

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

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DEPARTMENT OF
WATER RESOURCES

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. 63-323661. Owner B W Eagle Inc.Phone No. 208-375-6666Current address 250 S Beechwood, Ste 120, Boise, ID 837092. Examiner's name David ShawEXAM DATE 10-10-20193. Accompanied by Dan TorfinEmail dan@da-land.comAddress 250 S Beechwood, Ste 120, Boise, ID 83709Relationship to permit holder ManagerPhone No. 208-941-77024. Source Ground Water

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use 63-250, 63-192, 63-216C and 63-194252. Other water rights with the same source and point of diversion None**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

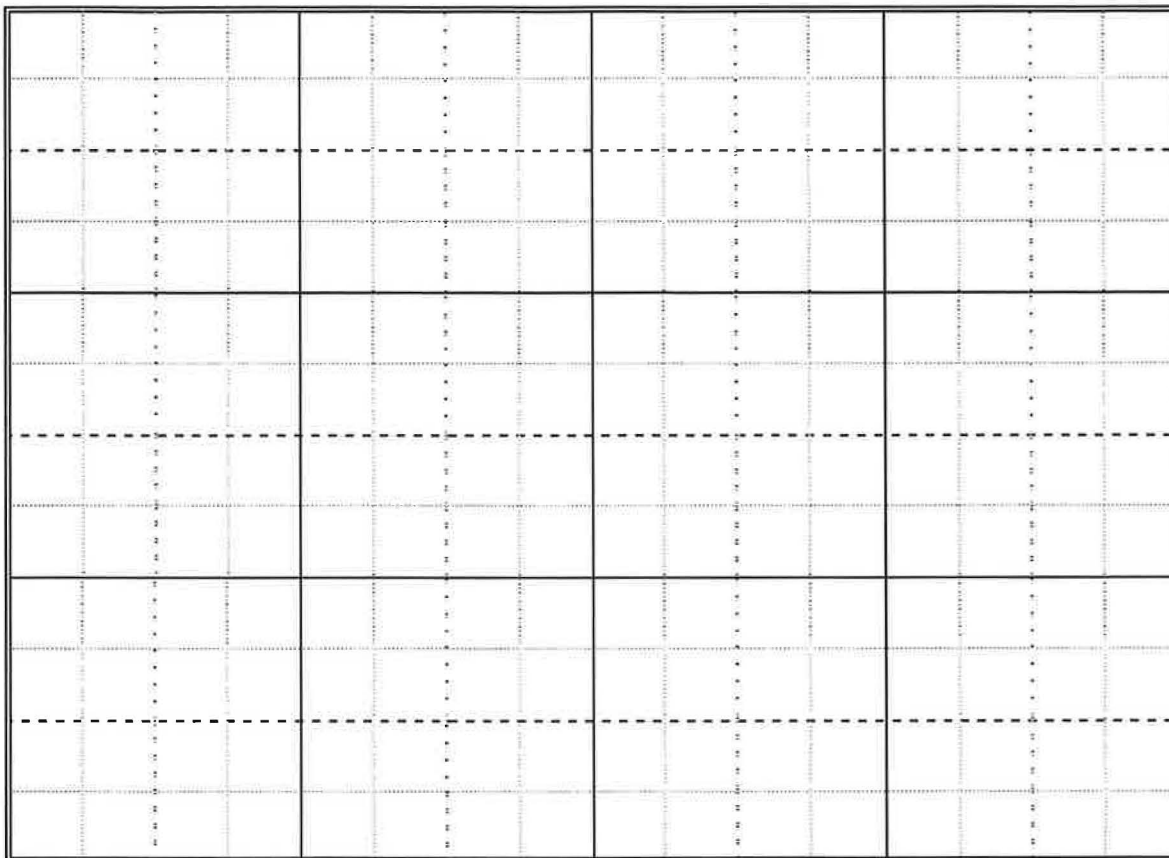
Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
1	6		SE	NW	21	4N	1E	Ada	Aerial Photography
1	7		SW	NE	"	"	"	"	"
2	5		SW	NW	"	"	"	"	"
2			NE	SW	"	"	"	"	"

2. Place(s) of Use:

Method of determination Aerial Photography

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
4N	1E	21			Lt7-J				Lt5-J	Lt6-J	J	J		J		J			

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
N/A					

*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. **Measurements:** _____

Pond area was digitized from 7-18-2018 Google Earth photography then transferred to 2019 NAIP photography on the enclosed aerial photo. Total surface area of the ponds is measured to be 19.83 acres and pond volume is 229.4 acre-feet based on updated design documents for the subdivision dated 1-21-2019, copy attached as Exhibit A.

E. NARRATIVE/REMARKS/COMMENTS

Lakemoor Subdivision is a mixed use subdivision with 12 water amenities located within the subdivision. The ponds intercept shallow ground water and pond surface evaporation is mitigated by surface water rights held by Thurman Mill Ditch Co, Ltd and Warm Springs Ditch Co as noted above.

