

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-22712

Exam Date: 05/16/2019

1. Current Owner:

LEGACY RESIDENTIAL LLC
C/O TOM ELLISON
400 112TH AVE N E STE 230
BELLEVUE WA 98004

2. Accompanied by: Brian Morrison
Phone No: 208-720-6001
Address:
Relationship to permit Holder: property representative

3. SOURCE:

GROUND WATER

Method of Determination: Looked at well

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis

Comments: The domestic use inside the home and the irrigation of the landscaping is served by City of Ketchum municipal rights.

2. Other water rights with the same point-of-diversion: None

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER L2 (SW¼ NE¼), Sec. 13, Twp 04N, Rge 17E, B.M. BLAINE County

Method of Determination: Site visit, ArcMap aerial imagery

PLACE OF USE: HEATING

[illegible]

PLACE OF USE: COOLING

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	17E	13			X L2														

Method of Determination: Site visit and ArcMap aerial imagery.

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.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0062340					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: No measurement was made because the heating and cooling contractor suggested a flow rate of 0.22 cfs, which is below the level that requires a measurement, per Beneficial Use Exam rules.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: NA

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

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

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

2. Volume Calculations for Other Uses:

Heating

Representative indicated heating is used generally from September through June, about 20 hours/day. That is 302 days x 20 hours/day = 6040 hours/24 hours = 252 days. Volume is calculated at 1.9835 AF/day x 0.22 cfs x 252 days = **110.0 AF**.

Cooling

The representative said cooling is used mainly in July and August, about 12 hours/day. That results in 62 days x 12 hours/day = 744 hours/24 hours = 31 days. Volume is 1.9835 AF/day x 0.22 cfs x 31 = **13.5 AF**.

$$\text{Total} = 123.5 \text{ AF}$$

G. NARRATIVE/REMARKS/COMMENTS

The field exam for permit 37-22712 was completed on May 16, 2019 with the property representative, Brian Morrison, present. The water for the project is pumped from a relatively shallow (90') well on the property, and is run through the heat pump units before returning to the aquifer via an injection well of the same depth. According to Mr. Morrison, the home uses only City of Ketchum municipal water for culinary and irrigation purposes, so the domestic portion of the permit will be dropped. Mr. Morrison did not know the horsepower of the well, so I was unable to do a theoretical flow rate calculation, but the contractor that installed the heat pump (Matt Thornton, owner of Thornton Heating and Sheet Metal) said that each unit would likely need a maximum flow rate of 32.5 gpm, and for the 3 units, that would total 97.5 gpm, or 0.22 cfs, which is below 0.24 cfs, so no measurement of the rate is necessary under Beneficial Use Exam rules.

Mr. Morrison gave the estimated months of use for heating and cooling purposes and the estimated hours per day of each use. He estimated that the heating is run about 20 hours a day from September through June, and the cooling about 12 hours per day for July and August. Volume calculations are shown elsewhere in the Field Report.

The heat pump units are Bosch Water Source Heat Pumps, Model WW122-3CSN-RXXXNA-XAGXXXXX1XXXXXXXXXSBA and are housed in what appears to be the garage.

Because the domestic portion of the permit is being dropped, all conditions related to domestic use will be removed. Condition 067 will also be dropped per IDWR guidance.

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>
HEATING	01/01 to 12/31	0.22 CFS	110.0 AF
COOLING	01/01 to 12/31	0.22 CFS	13.5 AF

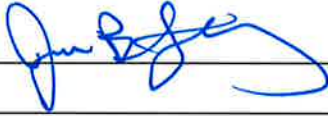
Totals: 0.22 CFS 123.5 AF

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

Field Examiner's Name  Date 6-11-19

Reviewer _____ Date _____

3722712 System Diagram



Legend

-  Parcels
-  Township/Range
-  Sections
-  QQ

1 inch = 107 feet





Production well

Injection well





Plumbing inside the mechanical room. Heat pump unit at lower right.

More plumbing with two heat pump units at right. All piping is well insulated.





Views of the Legacy Residential, LLC home.



37-22712 Legacy Residential, LLC

