



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

October 21, 2013

DAMAN LAND & TIMBER LLC
GLENN DAMAN
1828 SHEEP CREEK RD
DESMET ID 83824

RE: License Nos. 93-7169 & 93-7174

Issuance of Licenses

Dear Water Right Holder(s):

The Department of Water Resources has issued the enclosed Water Right Licenses confirming that water rights have been established in accordance with your permits. Please be sure to thoroughly review the conditions of approval and remarks listed on your licenses.

The licenses are PRELIMINARY ORDERS issued by the Department pursuant to section 67-5243, Idaho Code. They can and will become final orders without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclose information sheet.

Please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a \$100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at 208-287-4916.

Sincerely,

Craig L. Saxton
Water Rights Supervisor

Enclosure(s)

CERTIFICATE OF SERVICE

I hereby certify that on October 22, 2013, I mailed true and correct copies, postage prepaid, of the foregoing PRELIMINARY ORDERS (Approved Licenses) to the person(s) listed below:

RE: WATER RIGHT NOS.

93-7169 & 93-7174

**GLENN DAMAN
1828 SHEEP CREEK RD
DESMET ID 83824**

**DAMAN LAND & TIMBER LLC
1828 SHEEP CREEK RD
DESMET ID 83824**



**Darla Block
Technical Records Specialist**

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "Preliminary Order" issued by the department pursuant to section 67-5243, Idaho Code. **It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:**

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. **Note: the petition must be received by the department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

State of Idaho
Department of Water Resources
Water Right License

WATER RIGHT NO. 93-07174

Priority: April 18, 2011

Maximum Diversion Rate: 0.03 CFS
Maximum Diversion Volume: 5.3 AF

It is hereby certified that DAMAN LAND & TIMBER LLC

And/Or

GLENN DAMAN
1828 SHEEP CREEK RD
DESMET ID 83824

has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated April 18, 2011; and has submitted Proof of Beneficial Use on February 21, 2012. An examination confirms that water is diverted from:

SOURCE

SPRING

Tributary: SHEEP CREEK

and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL DIVERSION VOLUME</u>
IRRIGATION FROM STORAGE	03/15 to 11/15		3.0 AF
IRRIGATION STORAGE	03/15 to 11/15		3.0 AF
RECREATION STORAGE	01/01 to 12/31		2.3 AF
WILDLIFE STORAGE	01/01 to 12/31		2.3 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		2.3 AF
IRRIGATION	03/15 to 11/15	0.03 CFS	3.0 AF

LOCATION OF POINT(S) OF DIVERSION:

SPRING SE1/4NW1/4SE1/4 Sec. 31, Twp 44N, Rge 04W, B.M. BENEWAH County

PLACE OF USE: IRRIGATION AND IRRIGATION FROM STORAGE

Twp Rge Sec	NE	NW	SW	SE	Totals
44N 04W 31	NE NW SW SE	NE NW SW SE	NE NW SW SE	NE NW SW SE	1.0 1.0

Total Acres: 1

PLACE OF USE: IRRIGATION STORAGE, RECREATION STORAGE, WILDLIFE STORAGE AND FIRE PROTECTION STORAGE

Twp Rge Sec	NE	NW	SW	SE	Totals
44N 04W 31	NE NW SW SE	NE NW SW SE	NE NW SW SE	NE NW SW SE	X X

State of Idaho
Department of Water Resources
Water Right License

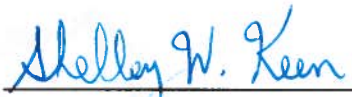
WATER RIGHT NO. 93-07174

CONDITIONS OF APPROVAL

1. Water shall not be diverted from fire protection storage except to fight or repel an existing fire.
2. Right 93-7174 authorizes the diversion of an annual total of 2.3 acre-feet to be used for the initial filling of the pond and for the replacement of losses caused by seepage and evaporation. Up to 3.0 acre-feet of additional water may be stored in the reservoir and depleted periodically for irrigation purposes, but the entire annual diversion including the irrigation use may not exceed 5.3 acre-feet.
3. This right when combined with all other rights shall provide no more than 0.03 cfs per acre nor more than 3.0 afa per acre at the field headgate for irrigation of the place of use.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. The water right confirmed by this license is subject to all prior water rights and shall be used in accordance with Idaho law and applicable rules of the Department of Water Resources.

