

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-33792

1. Owner Edgewater Estates Owners Association Inc Phone No. 208-853-6539
Current address C/O Stan Gray, 10176 W River Rock Ln, Garden City, ID 83714
2. Examiner's name Cody Parker EXAM DATE 01/23/2018
3. Accompanied by none (correspondence with Stacy Gray) Email sgray@attorneysfunding.com
Address same
- Relationship to permit holder President Phone No. 209-568-7499
4. Source Groundwater tributary to Boise River

B. OVERLAP REVIEW

1. Other water rights with the same place of use 63-146 (mitigation)
2. Other water rights with the same source and point of diversion None

C. DIVERSION AND DELIVERY SYSTEM**1. Point(s) of Diversion:**

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
	6		SE	NW	23	04N	01E	ADA	digital PLS map, aerial imagery

2. Place(s) of Use: Method of determination Aerial Imagery, digital PLS map

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	01E	23					x	L4	L5	L6									

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.

Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
NA					

*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
NA						

2. Measurements: _____

Pond captures shallow groundwater, no diversion to measure

E. NARRATIVE/REMARKS/COMMENTS

See Attached

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

F. FLOW CALCULATIONS☐ Additional computation sheets attachedMeasured Method:
NA**G. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

 $V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\text{NA}}$ $V_{D.R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{\text{NA}}$ $V = \text{Smaller of } V_{I.R} \text{ and } V_{D.R} = \underline{\text{NA}}$

2. Volume Calculations for Other Uses:

Capacity => 2.5 acres x 21 ft x 0.4 = 21 af

Evaporation => 5.7 afa (per pond loss spreadsheet)

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Aesthetic Storage	01/01	12/31		21 afa
Totals:				21 afa

2. Recommended Amendments

☐ Change P.D. as reflected on page 1☐ Add P.D. as reflected on page 1☒ None☐ Change P.U. as reflected on page 1☐ Add P.U. as reflected on page 1☐ Other**I. AUTHENTICATION**

Field Examiner's Signature

Date

5-7-18

Reviewer

Date

5/7/18

SEAL

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NARRATIVE

This permit authorizes the storage of 63.0 afa groundwater for aesthetic storage use. Proof of beneficial use was submitted on November 23, 2015. I completed the field examination on January 23, 2018.

The place of use is a 2.5-acre pond located in Lot 1, and portions of Lots 2-9, of Block 1, Edgewater Estates Subdivision. According to the digital PLS map, the pond is located in the middle of the historic location of the Boise River channel, which confuses its legal description. Imagery from 2011 shows that the pond was developed prior to permit approval. Therefore, I assume that the legal description was verified by the Department during the application review and I have chosen to carry forward the place of use description from the permit. The point of diversion is a pond centroid, which is described in Gov Lot 6 (SEnw) of Section 23, T04N, R01E, B.M. on the permit. For the same reason as above, I have assumed that the permitted description is correct.

The pond was excavated to capture shallow groundwater tributary to the Boise River. Stacy Gray, the current president of the HOA, does not know the maximum depth of the pond. However, because the pond was developed prior to permit approval, I have assumed that the max depth on the application (21 ft) reflects the pond as it was developed. From the surface area and max depth, I estimate the capacity of the pond to be 21 afa. Evaporative losses from the pond (5.7 afa) were estimated using precipitation deficit data from the Boise WSFO Airport (NWS – 101022) station.

Mitigation of evaporative losses is provided by right 63-146. Water from the New Union Ditch Co. is diverted into the pond to evaporate at a location at the northeast of the pond. Mitigation volume was determined on a 1:1 basis, meaning that 6 acres of irrigation were retired to cover 6 acres of pond surface area (this permit and right 63-33772 combined). The consumptive use volume for the area is 3.5 afa/acre, so $6 \times 3.5 = 21$ afa, which is listed as aesthetic storage on right 63-146. The mitigation diversion rate was based on the 0.02 cfs/acre standard (multiplied by 6 acres to give 0.12 cfs).

