

State of Idaho
Department of Water Resources
Water Right License
Water Right No. 57-11834

Priority: September 21, 2012

Maximum Diversion Rate: 1.37 CFS

Maximum Diversion Volume: 98.0 AF

It is hereby certified that:

CALVIN D LOW 21101 OREANA LOOP RD MURPHY ID 83650-5125 AND
SUSIE F LOW 21101 OREANA LOOP RD MURPHY ID 83650-5125

has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated September 21, 2012, and has submitted Proof of Beneficial Use on April 19, 2019. An examination confirms water is diverted from:

Source : CASTLE CREEK

Tributary: SNAKE RIVER

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31		98.0 AF
IRRIGATION FROM STORAGE	03/01 to 11/15		98.0 AF
DIVERSION TO STORAGE	11/16 to 02/28	1.37 CFS	

Location of Point(s) of Diversion

CASTLE CREEK NW¼ SW¼, Sec. 35, Twp 04S, Rge 01E, B.M. OWYHEE County

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	
04S	01E	35			X					X									

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	
04S	01E	35	39.0	33.0															72.0

Total Acres: 72.0

Conditions of Approval

1. Use of water under this right may be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 57C.
2. The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion(s).
3. Right 57-11834 authorizes the storage of an annual total of 98 acre-feet, comprised of 98 acre-feet to be used for the initial filling or carryover storage of the pond and 98 acre-feet for irrigation from storage use.
4. Rights 57-220A, 57-10478 and 57-11834 when combined shall not exceed a total diversion rate of 1.92 cfs and the irrigation of 79 acres.

State of Idaho
Department of Water Resources
Water Right License
Water Right No. 57-11834

5. This right when combined with all other rights shall provide no more than 5.0 afa per acre for irrigation storage and irrigation from storage for the place of use.
6. This right is for the use of trust water, and it is subject to review 5 years after its initial approval (date of permit approval) to re-evaluate the availability of trust water for the authorized use and to re-evaluate the public interest criteria for reallocating trust water.
7. When the minimum stream flow water rights in the Snake River at Murphy Gage are not being satisfied, the right holder shall cease diverting water for the consumptive uses authorized by this right. The minimum stream flow water rights are for 3,900 cfs from April 1 through October 31 and 5,600 cfs from November 1 through March 31. See IDAPA 37.03.08.030.
8. When ordered by the Director, the right holder shall provide mitigation acceptable to the Director to offset depletion of lower Snake River flows needed for migrating anadromous fish. The amount of water required for mitigation, which is to be released into the Snake River or a tributary for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this right. Any order of the Director issued in accordance with this paragraph shall be in conformance with applicable rules allowing the right holder due process as the need for mitigation and the amount of mitigation are determined.

This license is issued pursuant to the provisions of Idaho Code § 42-219. 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 30th day of JULY, 2019.



ANGELA GRIMM

Water Rights Section Manager

State of Idaho
Department of Water Resources
Attachment to Water Right License
57-11834

This map depicts the IRRIGATION 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.



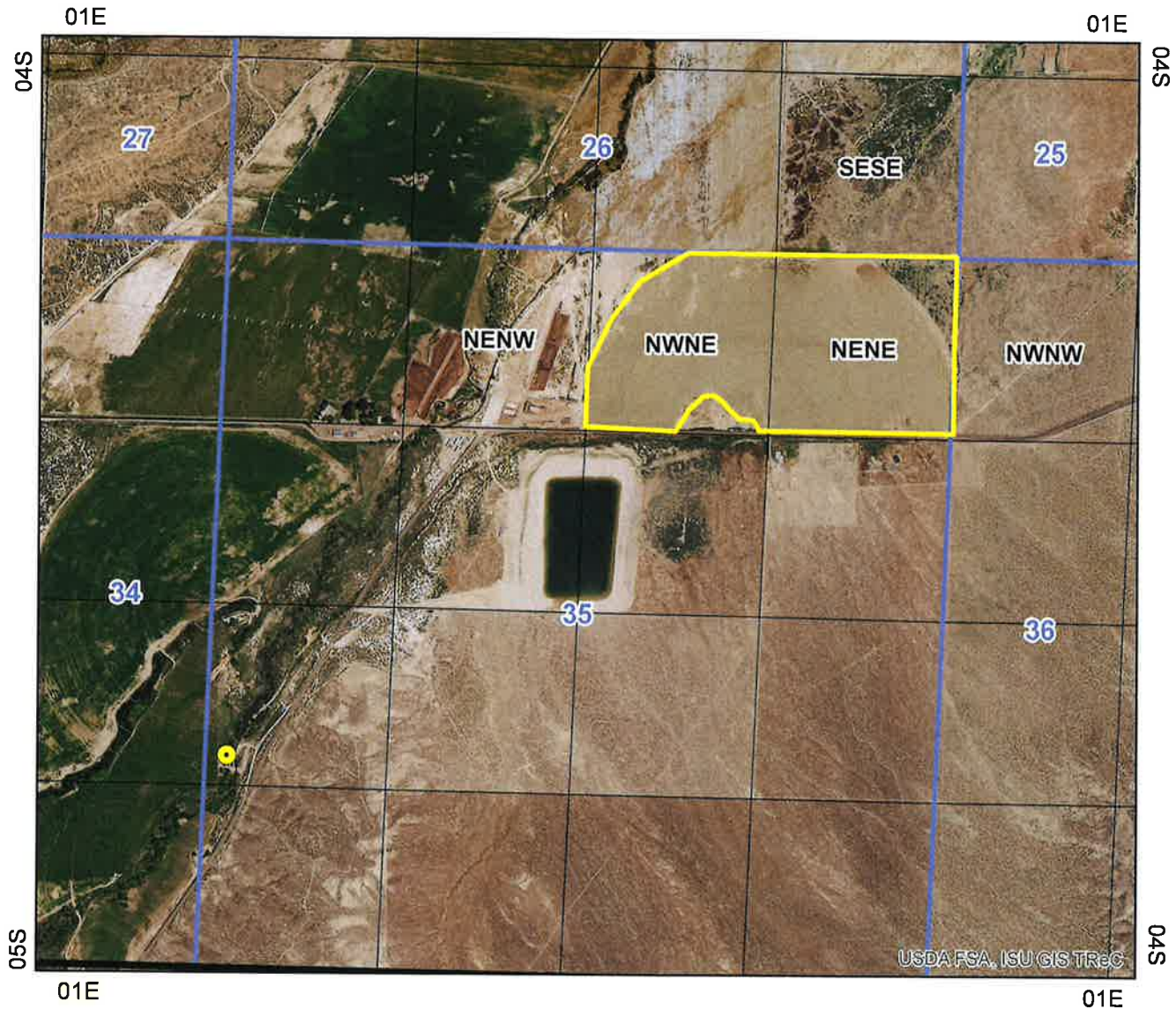
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.075 0.15 0.3 Miles

