STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15761
Exam Date: 06/11/2018

1. Current Owner:
   PAUL BOYD 29875 CULDESAC RD CULDESAC ID 83524 AND
   SANDRA BOYD 29875 CULDESAC RD CULDESAC ID 83524 AND
   GEORGE SCHWARTS 28928 CULDESAC RD CULDESAC ID 83524

2. Accompanied by: Paul Boyd
   Phone No: (208) 553-8082
   Address: Same as above
   Relationship to permit Holder: Permit holder

3. **SOURCE:** UNNAMED STREAM

Tributary LAPWAI CREEK

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
85-15756	GROUND WATER	IRRIGATION	PERMIT

Comments: At time of Field Exam water right 85-15756, same applicant holder, is in licensing process accompanying this water right. Overlap is from a well that is used by applicant as another source of irrigation water. There is no overlap concern.

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 SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
UNNAMED STREAM L20 (NW¼ SE¼), Sec. 12, Twp 35N, Rge 03W, B.M. NEZ PERCE County

Method of Determination: Arcmap, DRG, GPS. Pond earthen dam location -116°39.030, 46°23.380.

PLACE OF USE: IRRIGATION 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	
35N	03W	12														X L20			

PLACE OF USE: IRRIGATION FROM 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	
35N	03W	12												1.2 L28			1.0 L29		2.2

Total Acres: 2.2

Method of Determination: Arcmap and Field exam.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.
X 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
X 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
N/A					

D. FLOW MEASUREMENTS

1.

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

2. Measurements: N/A

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R}$ = (Acres Irrigated) x (Irrigation Requirement) = 2.2 acres x 4.0 afa = 8.8 af

$V_{D.R}$ = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 = N/A, there is no diversion rate applied.

V = Smaller of $V_{I.R}$ and $V_{D.R}$ = 8.8 af

2. Volume Calculations for Other Uses:

See attached pond analysis sheet.

G. NARRATIVE/REMARKS/COMMENTS

The field exam was performed on 06/11/2018 with the applicant, Paul Boyd, which showed one pond that was being fed by an intermittent unnamed stream. Water was diverted from the earthen dam using piping, that gravity fed down grade to the applicant's POU for irrigation purposes. The pond is an alternate water source for applicant, who uses water from a well (WR 85-15756), and rotates using water sources throughout the summer to prevent over taxing either water source.

The pond has a surface area of 0.4 acres. The pond was excavated and has a 30 foot earthen dam, has a maximum depth of 25 feet, an average depth of 10 feet, and estimated seepage and evaporation of 1.2 af. The pond analysis sheet completed for this pond (see attached) does not account for rounding, and thus there is a value of 0.1 af not represented in the pond factors that add to the total volume required in acre feet. The Maximum diversion volume for this water right will be licensed at 14.1 af, and the is no diversion rate applied to license.

During licensing review it was challenging to rely on arcmap aerial imagery to show irrigation POU for which irrigation from storage component on this water license associates with, as all years showed dead grass on ground at different times of capture. Sentinel satellite imagery was used to further identify the area of irrigation that was historically put to beneficial use. Sentinel imagery showed irrigation was used in past years, but not to the extent applicant anticipated at time of permitting. Irrigation acreage was traced out equaling 2.2 acres, and using the generic volume of 4.0 afa the annual volume for irrigation from storage component of 8.8 af will be carried to licensing.

As WR 85-15808 was split from this water right, the STOCKWATER STORAGE and STOCKWATER components were removed from this license. Both are accounted for on WR 85-15808, and do not enlarge the original permit authorized diversion rate or diversion volume. At time of licensing, PLS place of use QQ areas were updated to reflect field exam determined historical POU beneficial usage by applicant.

Conditions X02 and 082 were removed from license. Condition 220 was updated from permit to reflect pond analysis data. Condition 219 was replaced with 259 due to the from storage component associate with this pond. Condition X35 was added to describe water rights 85-15761 and 85-15756, and their limitation to irrigation no more than 2.2 acres. The applicant has an overlapping water permit that is being licensed congruently with this water right, but there are no overlap concerns.