The mitigating right is an older Stewart-Decree right which may be reduced to 60% of its value annually. The reduction must be accounted for when determining the required mitigation. The ponds as developed (for this and right 63-33772) lose 10.3 afa to evaporation which is equivalent to the consumptive use associated with 2.9 acres irrigation. The diversion rate for 2.9 acres is 0.057 cfs. $0.057 \text{ cfs} / 0.6 = 0.095 \text{ cfs}$, which is the diversion rate required for mitigation when accounting for annual reductions and is equal to 4.75 acres irrigation and a volume of 16.6 afa. So, 16.6 afa is required from the mitigating right to account for the 10.3 afa evaporation and is achieved by retiring ~4.8 acres of irrigation. The difference between the acres retired and acres needed to offset evaporation is about 1.2. The difference is small enough that we don't necessarily need to encourage the right owner to transfer those acres back to irrigation use.

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Along with water for evaporation, irrigation water is also conveyed through the system and is pumped from the west end of the pond and distributed throughout the subdivision. There are also two spots where water from the ponds is recirculated to create waterfall features.

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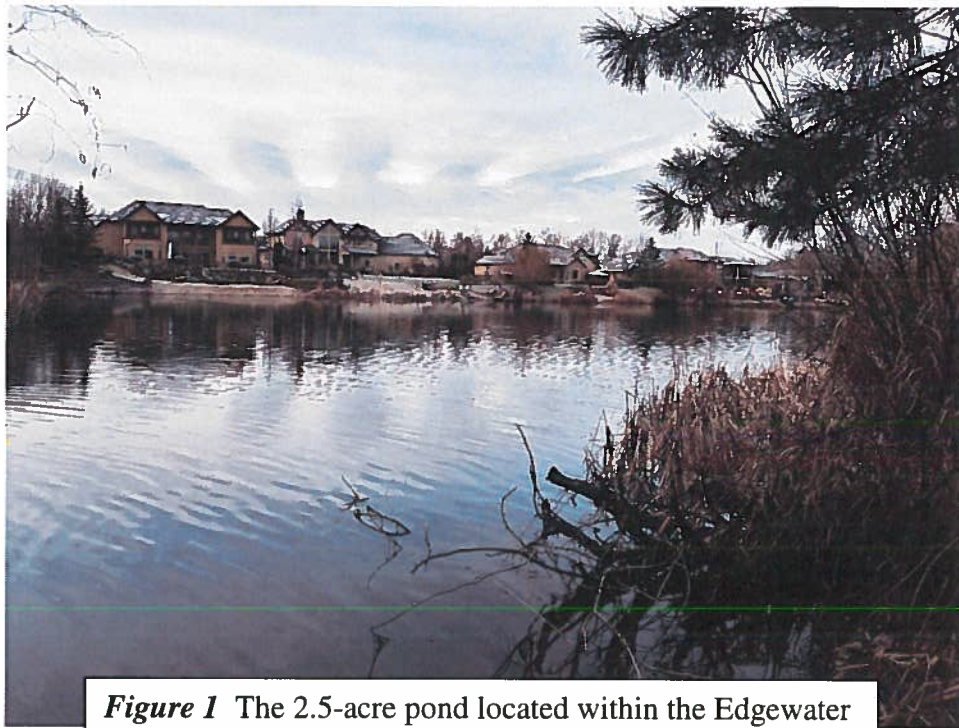


Figure 1 The 2.5-acre pond located within the Edgewater Estates Subdivision.