A horizontal scale bar with tick marks at 0, 0.075, 0.15, and 0.3 miles.

State of Idaho
Department of Water Resources
Attachment to Water Right License
57-11834

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 0.15 0.3 0.6 Miles





State of Idaho

DEPARTMENT OF WATER RESOURCES

322 E FRONT ST STE 648 PO BOX 83720 • BOISE, ID 83720-0098

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

Brad Little
Governor

Gary Spackman
Director

August 02, 2019

CALVIN D LOW
SUSIE F LOW
21101 OREANA LOOP RD
MURPHY ID 83650-5125

RE: License No. 57-11834

Issuance of License

Dear Water Right Holder(s):

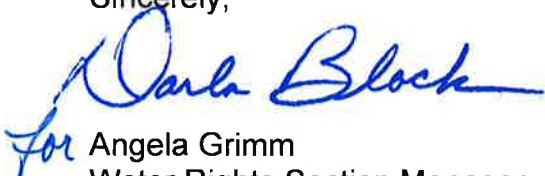
The Department of Water Resources ("Department") has issued the enclosed Water Right License confirming that a water right has been established in accordance with your permit. Please be sure to thoroughly review all the conditions of approval listed on your license. The conditions may include ongoing requirements, such as maintenance of a measuring device or implementation of mitigation, as well as information about how your water use may be administered, such as regulation by a watermaster in a water district. Also enclosed is a copy of the approved application for amendment.

The license is a PRELIMINARY ORDER issued by the Department pursuant to Rule 730 of the Department's Rules of Procedure (IDAPA 37.01.01.730). It can and will become a final order without further action by the Department unless a party petitions for reconsideration, files exceptions, or requests a hearing as described in the enclosed information sheet.

Also, 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. Water right forms are available from any office of the Department or on the Department's website at idwr.idaho.gov

If you have any questions concerning the enclosed information, please contact me at (208) 287-4951.

Sincerely,


For Angela Grimm
Water Rights Section Manager

Enclosure(s)

CERTIFICATE OF SERVICE

I hereby certify that on August 05, 2019, I served a true and correct copy of Water Right License No. 57-11834 by U.S. Mail, postage prepaid, to the following:

CALVIN D LOW (Current Owner)
21101 OREANA LOOP RD
MURPHY ID 83650-5125

SUSIE F LOW (Current Owner)
21101 OREANA LOOP RD
MURPHY ID 83650-5125

SPF WATER ENGINEERING LLC (Interested Party)
C/O SCOTT N KING
300 E MALLARD DR STE 350
BOISE ID 83706

WATER DISTRICT #57C
MICHAEL B IHLI (Watermaster)
625 S SCHOOL AVE
KUNA ID 83634



Darla Block
Technical Records Specialist 1

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
Application for Amendment
(For Licensing Purposes)
Water Right No. 57-11834

RECEIVED

JUL 22 2019

DEPARTMENT OF
WATER RESOURCES

Priority: September 21, 2012

Maximum Diversion Rate: 1.37 CFS

Maximum Diversion Volume: 98.0 AF

The owner and holder of Permit to Appropriate the Public Waters of the State of Idaho No. 57-11834

CALVIN D LOW 21101 OREANA LOOP RD MURPHY ID 83650-5125 AND
SUSIE F LOW 21101 OREANA LOOP RD MURPHY ID 83650-5125

requests the permit be changed as follows:

Source : CASTLE CREEK

Tributary: SNAKE RIVER

Beneficial Use**Period of Use****Rate of Diversion****Annual Volume**

IRRIGATION STORAGE

01/01 to 12/31

98.0 AF

IRRIGATION FROM STORAGE

03/01 to 11/15

98.0 AF

DIVERSION TO STORAGE

11/16 to 02/28

1.37 CFS

Location of Point(s) of Diversion

CASTLE CREEK NW¼ SW¼, Sec. 35, Twp 04S, Rge 01E, B.M. OWYHEE County

Place of Use: IRRIGATION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				No QQ	Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
04S	01E	35			X					X										

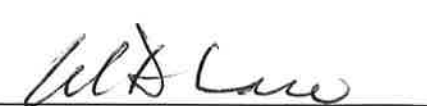
Place of Use: IRRIGATION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				No QQ	Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
04S	01E	35	39.0	33.0																72.0

Total Acres: 72.0

Permit holder asserts that no one will be injured by such change and that such change will be made at permit holder's own risk.

Signed this 18 day of July, 20 19


(Signature)

State of Idaho
Department of Water Resources
Application for Amendment
(For Licensing Purposes)
Water Right No. 57-11834

FOR DEPARTMENT USE ONLY

Preliminary check by DN Fee = \$100 Received by RD # C10725B Date 7/22/2019

ACTION OF THE DEPARTMENT OF WATER RESOURCES

The Idaho Department of Water Resources hereby approves the above Application for Amendment for Permit No. 57-11834 with the following:

Conditions of Approval

1. Use of water under this right may be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 57C.
2. The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion(s).
3. Right 57-11834 authorizes the storage of an annual total of 98 acre-feet, comprised of 98 acre-feet to be used for the initial filling or carryover storage of the pond and 98 acre-feet for irrigation from storage use.
4. Rights 57-220A, 57-10478 and 57-11834 when combined shall not exceed a total diversion rate of 1.92 cfs and the irrigation of 79 acres.
5. This right when combined with all other rights shall provide no more than 5.0 afa per acre for irrigation storage and irrigation from storage for the place of use.
6. This right is for the use of trust water, and it is subject to review 5 years after its initial approval (date of permit approval) to re-evaluate the availability of trust water for the authorized use and to re-evaluate the public interest criteria for reallocating trust water.
7. When the minimum stream flow water rights in the Snake River at Murphy Gage are not being satisfied, the right holder shall cease diverting water for the consumptive uses authorized by this right. The minimum stream flow water rights are for 3,900 cfs from April 1 through October 31 and 5,600 cfs from November 1 through March 31. See IDAPA 37.03.08.030.
8. When ordered by the Director, the right holder shall provide mitigation acceptable to the Director to offset depletion of lower Snake River flows needed for migrating anadromous fish. The amount of water required for mitigation, which is to be released into the Snake River or a tributary for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this right. Any order of the Director issued in accordance with this paragraph shall be in conformance with applicable rules allowing the right holder due process as the need for mitigation and the amount of mitigation are determined.

State of Idaho
Department of Water Resources
Application for Amendment
(For Licensing Purposes)
Water Right No. 57-11834

This amendment is issued pursuant to the provisions of Idaho Code § 42-211.

Signed this 30th day of July, 2019.


ANGELA GRIMM
Water Rights Section Manager



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

July 8, 2019

CALVIN D LOW
AND SUSIE F LOW
21101 OREANA LOOP RD
MURPHY ID 83650-5125

RE: Amendment of Permit for Water Right 57-11834

Dear Permit Holder:

The Idaho Department of Water Resources (Department) is reviewing the permit referenced above prior to issuing a water right license. By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit.

Scott King of SPF Water Engineers submitted a field report on your behalf for this permit. Mr. King determined that the pond authorized by this permit was actually developed in the SWNE and the SENW of Section 35 in Township 4 South, Range 1 East. The permit only authorized the development of the pond in the SWNE of Section 35 in Township 4 South, Range 1 East. Therefore, we must correct the permit with an amendment before we can move forward with the licensing of this permit.

The enclosed Application for Amendment form depicts the elements of the water right as they will appear on the license when issued. Please review the amendment form carefully. If you concur with the information presented, please sign and return the form with the \$100.00 filing fee within 14 days.

If you have any questions, please don't hesitate to contact me.

Sincerely,

Daniel A. Nelson
Analyst 3
Water Right Section
Idaho Department of Water Resources
Telephone # (208) 287-4856
Email – dan.nelson@idwr.idaho.gov

Enclosure(s): Application for Amendment with maps

MEMORANDUM

TO: Water Right Permit File 57-11834

FROM: Daniel A. Nelson

DATE: July 1, 2019

SUBJECT: Additional Review of Permit 57-11834.

During my initial review of the field report for permit 57-11834, I missed a couple of issues with the original permit.

The permit stated that the storage for this permit was limited to 3/1 to 11/15, but they are authorized to divert water to storage from 11/16 to 2/28. If we allowed the permit to continue this way to licensing, the permit holder would not be allowed to store water during that period of time that they were collecting water for the storage component. Therefore, the season of use should be changed to year round storage.

I also missed that the pond was constructed in two 40 acre tracts instead of one. The permit will need to be amended before we move forward with licensing.

