

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-17292

Exam Date: 8/19/2020

1. Current Owner:
RON PRATTE 4400 W EARHART WAY CHANDLER AZ 85226

2. Accompanied by: In Office Exam

3. **SOURCE:**
GROUND WATER

Method of Determination: GIS and Well Driller Report

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-10889	COEUR D ALENE LAKE	IRRIGATION	LICENSE

Comments: Right 95-10889 overlaps the Aesthetic and Aesthetic Storage POU for this right, draws water from Coeur D'Alene Lake, and is for irrigation of same parcel, but not a concern for overlap as systems for each right (95-10889 and 95-17292) are independent from one another.

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

GROUND WATER L2 (NW¼ SW¼), Sec. 20, Twp 48N, Rge 04W, B.M. KOOTENAI County

Method of Determination: Arcmap well layer and well log data. Groundwater well D0033350 was GPS downloaded and well is located at -116°53.689, 47°29.310.

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
48N	04W	20										X							
48N	04W	20										X							
												L2							

PLACE OF USE: AESTHETIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
48N	04W	20										X							
												L2							

PLACE OF USE: AESTHETIC STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
48N	04W	20										X L2							

Method of Determination: Arcmap Aerial Imagery, and prior Field Exam dated 5/11/2016 for separate water right on same parcel.

3.

 X Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

 X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

 X Aerial Photo Attached (required for irrigation of 10+ acres).

 X 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
D0033350		5			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: In-office exam completed.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Applicant provided a pump curve for the 5 HP pump in well for water system; email correspondence dated 3/22/2017 (application for permit back file) from Wendy Ayala, United Crown Pump and Drilling representative, explained that while pump curve MAXIMUM flow is rated for 45 gpm, the applicant's diverting works was restricted at time of install to 36 gpm, which equates to **0.08 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses:

Domestic component annual volume for two homes = 0.6 af main home + 0.6 af = **1.2 af**.

Aesthetic component annual volume = **0.1 af**, which is the evaporation value associated with aesthetic storage and not additive to maximum diversion volume.

Aesthetic Storage component annual volume – see attached pond analysis sheet = **0.4 af**.

Maximum Diversion Volume = 1.2 af (domestic component) + 0.4 af (Aesthetic storage component) = **1.6 af**.

G. NARRATIVE/REMARKS/COMMENTS

This permit is being licensed in-office. Department staff conducted a field exam at applicant's property on 5/11/2016 for a separate irrigation water right (95-10889), and field data and photographs were captured at that time of this right's beneficial use components. Follow-up visit to the applicant's property as part of licensing right 95-10889 in 2016 provide additional photographs that provide proof of beneficial use for this right.

Applicant diverts ground water from a well, tag No. D0033350, for domestic use of two homes and aesthetic/aesthetic storage uses. At time of in-office exam, the well location had been GPS downloaded into the departments' system. Applicant's well had a 5 hp pump that routed direct to pressure tanks before servicing two homes and aesthetic water features. Applicant provided pump curve resulted in a flow rate of 36 gpm, or **0.08 cfs** diversion rate, which will be applied to license. Reference 95-17292 application back file for pump curve data and associated email correspondence from United Crown Drilling for flow rate data. Applicant permitted for Aesthetic (cfs), and diversion to storage (cfs), with each having the diversion rate of 0.08 cfs respectively.

Applicant used water for two homes, one main house and a full service boat house situated off shore in Coeur D'Alene Lake. Domestic use is in-home only, as irrigation is completed with separate system and water right 95-10889. As such, the annual volume for Domestic equals 0.6 af (main home) + 0.6 af (boat house) = **1.2 af**.

The applicant's water feature includes a looped pumping system with impermeable liner pond at bottom, recycling water up-hill where it then cascades down several rocky pools and falls. Applicant only diverts water to the water feature to make up for evaporation loss throughout the summer months, and the period of use for both Aesthetics and Aesthetic Storage is 04/01 – 10/31, which aligns with department irrigation season of use standards for this area. Aesthetic annual volume equals the evaporation loss determined in completed pond analysis sheet of **0.1 af**, which will be assigned as the annual volume but not additive above the storage component volume for maximum diversion volume. Applicant permitted for Aesthetic Storage to maintain the recirculating water for the water feature. Pond analysis sheet derived an annual volume of 0.4 af, which includes the pond capacity for initial fill of 0.3 af + 0.1 af for evaporation loss. **0.4 af** will be assigned to the storage component at time of licensing. The combined Maximum Diversion Volume for license equals 1.2 af (Domestic component) + 0.4 af (Aesthetic Storage component) = **1.6 af**.