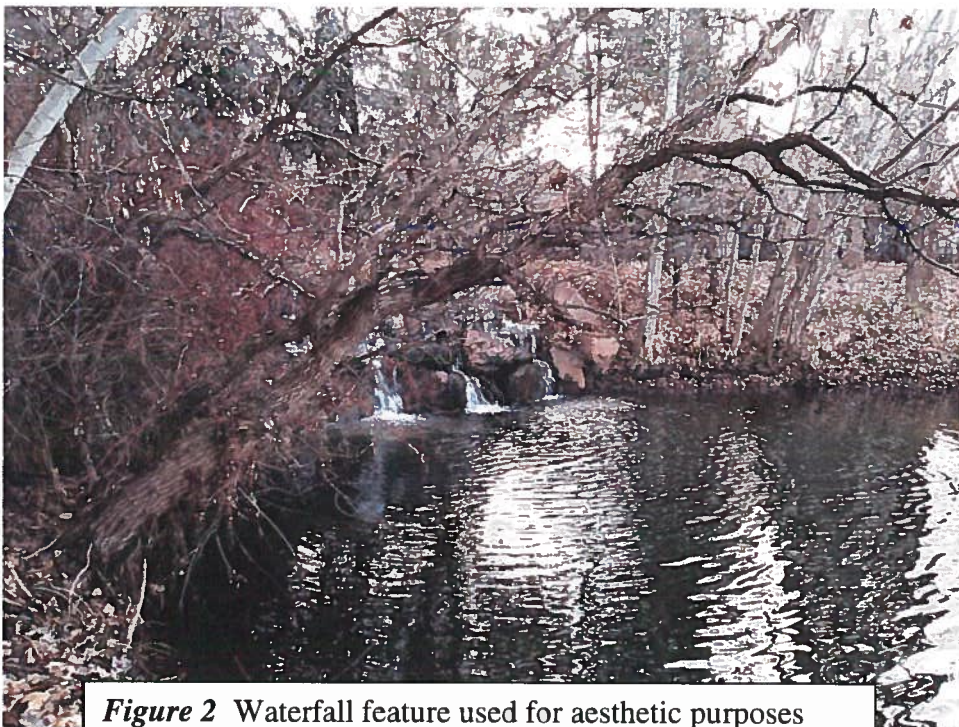


Figure 2 Waterfall feature used for aesthetic purposes and for recirculation of water within the pond.

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Figure 3 The pump used to recirculate water within the system.



Figure 4 Surface water enters this vault and passes through a sliding headgate to the pond.

