STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES



# WATER SUPPLY BANK RENTAL AGREEMENT No. 348

This is to certify that:

TETON ISLAND FEEDER CANAL CO
386 N 2400 E
ST ANTHONY, ID 83445

filed an application to rent water from the Water Supply Bank ("Bank"). The Idaho Water Resource Board ("Board"), being authorized to operate a Bank and to contract by and through the Director of the Idaho Department of Water Resources ("Director, Department") for rental of water from the Bank, agrees to rent water as follows:

**Summary of Water Rights or Portions Rented from the Bank**

| Water Right No. | Priority Date | Source | Diversion Rate (CFS) | Diversion Volume (AF) | Acres (AC) | Rate Per Acre (CFS/AC) | Volume Per Acre (AF/AC) |
|---|---|---|---|---|---|---|---|
| 22-12694 | 3/1/1883 | TETON RIVER, tributary to the HENRYS FORK | 0.560 | 30.80 | 436.90 | 0.001 | 0.07 |
| 22-288 | 5/15/1883 | TETON RIVER, tributary to the HENRYS FORK | 0.150 | 8.20 | 436.90 | 0.000 | 0.02 |
| 22-12695 | 5/22/1884 | TETON RIVER, tributary to the HENRYS FORK | 3.560 | 196.60 | 436.90 | 0.008 | 0.45 |
| 22-589B | 6/1/1884 | TETON RIVER, tributary to the HENRYS FORK | 1.170 | 64.70 | 436.90 | 0.003 | 0.15 |
| 22-12696 | 6/1/1885 | TETON RIVER, tributary to the HENRYS FORK | 11.300 | 623.90 | 436.90 | 0.026 | 1.43 |
| 22-571 | 6/1/1888 | TETON RIVER, tributary to the HENRYS FORK | 0.160 | 8.60 | 436.90 | 0.000 | 0.02 |
| 22-12697 | 4/1/1898 | TETON RIVER, tributary to the HENRYS FORK | 10.800 | 596.40 | 436.90 | 0.025 | 1.37 |
| **Combined Rental Totals** | | | **27.700** | **1,529.20** | **436.9** | **0.063** | **3.50** |

**Term of Rental:** This rental agreement shall take effect when all parties have signed it and shall continue in effect until December 31, 2020. Use of rental water shall be authorized as of either the date this rental agreement takes effect or the first day of the rental season of use, in 2020, whichever occurs last.

SUPPORT DATA
IN FILE # 22-288

**Annual Rental Fee:** 2020: $3,058.40 annually

The full fee for the rental of the above-described right(s) is $3,058.40 for 2020. The rental fee includes an administrative fee of $3,058.40 for 2020.

**Total Water Use Authorized Under Rental Agreement**

| Beneficial Use | Diversion Rate (CFS) | Diversion Volume (AF) |
|---|---|---|
| GROUND WATER RECHARGE | 27.700 | 1,500.00 |
| **Combined Total** | 27.700 | 1,500.00 |

**** The authorized water usage reflects a reduction from the water right elements rented, to account for a maximum annual diversion volume, calculated based on 3.3 afa/ac for irrigation purposes.***

Detailed water right conditions are attached.

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**WATER SUPPLY BANK RENTAL AGREEMENT No. 348**

The undersigned renter agrees to use the water rented under this agreement in accordance with the Water Supply Bank rules and in compliance with the limitations and conditions of use described in this agreement:

Rodney Dalling — Signature of Renter

12-31-19 — Date

Rodney Dalling — Printed Name

President — Title

*Title required if signing on behalf of a company or organization or with power of attorney

Having determined that this agreement satisfied the provisions of Idaho Code § 42-1763 and IDAPA 37.02.03.030 (Water Supply Bank Rule 30), for the rental and use of water under the terms and condition herein provided, and none other, I hereby execute this Rental Agreement on behalf of the Idaho Water Resource Board.