All conditions applied to permit will be carried through to licensing. Right 95-10889 overlaps the Aesthetic and Aesthetic Storage POU for this right, draws water from Coeur D'Alene Lake, and is for irrigation of same parcel, but not a concern for overlap as systems for each right (95-10889 and 95-17292) are independent from one another. There are no other overlap concerns for this water right.

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>
DOMESTIC	01/01 to 12/31	0.08 CFS	1.2 AF
AESTHETIC	04/01 to 10/31	0.08 CFS	0.1 AF
AESTHETIC STORAGE	04/01 to 10/31		0.4 AF
DIVERSION TO STORAGE	04/01 to 10/31	0.08 CFS	

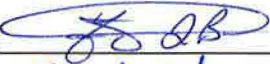
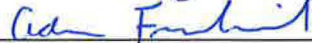
Totals: 0.08 CFS 1.6 AF

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 Luke Bates - Water Resource Agent

Field Examiner's Name  Date 8/19/2020
 Reviewer  Date 8/20/2020

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-17292

DOMESTIC system diagram.



04W

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

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
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95-17292

AESTHETIC and AESTHETIC STORAGE system diagram.



- 04W
- Point of Diversion
 - Place Of Use Boundary
 - Townships
 - PLS Sections
 - Quarter Quarters

0 0.035 0.07 0.14 Miles



Ron Pratte Domestic Well

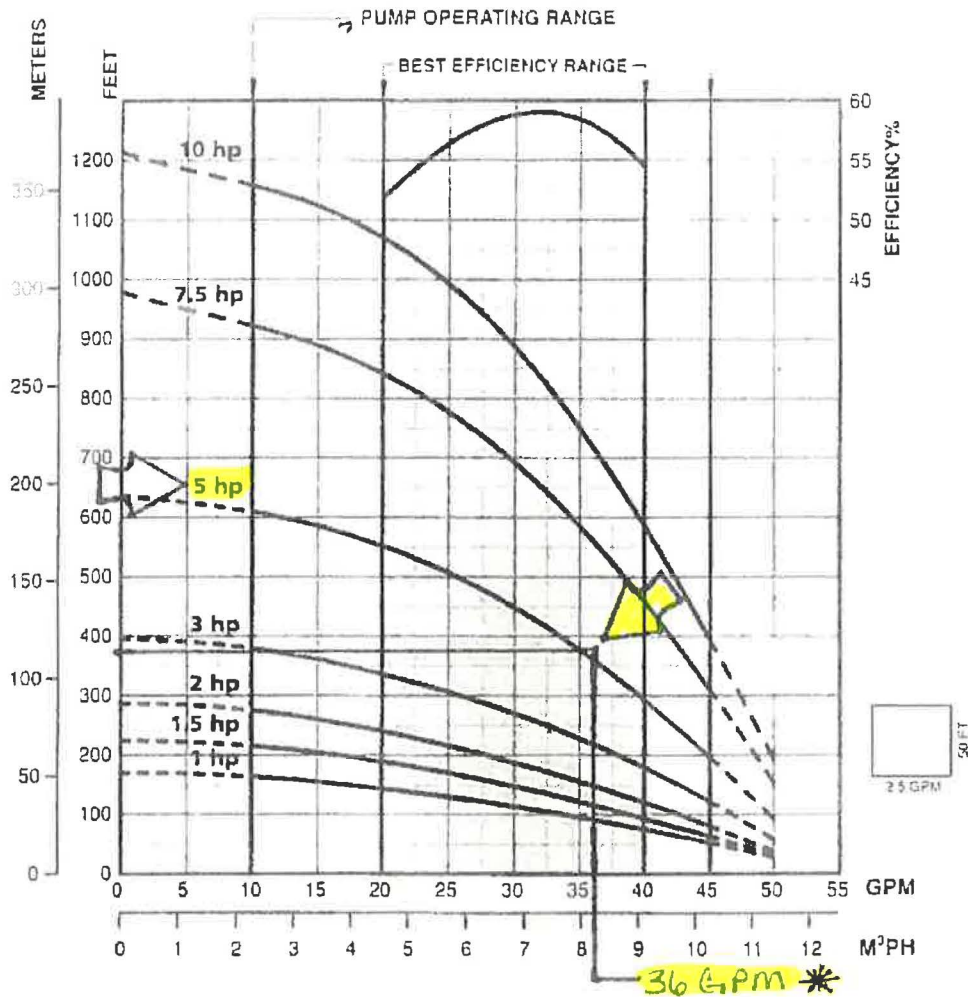
RECEIVED

MAR 27 2017

Submersible Pumps

LOWE'S NORTH

4" High Capacity Pumps - 45 GPM



Capacities in U.S. Gallons per Minute

HP	PSI	Depth to Pumping Water Level, or Lift, in Feet. Shaded Areas Indicate Most Efficient Performance																
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550
10	0																	
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- Notes: 1 Performance shown does not include friction loss in the drop pipe
 2 All performance data is based on rated motor nameplate voltage
 3 Performances for former XP models are the same as 45 gpm models

* Ron's Filtration System is sized for 36 GPM.

Total Storage Calculations

FILE NUMBER	95-17292
REVIEWER	Luke Bates
DATE	8/19/2020

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.07	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	0.3	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	0.4	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