Signed this 16th day of October, 2013.


for GARY SPACKMAN
Director

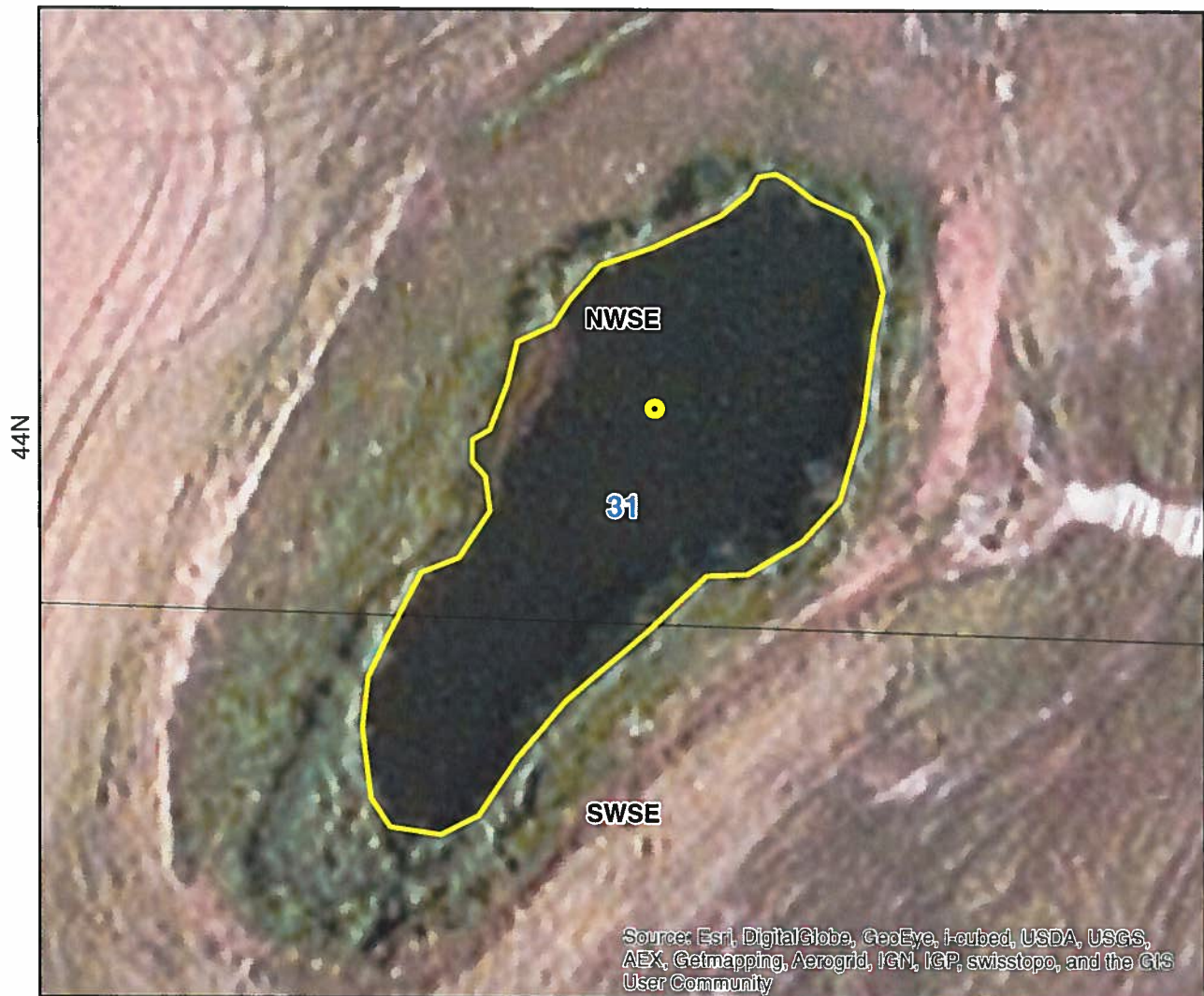
State of Idaho
Department of Water Resources

Attachment To Water Right License

93-7174

This map depicts the RECREATION STORAGE, IRRIGATION STORAGE, WILDLIFE STORAGE, AND FIRE PROTECTION 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.