Exhibit A includes a table of pond surface areas and volumes for the Lakemoor Subdivision. The spreadsheet attached as Exhibit C provides a side-by-side comparison of the surface areas from the plan and the surface areas measured as described above. The differences between the design areas and measured areas are small and probably within the measurement accuracy using available photography.

Exhibit C also provides a maximum depth estimate based on the size and shape of ponds 8 and 9 that could be easily digitized from Exhibit A. The factor of 0.58 was determined from those ponds instead of the 0.4 factor commonly used by IDWR, i.e., pond volume = maximum depth times 0.58 times surface area.

Exhibit B attached includes annotation identifying where water from Thurman Mill and Warm Springs Companies enter Lakemoor and where surface water from those Companies is added to ponds 2 and 8. Pond 2 is the location of the irrigation source for Lakemoor Subdivision and pond 8 will be the irrigation source for a new park to be constructed by the City of Eagle. Exhibit B also shows the interconnection between ponds 2, 3, 6, 7 and 8. The remainder of the ponds are not interconnected. Exhibit B shows pond 1 has a flood control overflow that is only used during flooding conditions. Under normal conditions no water is released from the ponds except for irrigation.

Ponds 4, 10, 11 and 12 include water amenities with running water but each is self contained. The running water is pumped from and returned to the same pond, there is no interconnectivity between these ponds.

The total volume of the ponds is less than the 533 acre-feet applied for and the total surface area is less than the 23 acres applied for. All ponds intercept shallow ground water and there is no attempt to hold any of the pond elevations artificially higher than the elevation of the shallow ground water making seepage rate a non-issue so far as mitigation is concerned. None of the Et Idaho stations are ideally located to represent the pond evaporation at Lakemoor. To compensate, the Et Idaho stations at Boise, Emmett and Nampa were used to estimate the evaporation from the Lakemoor ponds. Using the IDWR pond evaporation tool the pond evaporation for the Lakemoor ponds is estimated to be 43.3 acre-feet per year, less than the 47.9 acre-feet per year evaporation from low management pasture that predated the ponds, copies of both spreadsheets from the pond evaporation tool are attached as Exhibits D & E.

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 attached

Measured Method:

Pond surface area is based on digitized pond areas and totals 19.83 acres. Pond volume is taken from updated design document dated 1-21-2019 and is 229.4 acre-feet, see Exhibit A attached.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

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

2. Volume Calculations for Other Uses:

See Exhibit C attached.

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Aesthetic Storage	1/1	12/31		229.4
Totals:				229.4