95-17292

8/19/2020

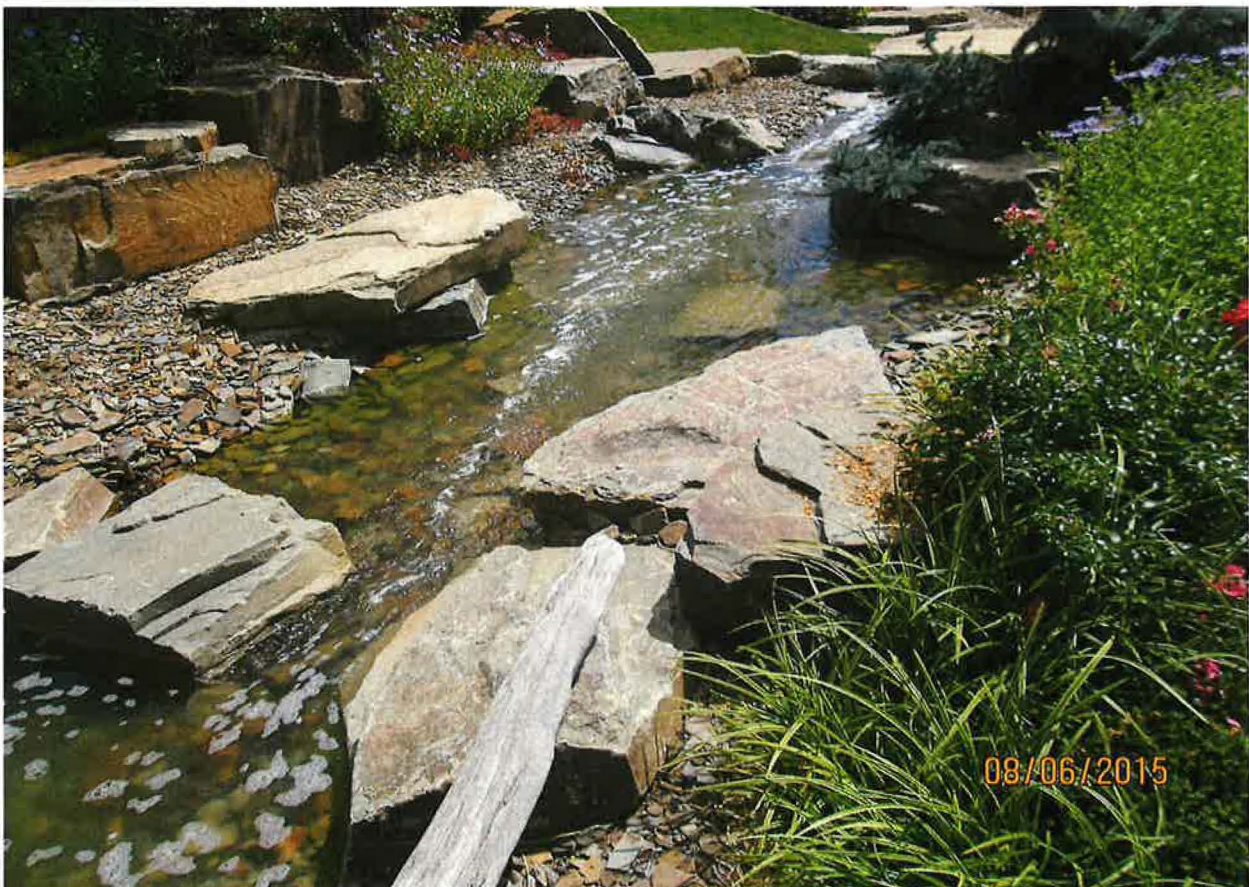


08/06/2015

DOMESTIC POU – MAIN HOUSE VIEW FROM BOAT HOUSE



DOMESTIC POU – MAIN HOUSE AND BOAT HOUSE BEHIND IN LAKE