After supervisor review, it was determined that it would be better not to use WB9 condition, and to edit condition 934 to allow it to better match the condition recommended in the settlement agreement. I have made those corrections in the database.

MEMORANDUM

TO: Water Right File 57-11834

FROM: Daniel Nelson – Analyst 3

DATE: May 20, 2019

SUBJECT: Licensing Review of Water Right 57-11834

The field exam for this right was performed by Certified Field Examiner Scott King of SPF Water Engineering.

History and Overlap:

Water rights 57-10478 and 57-220A overlap the place of use for this permit. Water right 57-10478 authorizes 1.52 cfs out of Castle Creek for the irrigation of 79 acres at the same location as this permit. Water right 57-10478 allows approximately 0.019 cfs per acre. Water right 27-220A authorizes 0.40 cfs from Castle Creek for the irrigation of 79 acres at the same location. When combined, water rights 57-10748 and 57-202A are limited to total diversion rate of 1.92 cfs for the irrigation of 79 acres at the same location.

Water rights 57-123, 57-220A, 57-220B, and 57-10478 are all diverted out of the same point of diversion. Water rights 57-220A and 57-10478 provide the natural irrigation flow discussed above to the place of use for this permit, and water rights 57-123 and 57-220B provide irrigation to a neighboring property. The place of use for 57-123 and 57-220B is north of the place of use for this permit, so it appears as though they all use the same line to deliver the water to the prospective properties. According the permit holder, water rights 57-123 and 57-220B haven't been diverted for many years. The aerial imagery available to the Department would confirm the permit holder's statement that the land associated with permits 57-123 and 57-220B have not been irrigated. Therefore, water rights 57-123 and 57-220B should not be included in any condition that would limit the diversion rate, because if they do decide to irrigate those lands again, they may find a different way to irrigate other than the pipeline delivering the water authorized by this permit.

The adjudication files state that the ditch supplying water to water rights 57-123, 57-220A, 57-220B, and 57-10478 had a capacity of 5.00 cfs, so it was large enough to carry all of the combined diversion rate of 2.70 cfs water needed to supply the water for all of the existing water rights. If they ever do decide to resume use of water rights 57-123 and 57-220B, they will need to find a way to supply the water to that property other than the existing pipeline, because the current pipeline doesn't have the capacity to deliver all of the water rights.

Place of Use:

Mr. King recommended 79 acres of irrigation for this permit. The existing water rights 57-220A and 57-10478 authorize the irrigation of 79 acres. Both rights appear to have removed the rock pile located at the bottom of the pivot from the place of use designated for those water rights, but both rights did show that northwest corner of the pivot was irrigation. Review of the 1987 imagery suggests that there was very little irrigation in the northwest corner due to a rock pile or poor soil, but it appears as though they recommended these acres anyway.

The northwestern corner of the property was not irrigated during the development period, so it cannot be included in place of use or the acre calculations for this permit. The rock pile cannot be included in the place of use or acre calculations, since it cannot grow a crop. Please see the attached maps for a review of the acres actually irrigated during the development period.

Based on the information available, I am recommending that irrigation from storage be limited to 72 acres. A condition will need to be added that limits the irrigation from storage from this right and the irrigation uses from water rights 57-220A and 57-10478 to a total of 79 acres as described in water rights 57-220A and 57-10478. I contacted Mr. King concerning this issue, and he contacted the permit holder who stated to move forward with the 72 acres of irrigation. Please see the email dated May 20, 2019.

Diversion Rate:

Mr. King measured the flow in the pipeline to the pond at 1.37 cfs. The original ditch carrying water to the property apparently was replaced by a pipeline. The 1.37 cfs measured is the maximum we can recommend for this permit. The permit authorized 3.00 cfs, but according to the measurements taken, that flow rate is not possible in the new pipeline. Therefore, I am recommending that this permit be limited to 1.37 cfs. This permit will need a condition that limits the total diversion rate when this permit is combined with water rights 57-220A and 57-10478 is limited to a total of 1.92 cfs. We cannot restrict the diversion rate on the existing rights, so the maximum rate allowed by those rights is the limiting factor.

Diversion Volume:

The permit limits the annual volume diverted to the pond to 98 af. Mr. King submitted a pond analysis stating that the pond had a capacity of 126 af and required an additional 27.5 af for evaporation. Mr. King then sent a revised pond analysis stating the actual pond volume was 135 af, for a total of 163 total storage needed. Mr. King stated in his email with the second analysis that the permit holder was going to need to file a second permit to cover the actual storage, and wanted to make sure his calculations were correct.

Mr. King used a surface area of 10.6 to 10.8 acres, and I determined the pond surface area to be approximately 10.8 acres, so I feel Mr. King's analysis is reasonably accurate. Since both analysis were over the 98 af authorized by the permit, this permit should be limited to the 98 af authorized by the permit. I agree with Mr. King that an additional permit will be required to cover the volume developed by the permit holder.