04W



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

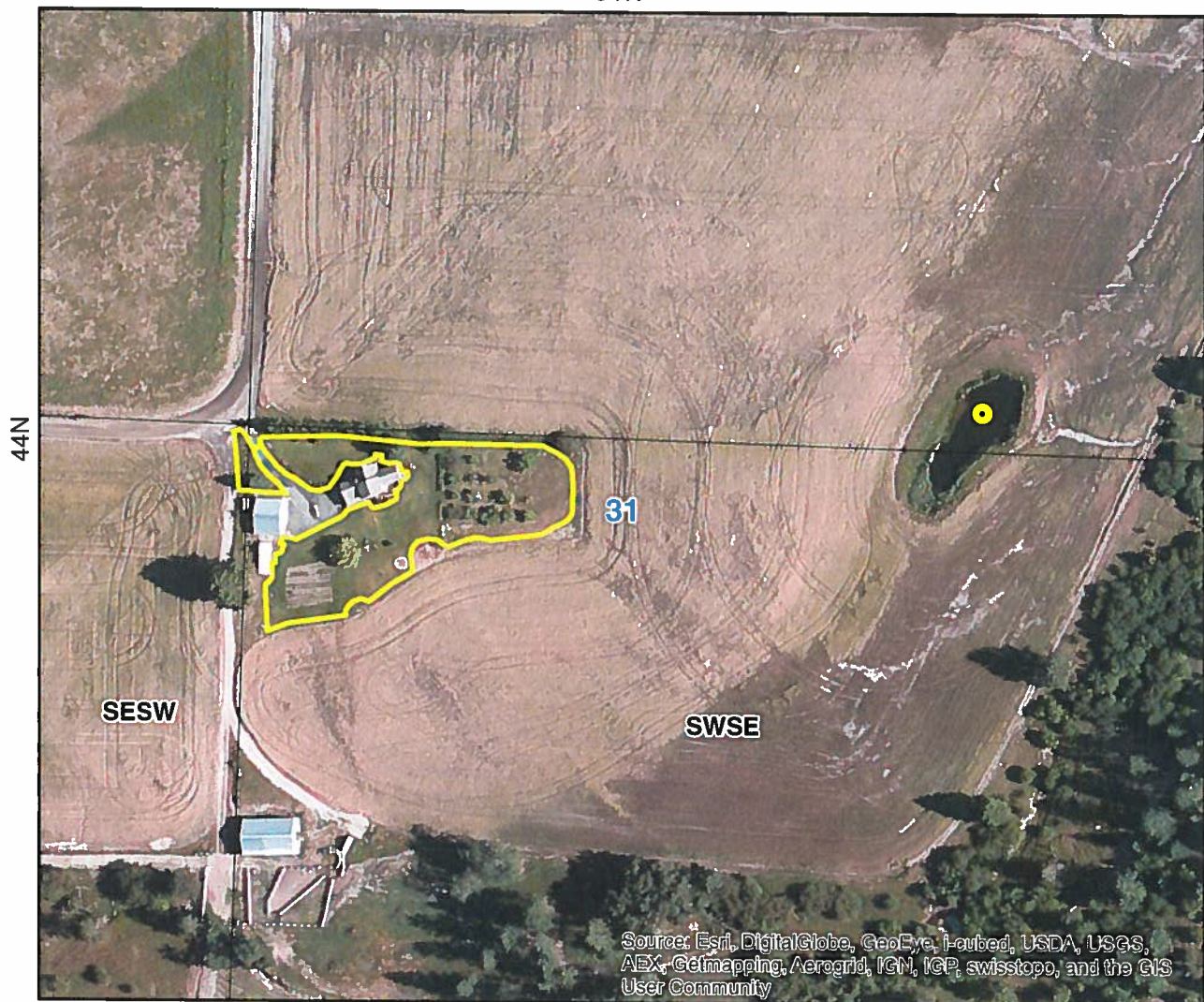
0 0.0045 0.009 0.018 Miles



State of Idaho
Department of Water Resources
Attachment To Water Right License
93-7174

This map depicts the IRRIGATION AND 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.

04W



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

0 0.025 0.05 0.1 Miles



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 93-7174

Exam Date: 5/22/2013

1. Current Owner: DAMAN LAND & TIMBER LLC

And/Or

GLENN DAMAN
1828 SHEEP CREEK RD
DESMET ID 83824
(208)274-5333

2. Accompanied by:
- Kieth Daman

Phone No: Same as AboveAddress: Same as AboveRelationship to Permit Holder: Co-Owner3. SOURCE

SPRING

TRIBUTARY

Sheep Creek

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: None

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

SPRING SE1/4NW1/4SE1/4 Sec. 31, Twp 44N, Rge 04W, B.M. BENEWAH County

Method of Determination: GPS, Visual Inspection, and use of GIS

2.

PLACE OF USE: IRRIGATION STORAGE, RECREATION STORAGE, WILDLIFE STORAGE, AND FIREPROTECTION STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
44N 04W 31	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
													X	X			

PLACE OF USE: IRRIGATION AND IRRIGATION FROM STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
44N 04W 31	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
															1.0		1.0

Total Acres: 1

Method of Determination: Visual Inspection and GIS

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

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

YES 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
Pond Pump	Unknown	2	Unknown	Unknown	1 ½

*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
NONE						

2. Measurements: The pump wasn't at the site at the time of the exam, so a theoretical calculation was used.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method:

Measurement = 0.03 cfs (See Theoretical Calculation Sheet)

Acres = 0.03 cfs (0.03 cfs per acre X 1 acres = 0.03 cfs)

Stockwater allows = 0.02 cfs (Per Permit and standard for instream type of use)

Permit allowed = 0.07 cfs (0.03 cfs was allowed for the irrigation and 0.04 cfs was allowed for diversion to storage which is the standard for both uses.)