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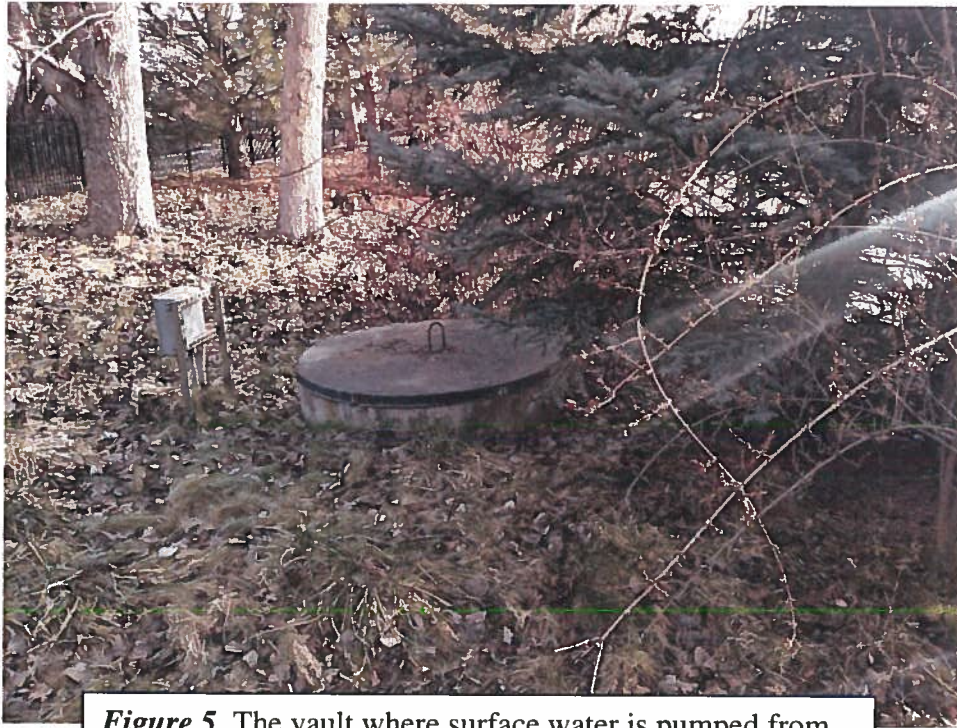
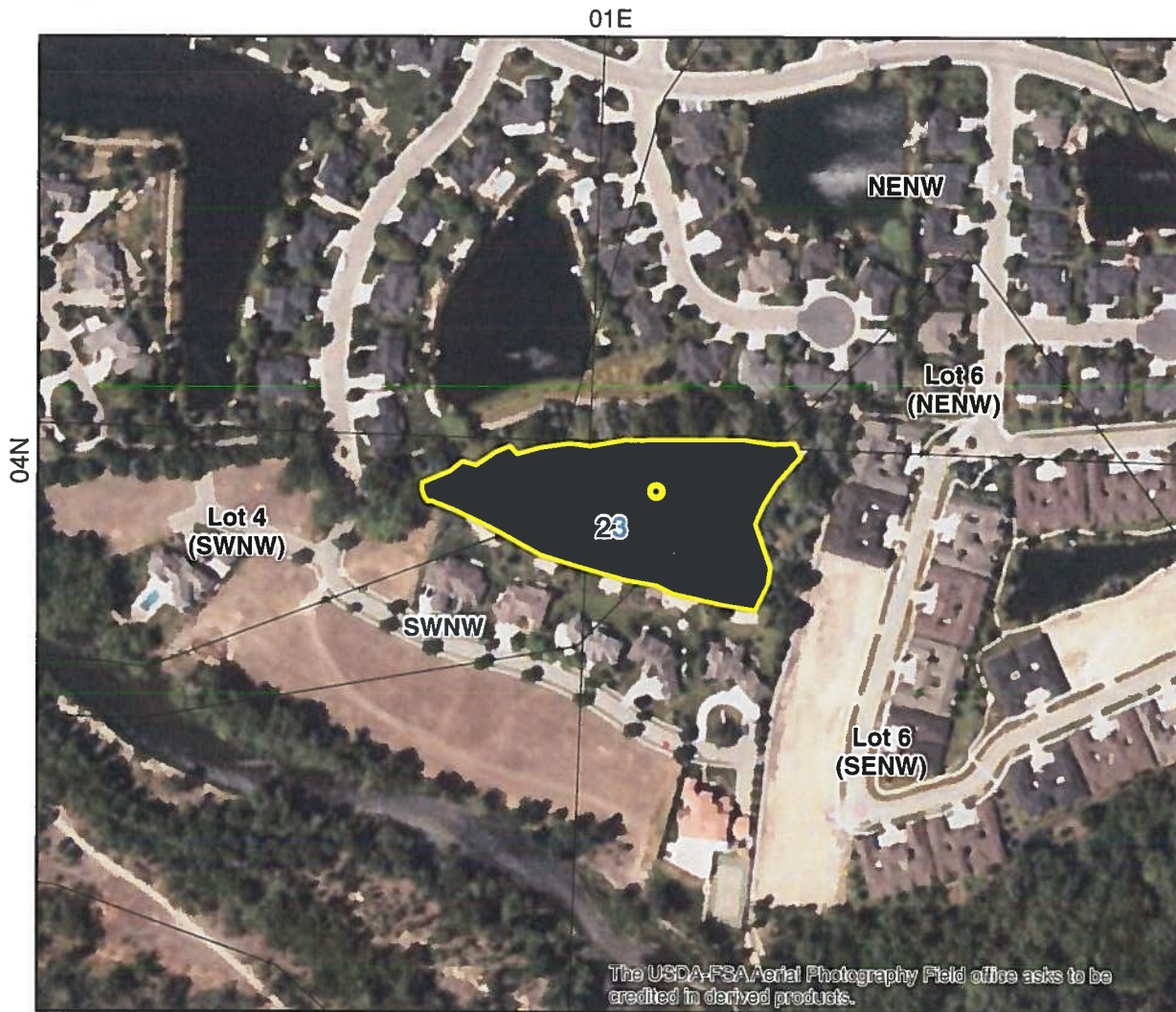


Figure 5 The vault where surface water is pumped from the pond and distributed throughout the subdivision for irrigation use.