By B. J. Patton — Date 7/24/2020

BRIAN PATTON, Acting Administrator
Idaho Water Resource Board

Rental approved by IDWR Angela M. Gunn — Date 7/24/2020

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

**WATER SUPPLY BANK RENTAL AGREEMENT No. 348**

## WATER USE DETAILS

**LOCATION OF POINT(S) OF DIVERSION**

TETON RIVER SENW Sec. 36, Twp 07N, Rge 40E, FREMONT County

| BENEFICIAL USE | DIVERSION RATE | VOLUME |
|---|---|---|
| GROUND WATER RECHARGE | 27.70 CFS | 1,500.00 AF |

**SEASON OF USE**

| Water Right No. | From | To |
|---|---|---|
| 22-288 | 5/15 | 10/31 |
| 22-571 | 5/15 | 10/31 |
| 22-589B | 5/15 | 10/31 |
| 22-12694 | 5/15 | 10/31 |
| 22-12695 | 5/15 | 10/31 |
| 22-12696 | 5/15 | 10/31 |
| 22-12697 | 5/15 | 10/31 |

**RENTERS PLACE OF USE: GROUND WATER RECHARGE**

| Twp | Rng | Sec | NE | | | | NW | | | | SW | | | | SE | | | | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | |
| 06N | 40E | 5 | X L1 | | | X | | | | | | | | | | | | | X |
| 06N | 40E | 7 | | | | | | | | | X | | | | | X | | | X |

**RENTAL AGREEMENT CONDITIONS OF ACCEPTANCE**

1. The use of water under this agreement shall be subject to the provisions of Idaho Code § 42-1766.
2. Rental of the specified right from the bank does not, in itself, confirm the validity of the right or any elements of the water right, or improve the status of the right including the notion of resumption of use. It does not preclude the opportunity for review of the validity of this water right in any other department application process.
3. Use of water under this agreement does not constitute a dedication of the water to renter's place of use, and upon expiration of this agreement, the points of diversion and place of use of the water shall revert to those authorized under the water right and/or again be available to rent from the bank.
4. Use of water under this agreement shall not prejudice any action of the Department in its consideration of an application for transfer or permit filed by the applicant for this same use.
5. Renter agrees to comply with all applicable state and federal laws while using water under this agreement.
6. Renter agrees to hold the Board, the Director and the state of Idaho harmless from all liability on account of negligent acts of the renter while using water.
7. Renter acknowledges and agrees that the Director may terminate authorization for the use of a water right based on a water right's priority date.
8. Failure of the renter to comply with the conditions of this agreement is cause for the Director to rescind approval of the rental agreement.

**WATER SUPPLY BANK RENTAL AGREEMENT No. 348**

9. The right holder shall notify the watermaster when diversion water of this rental is required for beneficial use. They will also notify the watermaster when diversion for this the beneficial use is no longer required.

10. Water is delivered through Teton Island Feeder Canal.

11. Prior to the diversion and use of water under this approval, the renter shall comply with applicable water quality monitoring and/or permitting requirements administered by the Department of Environmental Quality or the Department of Agriculture.

12. The renter shall record the daily quantity of water diverted for ground water recharge at the rental location places of use and shall report the diversion data for the prior calendar year to the Department by February 1 each year. Reporting shall occur in a manner specified by the Department, consistent with Section 42-701 Idaho Code. To facilitate this reporting requirement, the renter shall install and maintain a totalizing measuring device approved by the Department at each point of diversion and at point where water is delivered from the conveyance system into a designated recharge site.

13. Renter is authorized to deliver water to the rental places of use for ground water recharge only when water is not being delivered to the rental places of use for other, non-recharge related activities. It is anticipated that water for recharge will be delivered to the rental places of use only after active irrigation-related deliveries of water to the rental places of use are concluded, in spring or early summer.

14. Renter will account for and discount from recharge deliveries, water delivered to the rental places of use for irrigation related activities, which is anticipated to occur one day per week, each week, between mid-May and mid-August, annually.

15. This rental is not an authorization for the described recharge effort to be used as mitigation or credit for any other purposes. The sufficiency of the recharge effort authorized under this rental for mitigation or credit for some other purpose may be determined by the Department upon proper submission of a mitigation plan pursuant to the Department's Rules of Conjunctive Management of Surface and Ground Water Resources, a mitigation plan to offset depletions in association with a water right application, a Management Program pursuant to Idaho Code Section 42-1416B, or any other proposal to utilize credit for the recharge effort.

16. The following rights are all diverted through point of diversion described above: 22-288, 22-571, 22-589B, 22-12694 through 22-12697.

17. The water rights rented under this agreement are appurtenant to irrigation of 436.9 acres.

18. Pursuant to Section 42-234(4), Idaho Code, to ensure that other water rights are not injured by the operations of the recharge projects authorized under this rental, the Director has authority to approve, disapprove, or require alterations in the methods employed to achieve ground water recharge.