Conditions:

Conditions R70 and R05 will be carried forward to licensing. The remainder of the conditions will be replaced with updated standard conditions. There is an unnumbered condition discussing the minimum stream flow and trust water on the Snake River. This condition will be replaced with conditions WB9 for the minimum stream flow conditions and 933 and 934 for the trust water conditions used and will also replace 051. Condition 01J will be replaced with R43, and condition 121 will be replaced with condition 103. An X35 condition will be needed to limit the diversion rate to 1.92 cfs and 79 acres when water rights 57-220A, 57-10478, and 57-11834 are combined. Condition 259 will also be needed to describe the storage components. A new permit will need to be filed to cover the additional storage needed and the evaporation losses, since the pond was developed bigger than the permit originally allowed. The 259 storage condition will state the following:

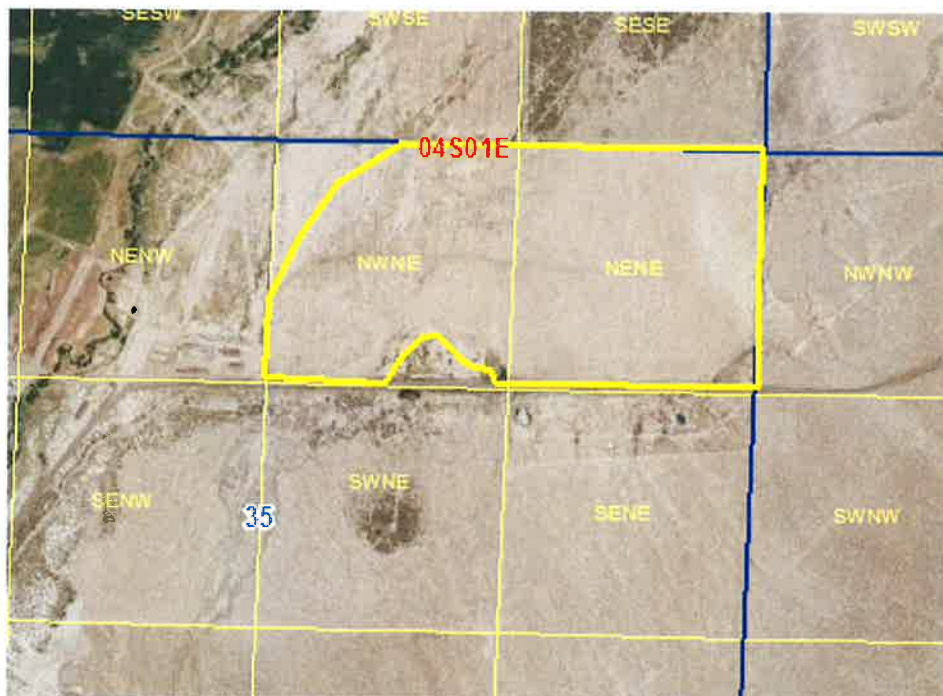
Right 57-11834 authorizes the storage of an annual total of 98 acre-feet, comprised of 98 acre-feet to be used for the initial filling or carryover storage of the pond and 98 acre-feet for irrigation from storage use.

Permit 57-11834 - Irrigated Land Review

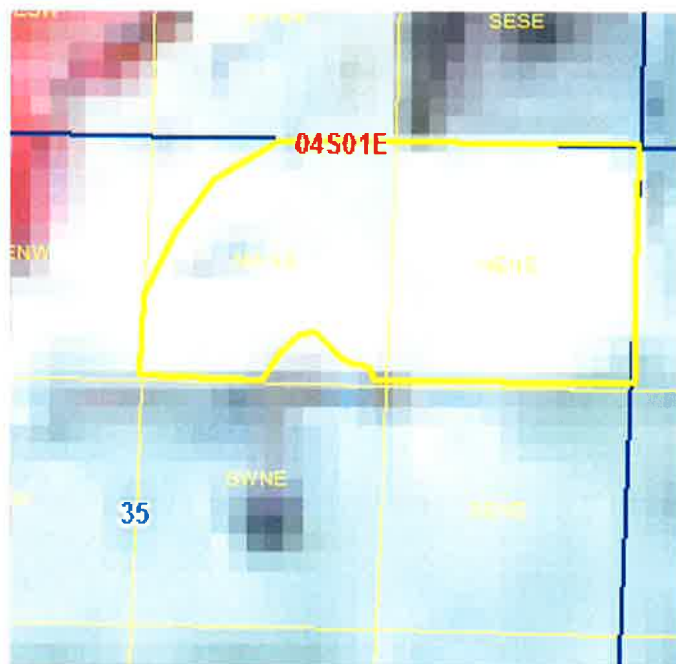
The 2017 aerial imagery shown below shows the place of use for water right permit 57-11834. You can clearly see the pond and the pivot, but none of the place of use looks to be irrigated in the aerial imagery. Therefore, I looked to the Sentinel and Landsat imagery to determine what was irrigated from the pond.