Have conditions of permit approval been met? X Yes ____ No

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
IRRIGATION STORAGE	01/01 to 12/31		14.1 AF
IRRIGATION FROM STORAGE	02/15 to 11/30		8.8 AF
	Totals:		14.1 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above X None

____ Change P.U. as reflected above ____ Add P.U. as reflected above X None

I. AUTHENTICATION

Luke Bates - Water Resource Agent

Field Examiner's Name Luke Bates Date 4/21/2020

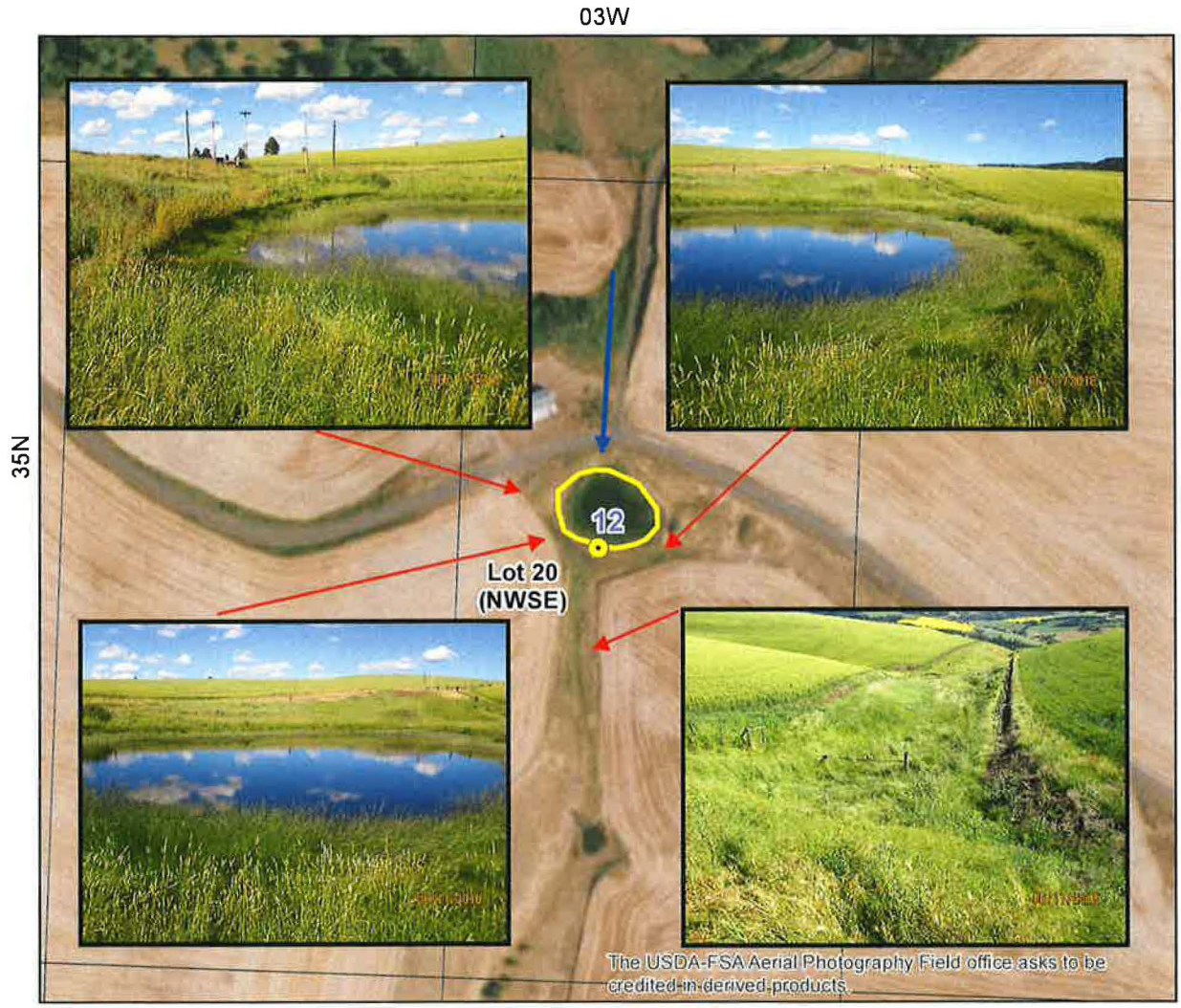
Reviewer [signature] Date 4/15/2020

State of Idaho
Department of Water Resources

Attachment to Field Exam

85-15761

IRRIGATION STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles

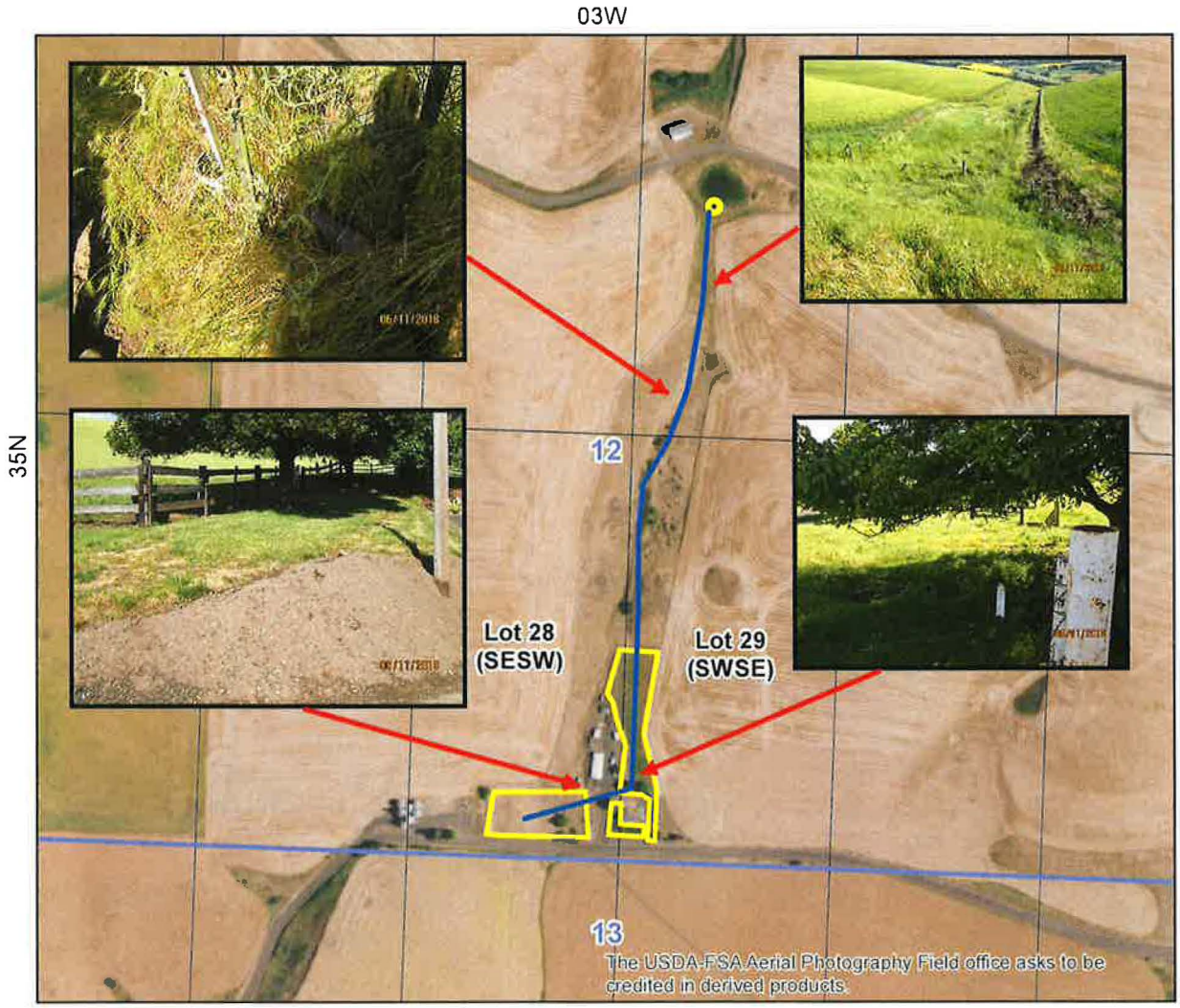
N

State of Idaho
Department of Water Resources

Attachment to Water Right License

85-15761

This map depicts the IRRIGATION FROM STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