AESTHETICS POU



AESTHETICS & AESTHETICS STORAGE POU – WATER FEATURE

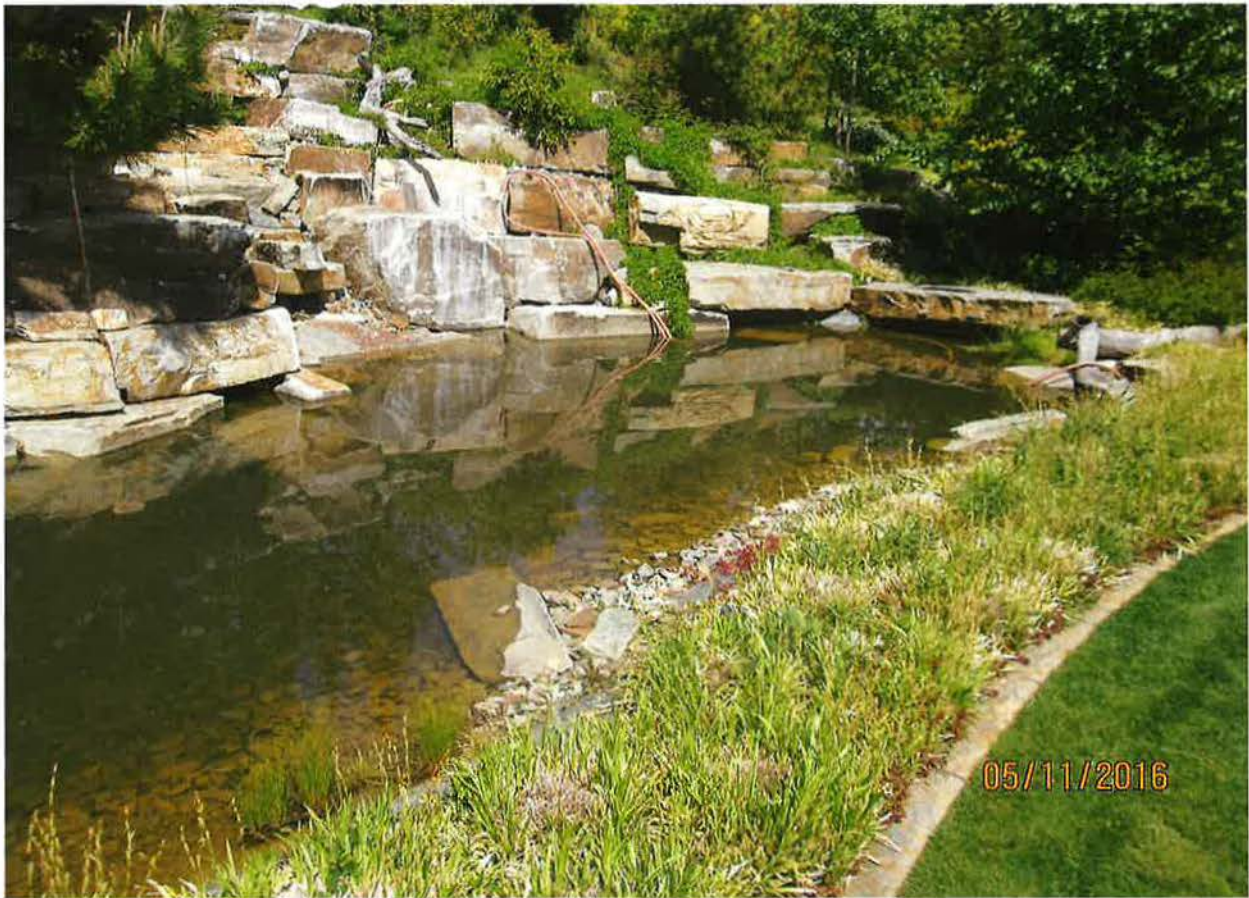




AESTHETICS STORAGE POU – LINED STORAGE



AESTHETICS POU



AESTHETICS POU