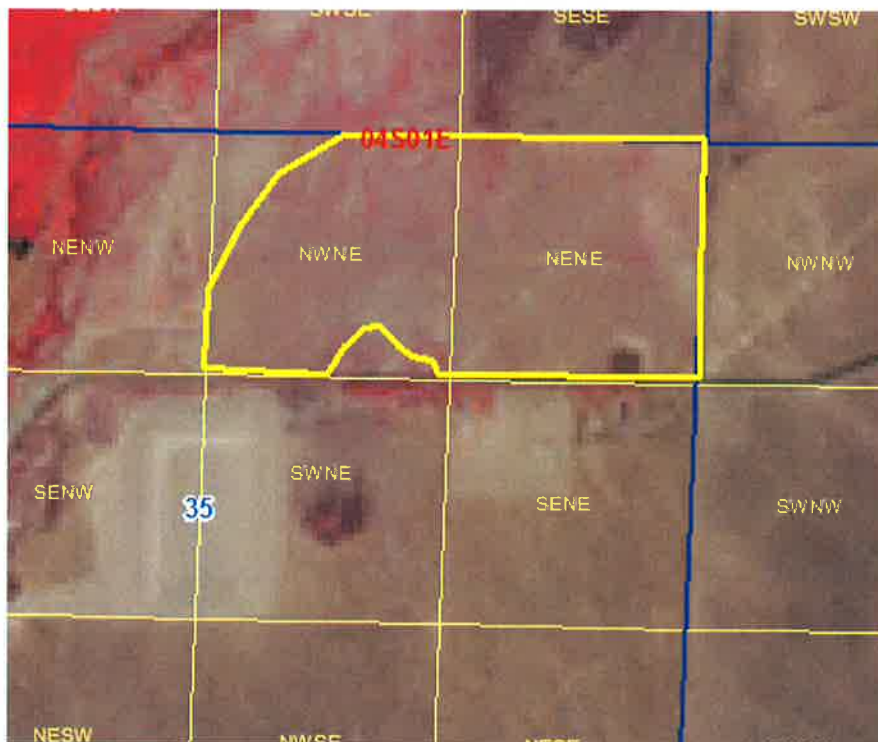
The 2015 imagery below shows that the pond was constructed after July 19, 2015. Therefore, we are looking at the time between July 19, 2015 and April 19, of 2019 for the development of this permit.



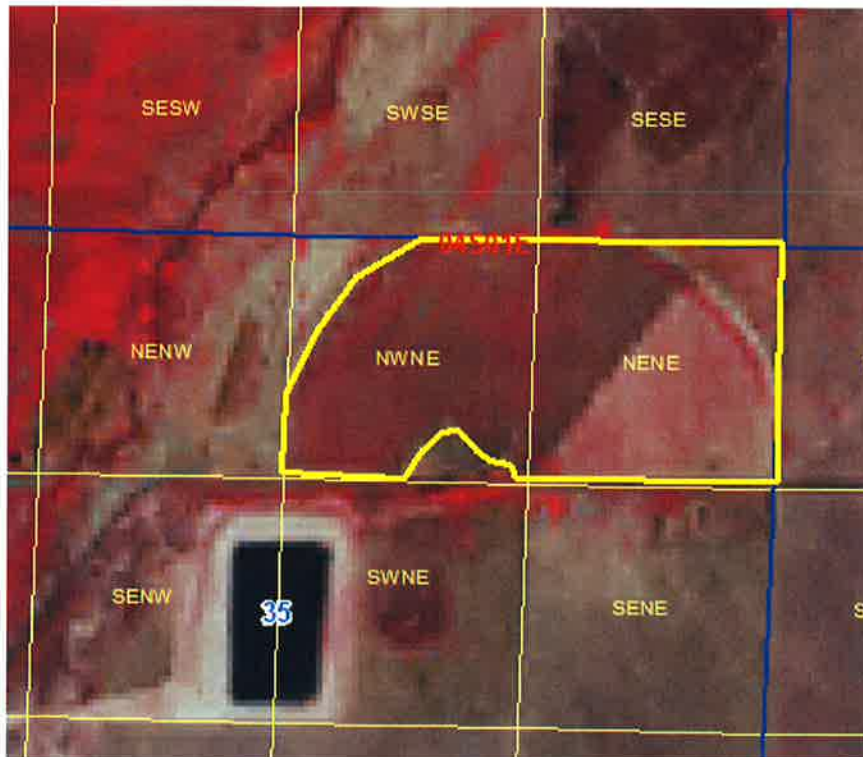
This August 23, 2015, Landsat image shows that the land clearly wasn't irrigated in 2015.