License recommend for 0.03 cfs for irrigation of 1 acre. No diversion to storage was found, so diversion to storage was removed. Total diversion rate allowed = 0.03 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ acres} \times 3 \text{ af} = 3 \text{ af.}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 214 \times 1.9835 = 12.7 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 3 \text{ af}$$

2. Volume Calculations for Other Uses:

The pond capacity was calculated at 2 acre feet of volume with 0.3 acre feet for evaporation for a total of 2.3 acre feet of storage. There is no seepage, since this is an on-stream pond. An additional 3 acre feet was added to cover the amount of water being diverted from the pond to the yard. Therefore, the total recommended volume for this water right is 5.3 acre feet.

G. NARRATIVE/REMARKS/COMMENTS

This pond was constructed in a boggy area at the bottom of hill. The owner installed two French Drains, one approximately 200 feet in length traveling to the south west, and on approximately 150 feet in length traveling to the north. The pond fills naturally from the spring, and the drains are simply collecting as much of the spring water as possible. The owner has placed fish in the pond, and uses the water in the pond to divert up to his home to irrigate approximately 1 acre of yard.

There are no significant overlapping water rights. Water right 93-4019 overlaps the place of use, but is a stockwater right for a different spring on the east side of the creek. This permit is on the west side of the creek. 93-7167 is for a pond to the north in the same 40 acre tract. Water right 93-7154 is from another spring east of the creek. Water right 93-7155 is an in-stream stockwater right in Sheep Creek. There is a fence between Sheep Creek and the field where this spring is located, so there is no direct overlap. This pond does overflow into Sheep Creek, but that only occurs during the spring runoff season. Runoff water generally doesn't enter the pond, since it has a 2 foot berm around the pond. The home does have an exempt well supplying water to the home. Some of this water may be used to irrigate some of the yard, but it is unlikely. This area is generally pretty wet, so irrigation is only used on rare occasions.

The original permit had diversion to storage as a water use. There are two buried French Drains that feed the pond, but there is no way to regulate these drains or measure the drains. The drains are self regulating by the water pressure in the pond. The drains cannot fill the pond to the point that it overflows. The drains simply drain the ground next to the ponds to allow that ground to be farmed. All of the land in this area is dry farmed, so there is no irrigation water that would affect the pond.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

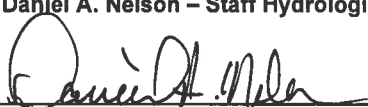
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION FROM STORAGE	03/15 to 11/15		3.00 AF
IRRIGATION STORAGE	03/15 to 11/15		3.00 AF
RECREATION STORAGE	01/01 to 12/31		2.30 AF
WILDLIFE STORAGE	01/01 to 12/31		2.30 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		2.30 AF
IRRIGATION	03/15 to 11/15	0.030 CFS	3.00 AF
<u>Totals:</u>		0.030 CFS	5.30 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 ___ Other