19. Pursuant to Section 42-234(3), Idaho Code, the Director may reduce the amount of water that may be diverted for recharge purposes under this rental, even though there is sufficient water to supply the entire amount authorized for this rental.

20. Consistent with Section 42-234(5), Idaho Code, seepage from canals and associated ponds incidental to or coincident with delivery of irrigation water shall not be considered ground water recharge under this rental. Canal seepage will be considered to be ground water recharge only when the canals are not conveying water for irrigation or other beneficial uses.

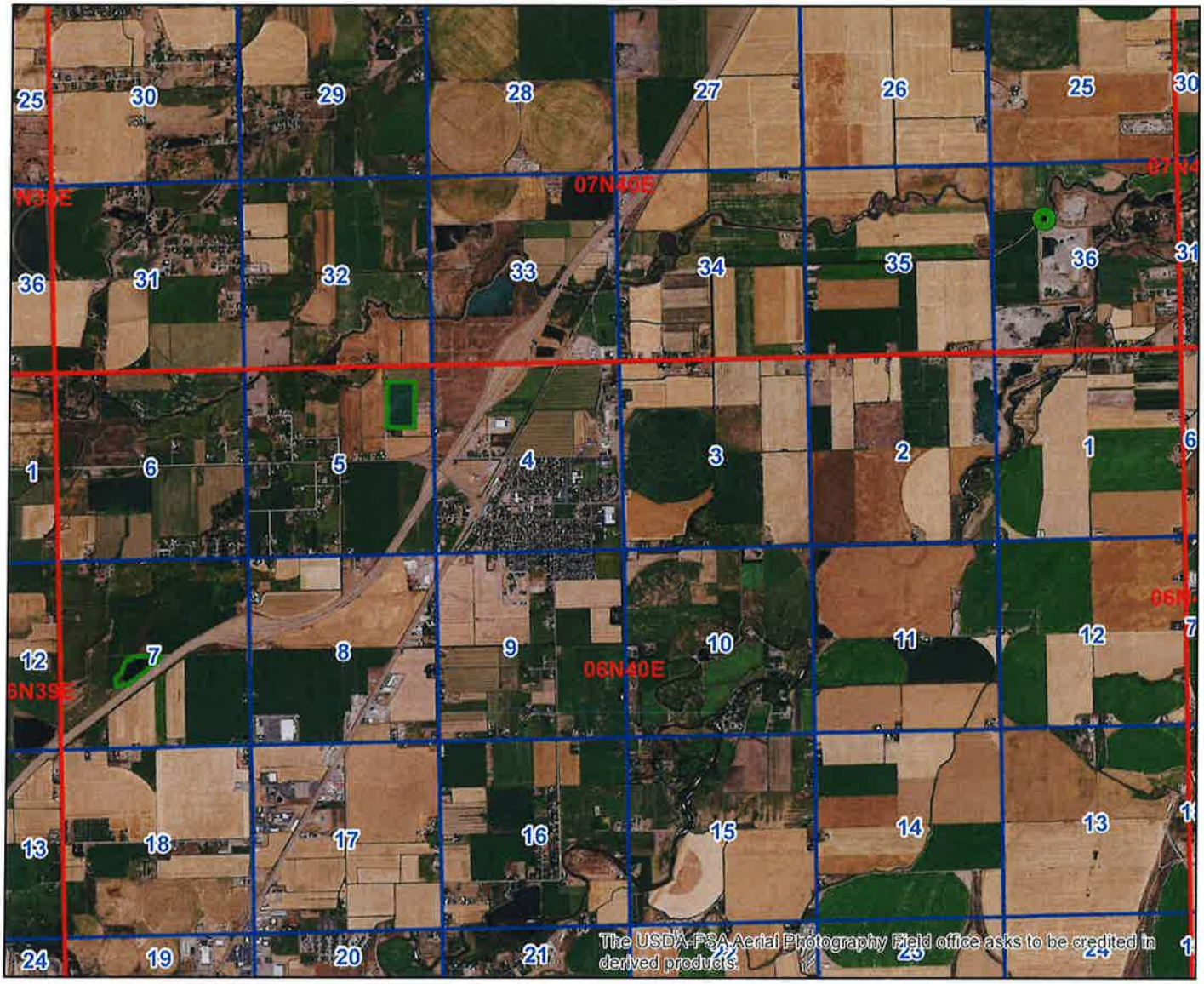
21. Use of water under this agreement may be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, the water rights being rented are within State Water District No. 01.