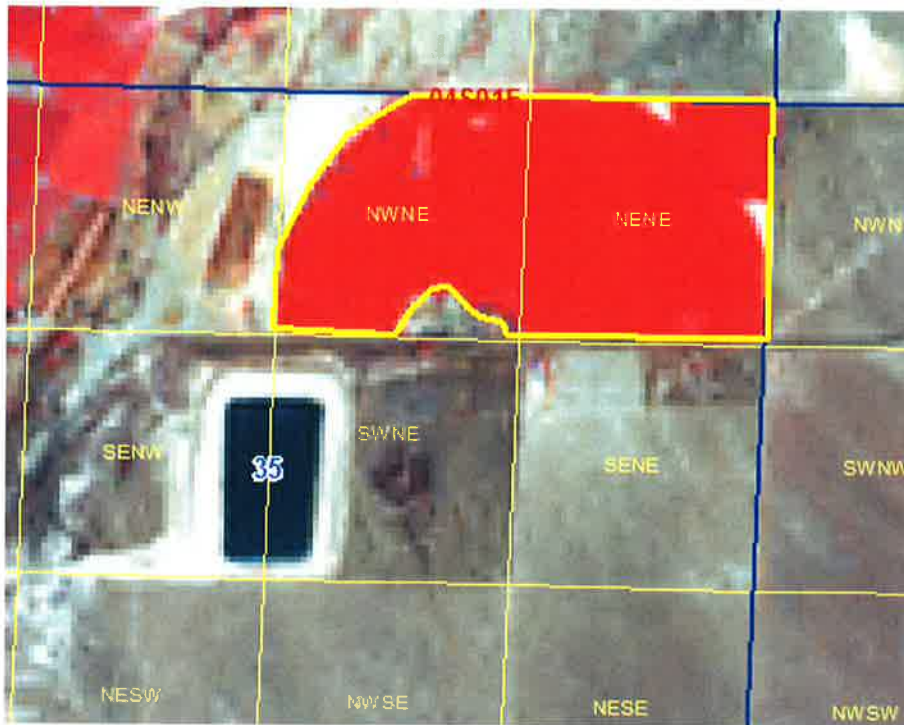
This August 17, 2016, Sentinel satellite image shows that the place of use was not irrigated in 2016.



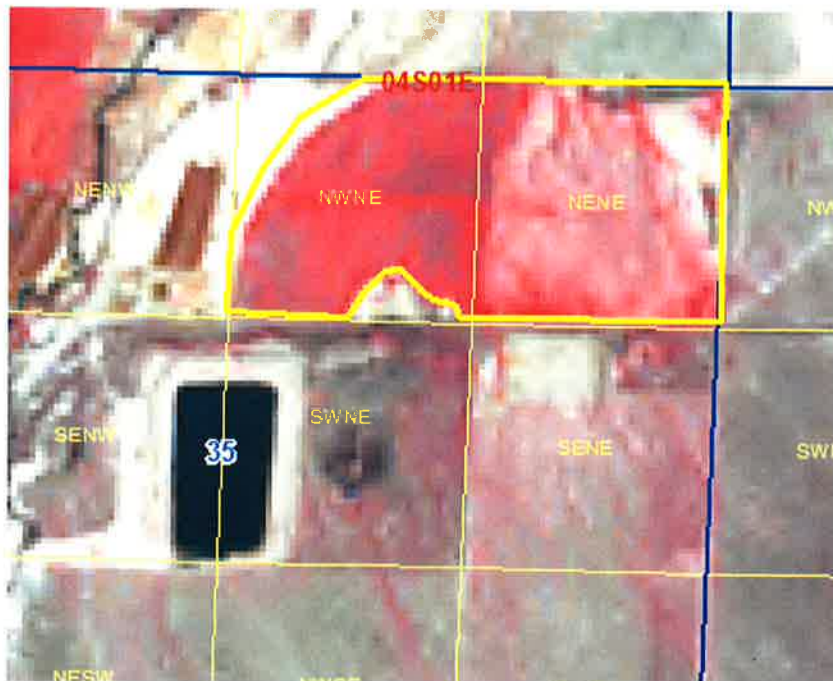
This July 26, 2017, Sentinel image is the first image that show active irrigation of the place of use after the pond was constructed. You clearly see the irrigated area and the pond in the image below. This is the most land I could find irrigated for this place of use or 72 acres. Please not the rock pile at the bottom of the pivot. Even though water was applied to those lands, no crop was grown.



This May 2, 2018, Sentinel image shows that a mini pivot was used on the northeast corner which actually provided less irrigated land than the 2017 image. The rock pile at the bottom of the pivot is clearly visible in this image.



The April 19, 2019, Sentinel image below shows the irrigation at the time the proof of beneficial use form was submitted. You can clearly see that the pivot is irrigating a bit less land and the mini-pivot in the northeast corner may not be in use. The rock pile in the bottom of the pivot is still visible in this image.



Nelson, Dan

To: 'Scott King'
Subject: RE: 57-11834 update

Hello Scott,

I have completed the review for permit 57-11834 and everything looks good except for the issue I discussed in my May 13, 2019 email. I will hold off turning in the draft license for final review until May 20, 2019 to give you time to review the maps I sent with my earlier email. If you need more time, please let me know.

Thank you.

Daniel Nelson
Water Right Analyst 3
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

From: Nelson, Dan
Sent: Monday, May 13, 2019 9:31 AM
To: 'Scott King' <SKing@spfwater.com>
Subject: RE: 57-11834 update

Hello Scott,

I have started my review of the field exam report you submitted for permit 57-11834, Cal and Suzie Low. You stated in the field report that 79 acres were irrigated and I could only find about 72 acres. The discrepancy between our two shape files seems to be a rock pile at the south end of the pivot and the northwest corner. We do have Sentinel Satellite imagery of every year from the time the pond was constructed in 2016 to the date proof of beneficial use was submitted. I wanted you to look over the images that I put together and let me know what you think before I prepare the license for this permit. I still have to review the overlapping water rights and a couple of things before I can prepare the license, but I thought this was important enough that I wanted to give you an opportunity to comment on my analysis before I turn it in.

Thank you.