I. AUTHENTICATION Daniel A. Nelson – Staff Hydrologist

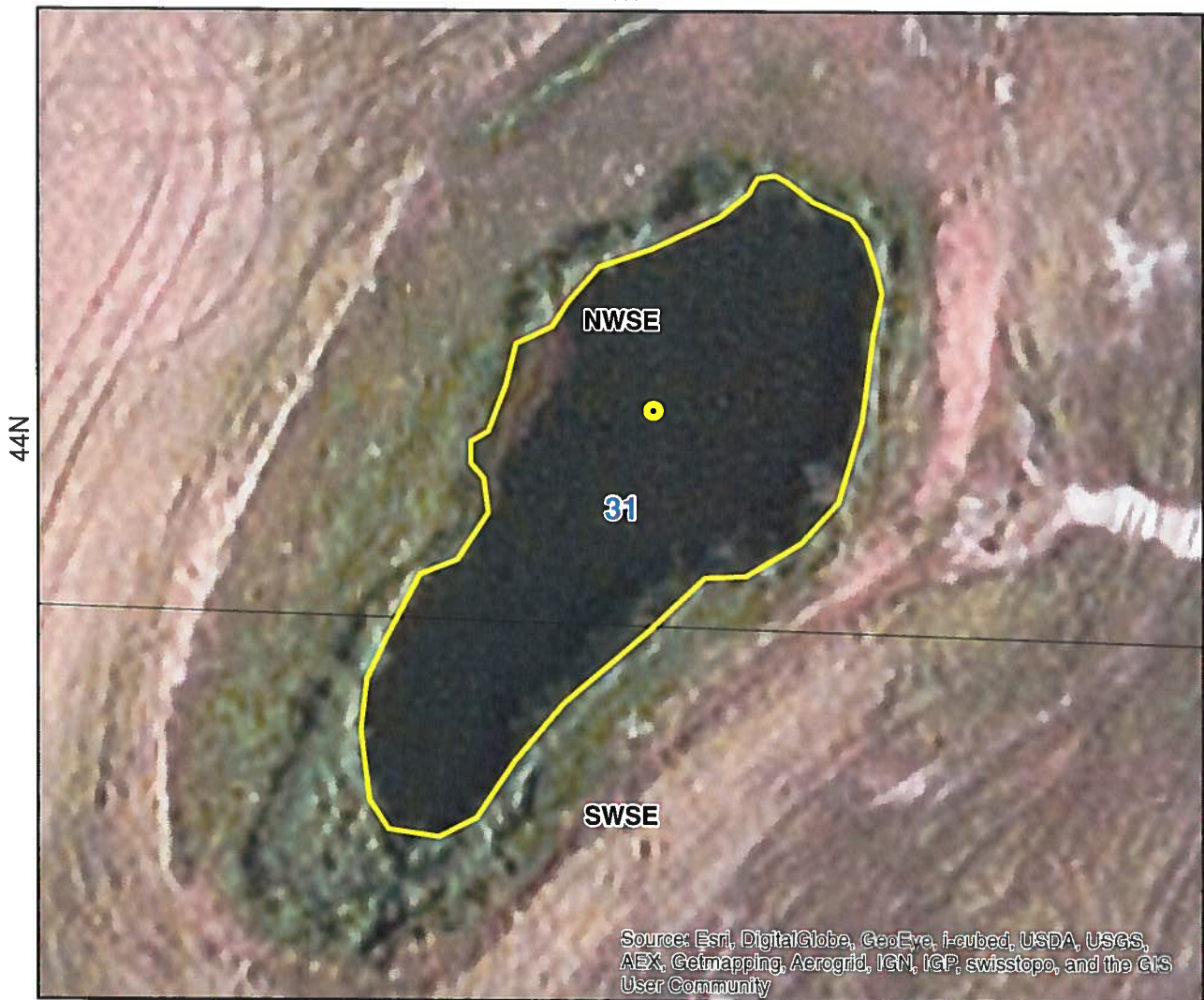
Field Examiner's Name  Date 10-11-2013

Reviewer _____ Date _____

State of Idaho
Department of Water Resources
Attachment To Field Exam
93-7174

This map depicts the RECREATION STORAGE, IRRIGATION STORAGE, WILDLIFE STORAGE, AND FIRE PROTECTION 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.

04W



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

0 0.0045 0.009 0.018 Miles



State of Idaho
Department of Water Resources
Attachment To Field Exam
93-7174

This map depicts the IRRIGATION AND 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.