## Idaho Water Resource Board

# Attachment to Water Supply Bank Rental Agreement No. 348

Effective until December 31, 2020

This map depicts the **rental place of use** pursuant to the rental agreement and is attached to the agreement solely for illustrative purposes.




N

Authorized Rental Point of Diversion

Authorized Rental Place of Use

Township/Range

Sections

0 2 Miles

Form 42-1761-2 10/15

STATE OF IDAHO
WATER RESOURCE BOARD

RECEIVED
MAR 12 2019
DEPARTMENT OF WATER RESOURCES

# APPLICATION TO RENT WATER FROM THE BOARD'S WATER SUPPLY BANK

**Applicant Name:** Teton Island Feeder Canal Company

**Is this application being submitted with a lease application as a lease/rental package?** **Yes** ☑ **No** ☐
**If yes, specify companion water rights in Section 4**

This application must be completed according to the minimum requirement checklist below. This checklist is part of the rental application and must be included with the rental application. **Applications that do not meet the minimum requirements will not be placed in the processing queue and may be returned until all minimum requirements have been met.**

Rental applications should be submitted well in advance of the desired start date for the use of rental water. Rental applications may be processed as early as November 1 of the year prior to the intended use of rental water. Any rental application received on or before November 1 for use in the next year will be assigned a received date of November 1. Rental applications submitted more than one year in advance of the proposed start date for the use of rental water will not be accepted and will be returned to applicants. Rental applications may be returned to applicants if the desired start date for the use of rental water cannot be accommodated by the Water Supply Bank. Rental requests will not be accepted once the rental season of use period has concluded.

One rental application per beneficial use of water. For multiple beneficial uses of water, separate rental requests should be submitted for each unique beneficial use of water. One rental application can be submitted if you propose to rent water from multiple sources.

For additional instructions on completing a rental application, visit the Bank's website at http://idwr.idaho.gov/water_supply_bank.

## MINIMUM REQUIREMENT CHECKLIST

**Check All Items as Either Attached (Yes) or Not Applicable (N/A)**

| | | Yes | |
|---|---|---|---|
| | | ☑ | Completed *Application to Rent Water from the Board's Water Supply Bank* |
| | | ☑ | Confirmation that this form has been printed single sided, per requirement of the Water Supply Bank |
| **Attachment** | **N/A** | **Yes** | |
| **2** | | ☑ | A map showing the proposed point(s) of diversion, place(s) of use, and water diversion and distribution systems proposed to be used with your rental request |
| **3A** | ☐ | ☑ | Detailed information on a proposed use of rental water |
| **3F** | ☑ | ☐ | Authorization from the owner/operator of the rental point(s) of diversion |
| **3H** | ☑ | ☐ | Water modeling to account for the impacts of the rental request |
| **3J** | ☑ | ☐ | Documents justifying a rate of flow greater than 0.02 cfs/acre |
| **3K** | ☐ | ☑ | Authorization from the owner/operator of the property at the proposed rental place(s) of use |
| **4B** | ☑ | ☐ | Explanation of how the rental water will sufficiently accomplish your rental purposes |
| **4C** | ☑ | ☐ | Explanation of consumptive use amounts for water rights experiencing a change in nature of use |

| **Department Use Only – Proposed Water Right(s)** | | | |
|---|---|---|---|
| 22-288 | 22-589 | 22-12695 | 22-12697 |
| 22-571 | 22-12694 | 22-12696 | |



1365

**STATE OF IDAHO**
**WATER RESOURCE BOARD**

## Application to Rent Water (Continued)

### 1. CONTACT INFORMATION

A. Applicant Teton Island Feeder Canal Company

Mailing Address 386 North 2400 East (Street) St. Anthony (City) Idaho (State) 83445 (Zip Code)

Email Address aaron.fmid@myidahomail.com Phone Number 208-624-3381

B. Is this application being completed by an authorized representative on behalf of the applicant? Yes ☑ No ☐
**If yes,** representatives (includes company employees if the applicant is a corporation, as well as legal counsel or consultants) should provide their information below if they desire to be included on correspondence with the rental applicant.