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

0 0.05 0.1 0.2 Miles

N

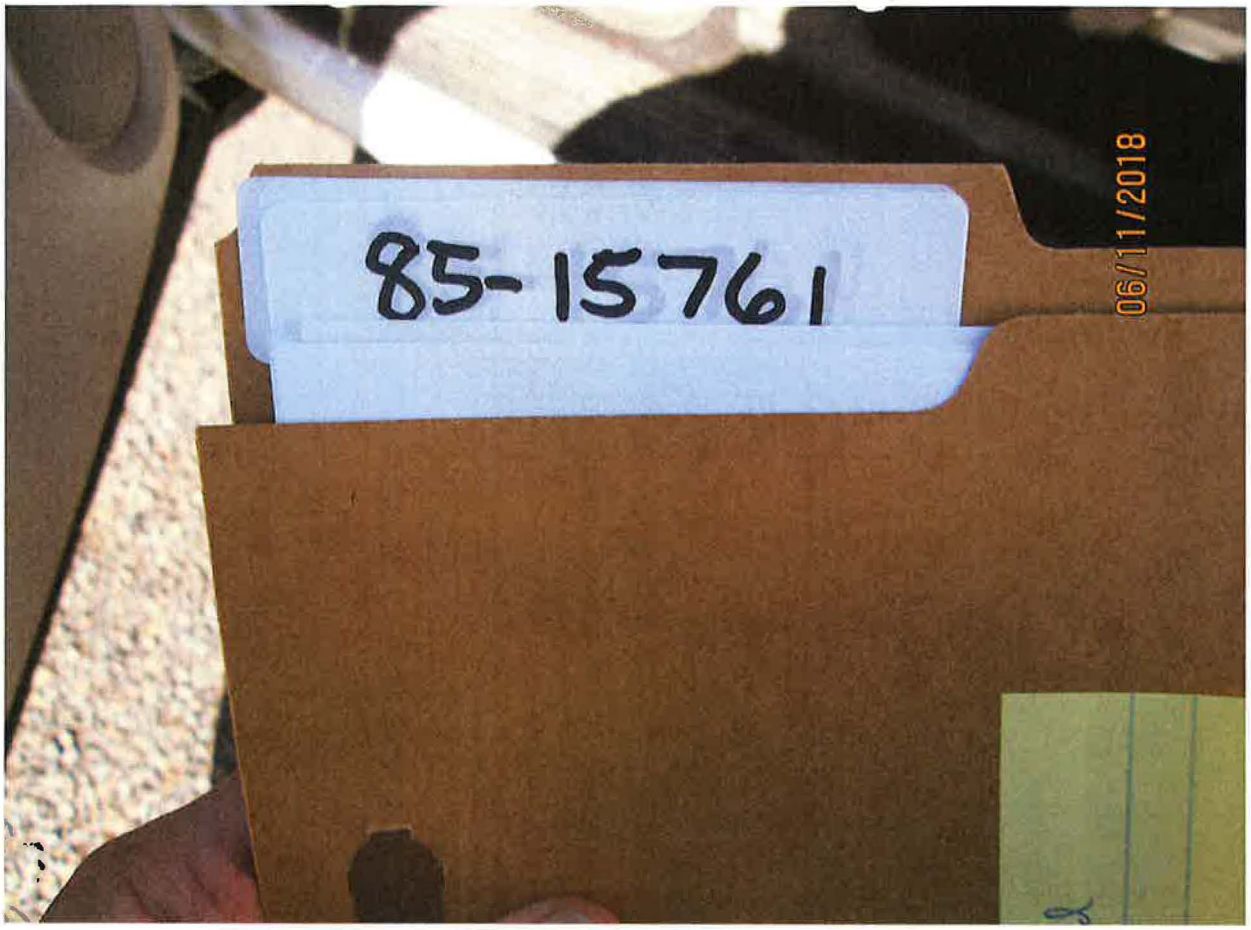
Total Storage Calculations

FILE NUMBER	85-15761
REVIEWER	Luke Bates
DATE	4/12/2020

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.)	0.4	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	10	"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)	4.0	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)	8.8	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a *from storage* component if the *from storage* 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)	0.4	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.8	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	14.1	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.



STORAGE POU

STORAGE POU

VIEW FROM DAM LOOKING DOWN STREAM TOWARD POUs

PIPING SYSTEM FROM POND TO IRRIGATION POU

IRRIGATION POU

IRRIGATION POU

IRRIGATION TRIPOD SPRINKLER