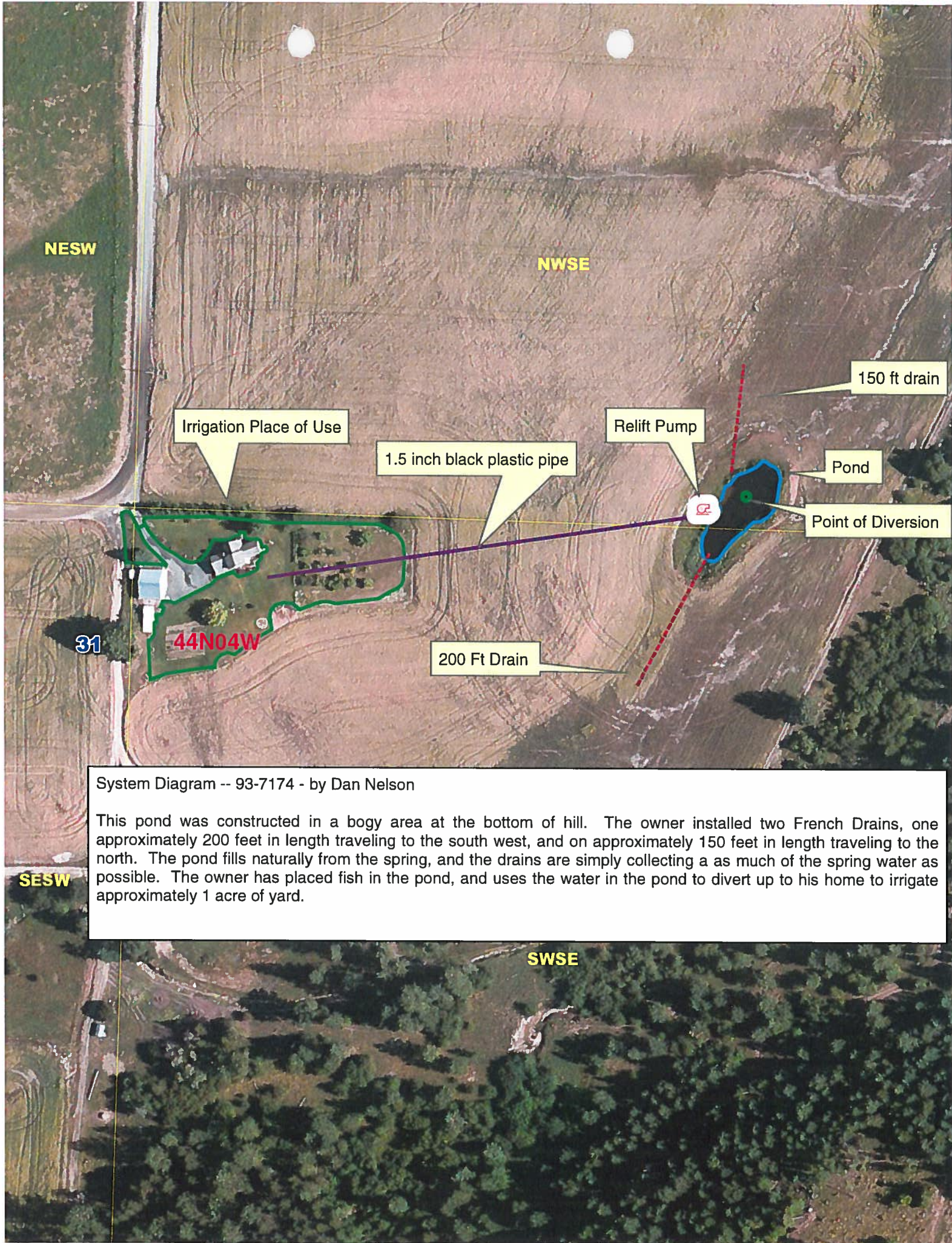
04W



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

0 0.025 0.05 0.1 Miles





System Diagram -- 93-7174 - by Dan Nelson

This pond was constructed in a boggy area at the bottom of hill. The owner installed two French Drains, one approximately 200 feet in length traveling to the south west, and on approximately 150 feet in length traveling to the north. The pond fills naturally from the spring, and the drains are simply collecting as much of the spring water as possible. The owner has placed fish in the pond, and uses the water in the pond to divert up to his home to irrigate approximately 1 acre of yard.

TOTAL STORAGE

FILE NUMBER	93-7174
REVIEWER	Dan Nelson
DATE	5/22/2013

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

Surface Area (In Acres)	0.2	"Surface Area" is automatically carried over from the "Seepage Loss Sheet"
Average Pond Depth (In feet)	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 suggest multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that
Pond Capacity (In acre feet)	2	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

Volume Needed Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (In acre feet)	0	The "Volume Needed 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). PLEASE 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 (In acre feet)	0.0	The "Estimated Seepage Loss" is automatically carried over from the Seepage Loss Sheet
Estimated Evaporation Loss (In acre feet)	0.3	The "Estimated Evaporation Loss" is automatically carried over from the Evaporation Loss Sheet
Total Volume Required (In acre feet)	2.3	"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.

Flow Rate Into Pond (In cfs)	1.00	The "Flow Rate" into the Pond depicts the actual flow either measured or estimated into the pond.
Highest Daily Evaporation Rate From Evaporation Tab. (In mm/day)	3.95	This number is automatically selected by picking the highest recorded number in the "Precipitation Deficit Table".
Maximum Required Daily Maintenance Volume (In acre feet per day)	0.00	"Maximum Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year, and is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (In cfs)	0.00	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determine by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	1	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. This number should be between 1 and 365 days for a project to be successful.
Days Required to Fill the Pond at 13,000 gallons per day	54	The "Days Required to Fill the Pond at 13,000 gallons per day" is calculated converting the "Pond Capacity" and the "Maximum Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Maximum Daily Maintenance Volume" in gallons to determine the number of days to fill pond. This number should be between 1 and 365 if this pond is to described as a domestic use.

User Input
Calculated value
Formula Explanations

Evaporation Loss Calculation

FILE NUMBER	93-7174
REVIEWER	Dan Nelson
DATE	5/22/2013

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

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

User Input
Calculated value
Formula Explanations

USING THIS SPREADSHEET

To ascertain the evaporation from a pond, you will need to go to the Kimberley Research Center website. The link is found below. This web site provides the Precipitation Deficit for the area where the pond is located. The Precipitation Deficit is the total amount of free pan 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, and the entire state is pretty much covered. 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.

