (2) when combined with equation (1) allows for the computation of the flow rate (Q) in an open channel under uniform flow.

In equations (1) and (3), η refers to Manning's Coefficient of Roughness and can be found in tabulated form for many open channel types. R is the hydraulic radius of the open channel and is equal to the area of the open channel divided by the wetted perimeter, $R = A/P$. S is the slope of the energy grade line which is often assumed to be equal to the slope of the channel.

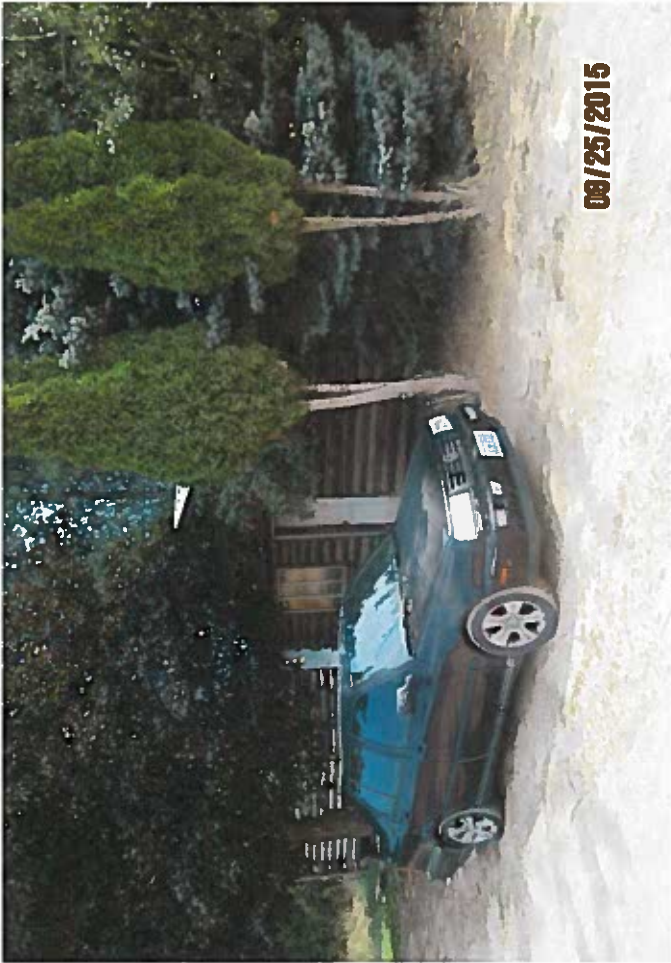
Because Manning's Equation is empirical the units are not arbitrary. To obtain a velocity in ft/s and a flow rate in ft³/s, area must be reported in ft², hydraulic radius must be reported in ft, and S must be reported in ft/ft. Manning's Coefficient of Roughness is a unitless constant.

$$(1) \quad v = 1.49 \left(\frac{1}{\eta} \right) \left(R^{\frac{2}{3}} \right) \sqrt{S}$$

$$(2) \quad Q = vA$$

$$(3) \quad Q = 1.49 \left(\frac{1}{\eta} \right) (A) \left(R^{\frac{2}{3}} \right) \sqrt{S}$$

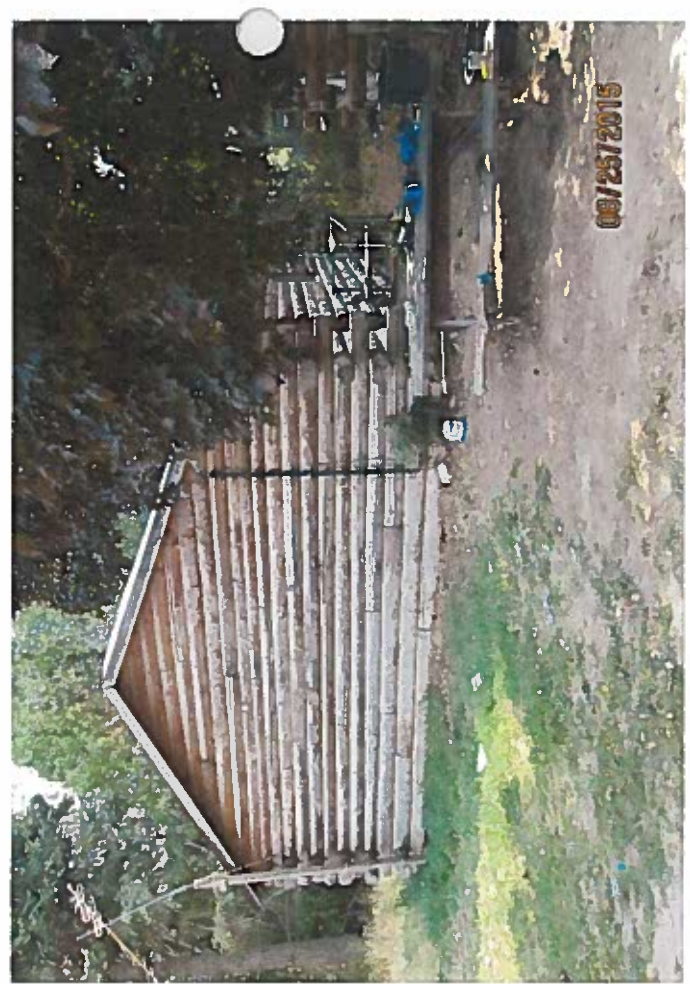
Cabin 1 + 2



Cabin 1



Cabin 2



98-7931

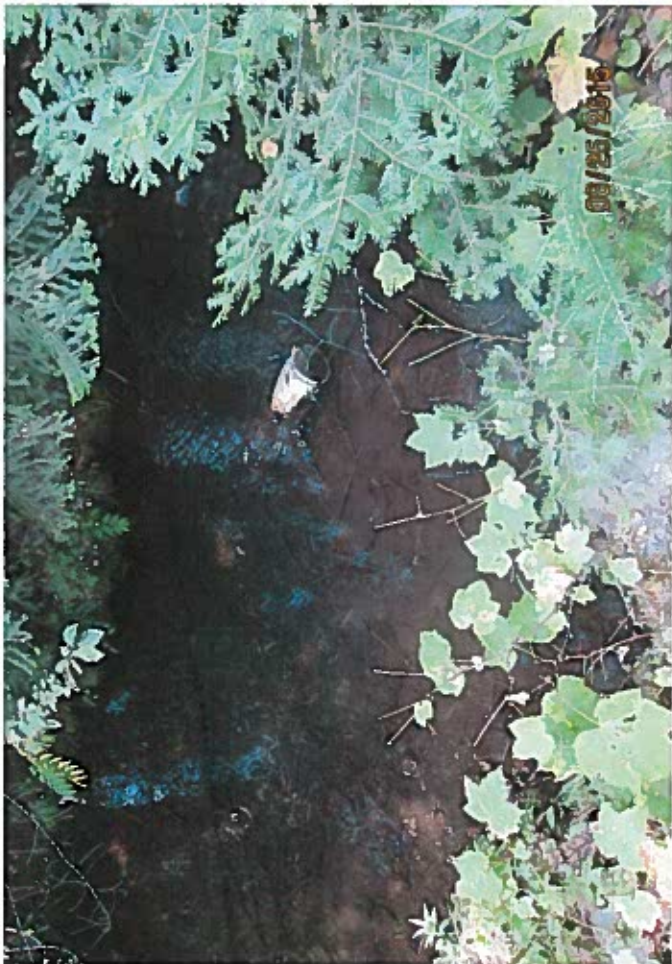
POD



Commercial use



98-7931



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