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AESTHETIC STORAGE



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

0 0.035 0.07 0.14 Miles



Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	63-33792
REVIEWER	Cody Parker
DATE	1/23/2018

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:
P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =ET-P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at <X:/Spatial/Climate/ETIdahostations.shp>.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station: Boise WSFO Airport (NWS -- 101022)

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.66	31	0.00
Feb	0.08	28	2.24
March	0.74	31	22.94
April	2.01	30	60.30
May	2.65	31	82.15
June	4.05	30	121.50
July	4.79	31	148.49
August	4.05	31	125.55
September	2.79	30	83.70
October	1.54	31	47.74
November	-0.43	30	0.00
December	-0.89	31	0.00

Total mm/year = 694.61

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

$$\left(\frac{694.61}{304.8} \right) \times 2.50 = 5.7 \text{ AFA}$$

[(mm/yr) ÷ (convert to feet)] X (Surface area of pond, in acres) = Evaporation Loss in Acre Feet

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Basin/Sequ Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SESW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
04N01E23																		
63-32143	GROUND WATER																	
63-32143	GROUND WATER					1												
63-33792	GROUND WATER					X	X	X										4
63-34132	GROUND WATER				X													
63-34149	GROUND WATER																	
63-10270	GROUND WATER	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
63-10348	BOISE RIVER			X														
63-10348	BOISE RIVER			X														
63-10348	BOISE RIVER			X														
63-10863	GROUND WATER																	4.4
63-11108	BOISE RIVER			X														
63-11108	GROUND WATER			X														
63-11487	GROUND WATER	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
63-11562A	BOISE RIVER			X														
63-11562B	BOISE RIVER			X														
63-12055	BOISE RIVER																	
63-12061	BOISE RIVER																	
63-12061	BOISE RIVER																	
63-12093	BOISE RIVER																	
63-12147	GROUND WATER						X											
63-12202	UNNAMED DRAIN																	
63-12559	GROUND WATER						X								X			
63-135	BOISE RIVER																	
63-146	BOISE RIVER					X	X	X	X	X	X	X	X	X	X	X	X	
63-146	BOISE RIVER	X	X			X	X	X	X	X	X	X	X	X	X	X	X	
63-147B	BOISE RIVER	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	
63-147D	BOISE RIVER	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	
63-15881	GROUND WATER																	
63-16019	GROUND WATER			X														
63-16425	GROUND WATER	X																
63-16481	GROUND WATER					X												
63-16482	GROUND WATER					X												
63-16492	GROUND WATER	X																
63-16492	GROUND WATER	X																
63-16493	GROUND WATER	X																
63-16505	GROUND WATER	X																
63-16506	GROUND WATER	X																
63-16506	GROUND WATER	X																
63-16579	GROUND WATER	X																
63-16580	GROUND WATER	X																
63-16812	GROUND WATER		X															
63-16812	GROUND WATER	X																
63-16813	GROUND WATER	X																
63-176	BOISE RIVER																	
63-17631	GROUND WATER				X													
63-17631	GROUND WATER			X														
63-17663	GROUND WATER																	
63-193	BOISE RIVER																	
63-19699	GROUND WATER		X															
63-19699	GROUND WATER		X															
63-210	BOISE RIVER																	
63-211	BOISE RIVER																	
63-221	BOISE RIVER																	
63-2360	BOISE RIVER	X	X		X													
63-24158	GROUND WATER																	