Found at: <http://www.kimberly.uidaho.edu/ETIdaho/online.php>

Precipitation Deficit

Station: Twin Falls 2 NNE (NWS -- 109294)

Month	mm/day ¹	Days per month	mm/Month
Jan	0.00	31	0.00
Feb	0.00	28	0.00
March	0.00	31	0.00
April	0.70	30	21.00
May	1.28	31	39.68
June	2.80	30	84.00
July	3.95	31	122.45
August	3.80	31	117.80
September	2.06	30	61.80
October	0.16	31	4.96
November	0.00	30	0.00
December	0.00	31	0.00

PLEASE NOTE: We cannot use the season average, because there are several areas in Northern Idaho with a negative Precipitation Deficit. Therefore, we must enter each monthly deficit, and enter in a zero (0) for each negative month. The reason for this is that precipitation can only offset evaporation to the extent of the evaporation.

Please enter the daily average Precipitation Deficit as shown in the example below.

Although it has sometimes been useful to consider wintertime evaporation to be zero, Allen and Robison (2007, p. 169) noted, "Evaporation during nongrowing (wintertime) periods varies widely . . ."

¹Negative monthly mean values should be entered in the above table as "0".

Total mm/year = 451.69

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

(451.69 ÷ 304.8) X 0.20 = 0.3 AFA

Surface Area of Pond is automatically Carried over from the Seepage Loss Sheet.

SEEPAGE CALCULATIONS

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

FILE NUMBER	93-7174
REVIEWER	Dan Nelson
DATE	5/22/2013

User Input
Calculated value
Formula Explanations

INPUTS

SQ. FT. Calculator
Pond Surface area in acres
0.2

POND SURFACE AREA (SQ. FT.)	8712
-----------------------------	------

SUGGESTED SEEPAGE RATE (FT/DAY)	0.0000
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Use the table below to find the "SUGGESTED SEEPAGE RATES".

FORMULA:
(Surface Area X Seepage Rate) / 7.48 = Gallons Per Day loss

CONVERT TO GPD	0	GPD
----------------	---	-----

TOTAL SEEPAGE LOSS (AFA)	0.0	AFA
--------------------------	-----	-----

SUGGESTED SEEPAGE RATES FOR DIFFERENT SOIL TYPES:
GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = 0.20 ft per day
OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.016 ft per day
SC (clayey sands, sand clay mixtures) = 0.007 ft per day
CL (Low to medium plasticity clays) = 0.003 ft per day
MH, OH, PT and CH (high plasticity clays) = 0.0003 ft per day
LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day
Ponds Intercepting Groundwater (excavated ponds filled with shallow Ground Water) = 0 ft per day

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at X:\Spatial\Soils\USCS\PondSoils.lyr. Use "0" if the ponds intersect the water table.

ET_{Idaho} 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2012, University of Idaho.

Potlatch 3 NNE (NWS -- 107301)

Statistics based on thirty year normal spans 1969 to 2001 years

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - small stock ponds															
Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean ^j	mm/day												mm		
Monthly ^c	-2.16	-1.47	-0.53	0.70	1.28	2.80	3.95	3.80	2.06	0.16	-2.18	-2.13	196	0	196
15-Day Moving Average ^d	-2.26	-1.73	-0.60	0.68	1.36	2.80	3.90	3.71	1.88	0.24	-2.21	-2.03			
7-Day Moving Average ^e	-2.21	-1.54	-0.53	0.65	1.33	2.78	3.93	3.76	1.93	0.19	-2.22	-2.14			
3-Day Moving Average ^f	-2.17	-1.44	-0.52	0.66	1.28	2.77	3.95	3.81	2.02	0.17	-2.19	-2.16			
Standard Deviation ^k	mm/day												mm		
Monthly ^c	1.96	1.17	1.44	1.10	1.97	0.94	1.50	1.67	1.22	1.82	1.32	2.04	139	0	139
15-Day Moving Average ^d	1.98	1.57	1.54	1.49	2.12	1.36	1.51	1.74	1.67	1.67	1.66	1.90			
7-Day Moving Average ^e	2.50	2.26	2.05	2.16	2.84	2.04	2.00	2.36	2.13	2.29	2.36	2.64			
3-Day Moving Average ^f	3.35	3.09	2.79	3.01	3.92	2.91	2.77	3.13	2.78	3.12	3.31	3.49			
20% Exceedance ^l	mm/day												mm		
Monthly ^c	-1.21	-0.37	0.21	1.80	2.00	3.35	4.74	4.77	3.41	1.32	-1.12	-0.95	284	0	284
15-Day Moving Average ^d	0.12	0.33	1.34	2.83	4.17	4.70	5.76	5.35	3.95	2.32	0.02	0.08			
7-Day Moving Average ^e	0.56	1.15	2.39	3.69	5.00	5.54	6.20	5.88	4.40	2.93	0.84	0.44			
3-Day Moving Average ^f	0.71	1.46	3.03	4.40	5.56	6.04	6.47	6.43	4.71	3.35	1.17	0.71			