Representative Aaron Dalling Professional Title 208-624-3381

Organization FMID Relationship to Applicant

Mailing Address PO BOX 15 St. Anthony, Idaho 83445

Email Address aaron.fmid@myidahomail.com Phone Number 208-624-3381

### 2. MAP

Create a map of the proposed point(s) of diversion, place(s) of use and water diversion, delivery and distribution systems. Make sure the rental place of use is outlined and annotated with legal land descriptions (Township, Range, Section and Quarter-Quarters) or with GPS coordinates. For irrigation purposes, mark the number of acres you desire to irrigate. Attach the map to this application and label it **Attachment 2.**

### 3. DESCRIPTION OF PROPOSED USE FOR RENTAL WATER

A. Describe why you desire to rent water and provide a detailed description of your proposed use. If the proposed use is not for irrigation, describe in detail how you determined the amount of rental water required. If the space below is insufficient, attach additional sheets as required and label them **Attachment 3A**:

We propose to rent our own natural flow water associated with acres that are not currently being irrigated back from the Water Supply Bank and recharge the water into the aquifer. We identified 1,354 acres in our irrigated place of use that are not currently being irrigated. (Continued on attachment 3A)

B. Enter the desired and/or minimum rates of flow, volume, or irrigable acres requested for your rental purposes:

| Desired Rate (Cubic Feet/Second) | Desired Volume (Acre-Foot) | Minimum Rate* (Cubic Feet/Second) | Minimum Volume* (Acre-Foot) | Desired Acres (if applicable) |
|---|---|---|---|---|
| 85.81 CFS | 14243.2 AF | CFS | AF | 1354 AC |

* *Sometimes water rights provide an exceptionally low rate per acre and/or low volume per acre. This section is meant to establish an acceptable range of water sufficient for your proposed water use. Please see question 4B and complete if necessary.*

C. This section must be completed in full. Enter the proposed start date and latest possible start date for using rental water as well as the number of years you would like to rent water. The latest possible start is the latest possible date by which you would be willing to pay for a rental and be able to benefit from utilizing rental water.

| Desired Start Date (month/day/year) | Latest Possible Start Date (month/day/year) | *Mark Desired Rental Duration (Calendar Years) | | | | | **Applicant's preference if rental application cannot be processed prior to the latest possible start? | |
|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | | |
| 6/1/2019 | 8/1/2019 | ☐ | ☑ | ☐ | ☐ | ☐ | ☑ Process application as soon as possible | ☐ Return application to applicant |

* *The number of years permissible for a rental is subject to the lease contract duration for the water right(s) being rented.*

** *Per Idaho Code 42-201, it is unlawful to divert or use water without a valid water right. Water Supply Bank rental applicants are not authorized to utilize rental water prior to the execution of an approved rental agreement. Rental requests may be returned to applicants if no water is available from the Bank to fulfill a rental request.*

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## Application to Rent Water (Continued)

D. Describe your water distribution system and how rental water will be delivered from the point(s) of diversion (POD) to the proposed place of use (POU):
The water will be diverted at the Teton Island Feeder Canal diversion and will be delivered to Sunset Lake(See attachment 2)

E. Describe the physical type (pump, headgate, etc.) and location of the POD from which rental water is proposed to be diverted:

| POD Description | Water Source | Other Water Rights Diverted from this POD |
|---|---|---|
| TIFCC Headgate | North Fork Teton River | None |
| | | |
| | | |
| | | |

***If the POD(s) above are located where water is turned into a canal, lateral or ditch, or if they are located on your property but are serviced by water that is delivered via a canal, lateral or ditch, your rental request must include documented authorization from all relevant canal companies, irrigation districts and/or water delivery entities, confirming that they consent to your diversion of water from their system.***

F. Has documented consent from all relevant water delivery entities been obtained? Yes ☐ N/A ☑
**If yes,** include documented consent as **Attachment 3F**.