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 9-2-2020

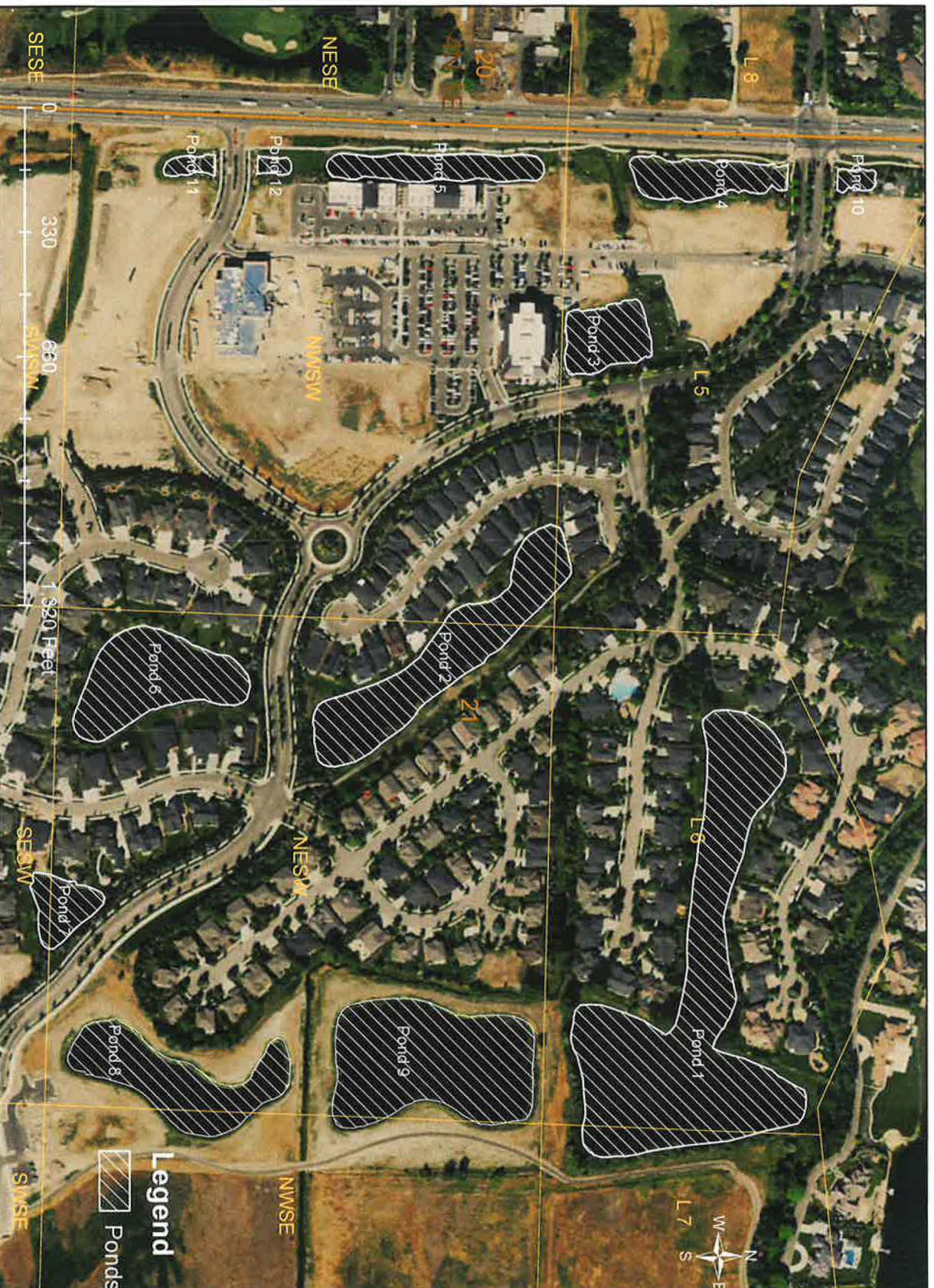
Reviewer

Date



This is a topographic map of the Boise River area. The Boise River is shown flowing from the top left towards the bottom right. To the right of the river is the Warm Springs area, which includes a large green-shaded region. Further right is the Boise Canal. The map includes a legend for 'Ponds' (represented by a hatched pattern) and a scale bar (0 to 3,000 Feet). A north arrow is located in the top right corner. The map is labeled with 'BOISE RIVER', 'WARM SPRINGS', 'BOISE CANAL', 'THURMAN 4N 1E', 'Gravel Pit', and 'Gravel Pit'. The map also shows a '26' road marker and a '2560' elevation marker.

Lakemoor Subdivision Ponds



Based on 2019 NALP Photography

Prepared for B W Eagle Inc by ERO June 2020

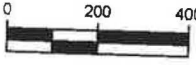
Exhibit B



POND SUMMARY

EXISTING PONDS

POND #	POND SURFACE AREA	POND STORAGE VOLUME
1	6.57 AC.	131,603 CY
2	2.37 AC.	35,383 CY
3	0.81 AC.	17,374 CY
4	0.77 AC.	9,349 CY
5	1.00 AC.	15,626 CY
6	2.00 AC.	48,446 CY
7	0.57 AC.	8,647 CY
8	2.10 AC.	32,882 CY
9	3.54 AC.	68,153 CY
10	0.09 AC.	870 CY
11	0.16 AC.	2,430 CY
12	0.05 AC.	180 CY



SCALE IN FEET

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LAKEMOOR SUBDIVISION
EAGLE, IDAHO

POND EXHIBIT

FILE: LAKEMOOR SUB POND EXH
JUB PROJ 4-10-15-102
DRAWN BY: -
DESIGN BY: -

Exhibit C

Lakemoor Pond Evaluation

Pond #	Area Ac	Design		Average Depth FT	Max ¹ Depth FT	Measured Area Ac
		Volume CY	Volume AF			
1	6.57	131603	81.57	12.42	21.41	6.50
2	2.37	35383	21.93	9.25	15.95	2.65
3	0.91	17374	10.77	11.83	20.40	0.82
4	0.77	9349	5.79	7.53	12.98	0.84
5	1.00	16826	10.43	10.43	17.98	0.86
6	2.00	46446	28.79	14.39	24.82	1.91
7	0.57	8647	5.36	9.40	16.21	0.54
8	2.10	32882	20.38	9.71	16.73	1.90
9	3.54	68153	42.24	11.93	20.57	3.45
10	0.09	870	0.54	5.99	10.33	0.12
11	0.16	2430	1.51	9.41	16.23	0.15
12	0.05	160	0.10	1.98	3.42	0.09
Total/Average	20.13	370123	229.42	11.40		19.83

¹ Maximum depth estimated by digitizing Ponds 8 & 9 from Exhibit A. Both ponds had well defined top and bottom contours to determine total pond area and the area of the maximum pond depth. Based on these measurements, a factor of 0.58 was used to estimate the maximum depth based on the pond area and volume reported on Exhibit A.

The 0.58 factor was calculated as follows: Total pond area and area of maximum pond depth were digitized. The difference between the 2 areas (the sloping area) was divided by 2 and added to the max depth area. That result was then divided by the total area to determine a factor for each pond. The 2 factors of 0.54 and 0.63 were averaged to determine the 0.58 factor that was applied to all ponds.