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

6

Water Right No.: 93-7174
 Examiner: Dan Nelson
 Date of Field Exam: 5/22/2013

P/D No.:	Option 1	OPTION 2	OPTION 3	
PUMP HORSEPOWER	2	2	2	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	50	50	50	
DISCHARGE PRESSURE	40	50	60	
FRICTION	0	8	8	
RATE OF FLOW (cfs)	0.09	0.07	0.06	AVE
(gpm)	38.8	31.9	28.1	0.07 32.9

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

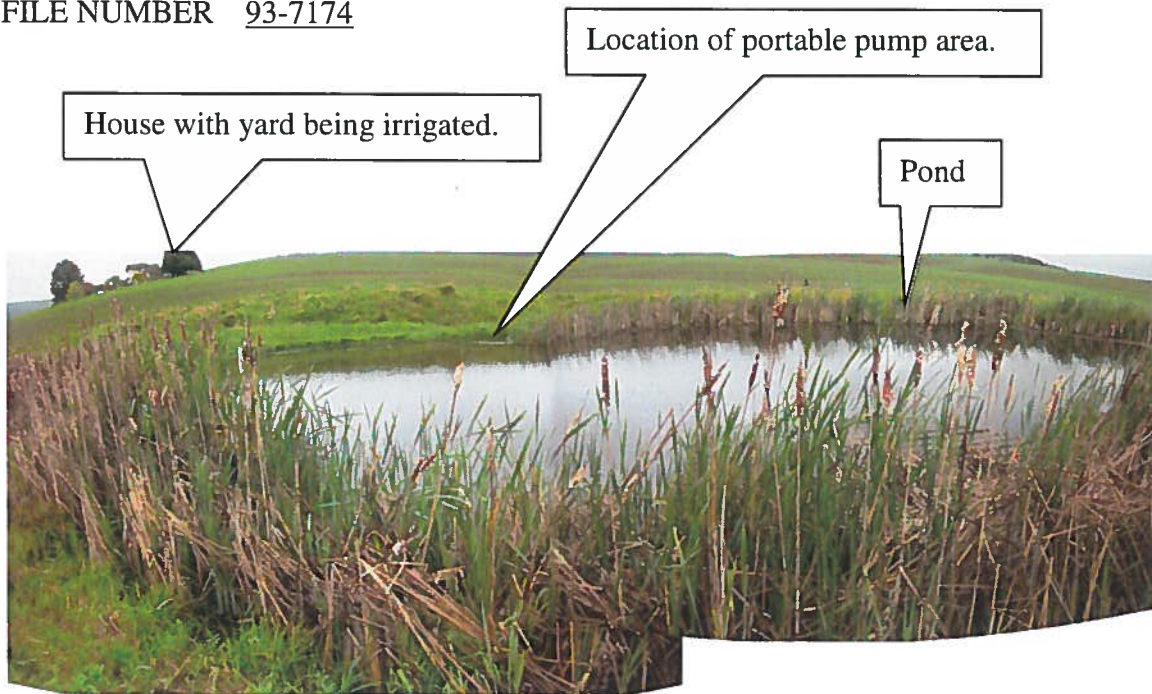
Assumptions: %70 efficiency.

Examiners Notes:

The applicant had stated that the pump had broken ther previous year, and that they had thrown the pump away. The pump they used was supposedly a 2 hp gas powered portable pump. This seems reasonable the pump lifted water approximately 10 feet from the pond and pumped it up hill. The elevation difference from the pond and that home is approximately 40 feet according to the topographical maps. I used a standard sprinkler pressure of between 40 and 60 psi. According the above estimations, this pump delivered between 0.06 and 0.09 cfs, which seems reasonable.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 5/22/2013

FILE NUMBER 93-7174



The photo above shows the pond. The grassy area in the middle next to the Cattails there is a grey area. This is the location where the portable pump is placed.

The photo below shows the pond, the overflow channel and the home. The home is approximately 600 feet uphill of the pond.



Nelson, Dan

From: Nelson, Dan
Sent: Tuesday, April 30, 2013 1:23 PM
To: 'damanFarm@cpcinternet.com'
Subject: Licensing Inspections for water rights 93-7169 and 93-7174

Dear Mr. Daman;

I have been asked to assist our Northern Region staff in catching up on some of their water right licensing field exams. I will be in your area with Chad Goodwin of our Northern Region to do several licensing exams on Wednesday May 22nd.

If you cannot be in the area at that time and want us to visit the site, you can send a response granting us permission to visit the site without your presence. We will not visit the site if you do not give us permission to be there, but I wanted to give you an alternative to accompanying us on the field exam. We would prefer that you accompany us, because you have valuable insight concerning your system.

In order to license your water right permit, we need to conduct a field examination to verify that you have completed work you requested in your water right permit. If you could contact me as soon as possible to make plans, I would appreciate your assistance.

Daniel A. Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone # (208) 287-4856
Fax (208) 287-6700 (C/O Dan Nelson)