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Basin/Seq	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
63-24158	GROUND WATER	STOCKWATER																	
63-250	BOISE RIVER	IRRIGATION															X		
63-25744	UNNAMED DRAIN	IRRIGATION															X	X	
63-25744	UNNAMED DRAIN	STOCKWATER															1.8	17	21.3
63-27369	GROUND WATER	DOMESTIC															X		
63-27369	GROUND WATER	DOMESTIC																X	
63-2872	GROUND WATER	MUNICIPAL																	
63-2895	GROUND WATER	MUNICIPAL																	
63-30125	BOISE RIVER	IRRIGATION																	
63-30129	BOISE RIVER	IRRIGATION																	
63-30130	BOISE RIVER	IRRIGATION																	
63-30131	BOISE RIVER	IRRIGATION																	
63-30186	GROUND WATER	DOMESTIC																	
63-30385	GROUND WATER	DOMESTIC																	
63-31198	BOISE RIVER	IRRIGATION																	
63-3124	GROUND WATER	MUNICIPAL																	
63-31832	BOISE RIVER	AESTHETIC STORAGE																	
63-31832	BOISE RIVER	IRRIGATION																	
63-31833	BOISE RIVER	IRRIGATION																	
63-31869	BOISE RIVER	AESTHETIC																	
63-31934	GROUND WATER	AESTHETIC STORAGE																	
63-33136	GROUND WATER	AESTHETIC STORAGE																	
63-7805	GROUND WATER	MUNICIPAL																	
63-8005	GROUND WATER	MUNICIPAL																	
63-8357	GROUND WATER	MUNICIPAL																	
63-9134	GROUND WATER	MUNICIPAL																	
63-9136	GROUND WATER	MUNICIPAL																	
63-9144	GROUND WATER	MUNICIPAL																	
63-9718	BOISE RIVER	AESTHETIC STORAGE																	
63-9718	BOISE RIVER	IRRIGATION																	
63-9718	VILLAGE LAKE	AESTHETIC STORAGE																	
63-9718	VILLAGE LAKE	IRRIGATION																	
63-9751	BOISE RIVER	AESTHETIC																	

Mitigating right
 Same QQ different use
 Other ponds in area



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region • 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

December 1, 2017

EDGEWATER ESTATES OWNERS ASSN INC
C/O STAN GRAY
10176 W RIVER ROCK LN
GARDEN CITY ID 83714

RE: Request to Schedule Field Exam for Water Right Permit No. 63-33792

Dear Permit Holder(s),

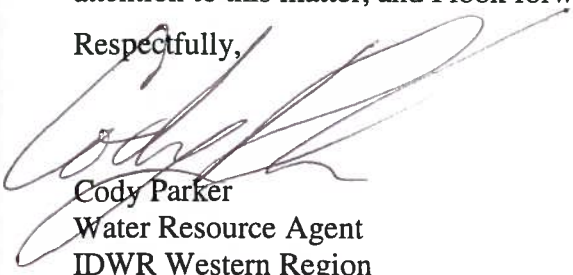
I am writing today in regard to the water right permit referenced above, which authorizes the diversion of **63.0 acre-feet** of water from **groundwater** for **aesthetic storage** use. On December 30, 2015, you submitted Proof of Beneficial Use for the permit indicating that your project is fully developed. The next step in the water appropriation process is to complete a Beneficial Use Field Examination to determine the extent to which water use was developed under the permit. The field examination is the final step needed before the Department can issue the final water right license.

If you did not develop a beneficial use of water under the permit during the beneficial use period, a license cannot be issued and the permit should be relinquished. If the use *was* developed, but you have ceased using the water and you have no interest in pursuing the water right license, please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required).

Please contact me within the next thirty (30) days to schedule a field examination for your water right permit. You can reach me by phone at 208-334-2190 or by email at cody.parker@idwr.idaho.gov. If you no longer own the place of use the department will work with the current property owner to issue a license or void the permit. If you still own the property in question, but do not **make** a timely response in this regard, the permit will be voided.

Please let me know if you have any questions regarding the content of this letter. I appreciate your attention to this matter, and I look forward to hearing from you

Respectfully,



Cody Parker
Water Resource Agent
IDWR Western Region

Enclosed: WR Report, WR Map, Relinquishment of Permit, Assignment of Permit