Daniel Nelson
Water Right Analyst 3
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

Nelson, Dan

From: Scott King <SKing@spfwater.com>
Sent: Monday, May 20, 2019 10:21 AM
To: Nelson, Dan
Subject: RE: 57-11834 update

Dan,

I just spoke with Cal. Please proceed as proposed by your email.

Thank you,
Scott

From: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Sent: Tuesday, May 14, 2019 8:52 AM
To: Scott King <SKing@spfwater.com>
Subject: RE: 57-11834 update

Hello Scott,

I have completed the review for permit 57-11834 and everything looks good except for the issue I discussed in my May 13, 2019 email. I will hold off turning in the draft license for final review until May 20, 2019 to give you time to review the maps I sent with my earlier email. If you need more time, please let me know.

Thank you.

Daniel Nelson
Water Right Analyst 3
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

From: Nelson, Dan
Sent: Monday, May 13, 2019 9:31 AM
To: 'Scott King' <SKing@spfwater.com>
Subject: RE: 57-11834 update

Hello Scott,

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Telephone (208) 287-4856
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From: Scott King [<mailto:SKing@spfwater.com>]
Sent: Wednesday, April 24, 2019 2:10 PM
To: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Subject: RE: 57-11834 update

Hello Dan,

Thanks for adding the update to the file. I don't see a big hurry in getting this one licensed, so no pressure here. You may notice that the constructed reservoir volume is a bit more than permitted. The owner will be submitting an application for permit to cover the additional volume.

Thanks much,
Scott

From: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Sent: Wednesday, April 24, 2019 9:09 AM
To: Scott King <SKing@spfwater.com>
Subject: RE: 57-11834 update

Hi Scott,

I have just added this information to the file. We are going into the busy time of year, so I can't tell you how soon I can get to these files. I will work on them as soon as I can.

Thank you.

Dan Nelson

From: Scott King [<mailto:SKing@spfwater.com>]
Sent: Friday, April 19, 2019 11:11 AM
To: Nelson, Dan <Dan.Nelson@idwr.idaho.gov>
Subject: 57-11834 update

Dan,
I submitted a BUFE exam for this permit yesterday.
It included an incorrect version of the pond volume calculations. Could you substitute the attached?

It won't make any difference for licensing as the pond volume as constructed is a bit more than permitted, but I would prefer the record be correct as I expect the owner to submit a permit application for the additional volume.

Thank you,
Scott

Scott N. King, P.E. | Supervising Engineer

SPF Water Engineering, LLC

300 E Mallard Drive, Suite 350 | Boise, ID 83706

phone 208.383.4140 | fax 208.383.4156

email sking@spfwater.com | web www.spfwater.com

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Seepage Loss Calculations

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

FILE NUMBER	57-11834
REVIEWER	Scott King
DATE	4/17/2019

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	10.6	AC.
-------------------------	------	-----

Pond Surface Area (SQ. FT.)	461736	SQ. FT.
-----------------------------	--------	---------

I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
My Soil Classification is	Lined	
Suggested Seepage Rate (FT./DAY)	0.0000	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
--

Convert to GPD	0	GPD
----------------	---	-----

Total Seepage Loss (AFA)	0.0	AFA
--------------------------	-----	-----

Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:
GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = 0.2 ft per day
OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.02 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 by 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 the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

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	57-11834
REVIEWER	Scott King
DATE	4/17/2019

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: Twin Falls 2 NNE (NWS -- 109294)

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.05	31	0.00
Feb	0.50	28	14.00
March	1.59	31	49.29
April	2.81	30	84.30
May	3.25	31	100.75
June	4.15	30	124.50
July	4.71	31	146.01
August	4.05	31	125.55
September	2.82	30	84.60
October	1.73	31	53.63
November	0.29	30	8.70
December	-0.14	31	0.00

Total mm/year = 791.33

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.

$[(\text{mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$

(791.33 ÷ 304.8) X 10.60 = 27.5 AFA

Total Storage Calculations

FILE NUMBER	57-11834
REVIEWER	Scott King
DATE	4/17/2019

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

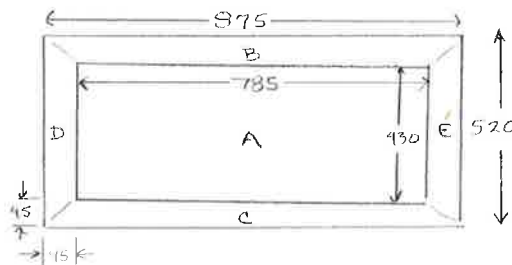
User Input
Calculated value
Formula Explanations

Surface Area (AC.)	10.6	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	12.7	"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)	135	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)	27.5	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	162.6	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.

Pond is 875 ft x 520 ft x 15 ft deep with 1:3 side slopes.

Volume =	785 x 430 x 15 /		
	43560 =	116.2	af Part A
	785 x 45 x 15 /		
	+ 43560 =	12.2	af Parts B & C
	430 x 45 x 15 /		
	+ 43560 =	6.7	af Parts D & E
Total		135	af



Flow Rate Into Pond (CFS)	1.37	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	4.71	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	0.16	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It 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 (CFS)	0.08	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined 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	53	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. <i>If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.</i>
Days Required to Fill the Pond at 13,000 Gallons per Day	-1090	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. <i>If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.</i> Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.