G. Do any POD(s) identified in Question 3E divert from a water source that may require water modeling? Yes ☐ No ☑
***Refer to the Water Modeling Requirements Information Sheet to determine if a rental POD may require water modeling.***

H. Has water modeling been provided with your rental request? Yes ☐ N/A ☑
**If yes,** label modeling Attachment 3 H.
***Rental applications that require modeling will be returned if modeling is not provided.***

I. Specify the desired beneficial use of water and the requested season of use or number of acres required:

☐ Irrigation _____ (number of acres) Duration: Subject to IDWR standard seasons of use

☐ Commercial from: _____ (mm/dd) to: _____ (mm/dd)

☐ Stockwater from: _____ (mm/dd) to: _____ (mm/dd)

☐ Industrial from: _____ (mm/dd) to: _____ (mm/dd)

☑ Other: Aquifer Recharge from: 04/01 (mm/dd) to: 10/31 (mm/dd)

J. For irrigation uses, do you propose to divert water at a rate greater than 0.02 cfs/acre? N/A ☑ Yes ☐ No ☐
**If yes,** justify the rate of flow and attach any supporting documents as **Attachment 3J**. Justification may include information on soil composition, conveyance losses, crop type, irrigation systems, public access areas, etc. A rate of 0.03 cfs/acre is permissible for irrigation of 5 acres or less.

K. Do you own the land at the proposed rental place of use (POU)? Yes ☐ No ☑
**If no,** attach documentation from the POU owner/operator confirming your authorization to use the POU and label it **Attachment 3K**.

L. List all other water rights and sources of water at the rental place of use for the same purpose, including privately owned water rights and water received from a municipal supplier, an irrigation district, a canal company or any other water delivery entity. Explain why additional water is required:
None

STATE OF IDAHO
WATER RESOURCE BOARD

## Application to Rent Water (Continued)

### 4. RENTAL REQUESTS FOR SPECIFIC WATER RIGHTS

A. Are you requesting to rent specific water rights? Yes ☑ No ☐

**If yes**, specify below the elements of the water rights you are requesting to rent. **If no**, continue to Question 4B.

**Important Information:** Diversion rates and volumes sought for rent must be proportionate to the per acre diversion rates and per acre volume limits of the water right under lease contract to the Water Supply Bank. Prior to completing this section, applicants should review all water right lease contracts and any active rental agreements to determine which elements of a water right are available to satisfy a rental request. Lease and rental documents are searchable via IDWR's website.

Water rights identified below must either already be leased to the Bank or a lease proposal should accompany this rental request. **Rental requests for water rights not yet leased to the Bank will be returned if companion lease applications are not provided with the rental request.** For leased rights featuring combined limits, rentals must be consistent with combined diversion rate, volume or acre limits. Combined limits should be listed on a row below water right numbers.

| Water Right Elements Leased to Water Supply Bank | | | | | Leased totals, minus water right elements involved in active rental agreements, equals water right elements available for rent | Water Supply Bank Rental Request | | |
|---|---|---|---|---|---|---|---|---|
| **Water Right Number (leave blank if sub-total of combined limits)** | **Nature of Use** | **Diversion Rate (CFS)** | **Volume (AF)** | **Acres (AC)** | | **Diversion Rate (CFS)** | **Volume (AF)** | **Acres (AC)** |
| 22-288 | Irrigation | .46 | 76.1 | 7.2 | | .46 | 76.1 | 7.2 |
| 22-571 | Irrigation | .48 | 79.9 | 7.6 | | .48 | 79.9 | 7.6 |
| 22-589 | Irrigation | 3.63 | 601.8 | 57.2 | | 3.63 | 601.8 | 57.2 |
| 22-12694 | Irrigation | 1.73 | 286.6 | 27.2 | | 1.73 | 286.6 | 27.2 |
| 22-12695 | Irrigation | 11.03 | 1830.1 | 174 | | 11.03 | 1830.1 | 174 |
| 22-12696 | Irrigation | 35.01 | 5811.9 | 552.5 | | 35.01 | 5811.9 | 552.5 |
| 22-12697 | Irrigation | 33.47 | 5556.0 | 528.2 | | 33.47 | 5556.0 | 528.2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ***Applicants must ensure the requested rate per acre and volume per acre do not exceed the rate per acre and volume per acre limits of water rights leased to the Water Supply Bank*** | | | | | **TOTAL** | 85.81 | 14243.2 | 1354 |
| | | | | | | **CFS** | **AF** | **AC** |

**Attach multiple copies of this page if space above is insufficient to list all water rights requested to be rented on this application.*

B. If water right conditions, combined limits, or the sum of all water right elements being requested provide an unconventional duty of water (e.g., an unusually low rate per acre or volume per acre for irrigation use), explain how your proposed rental will sufficiently accomplish your intended purposes. Attach a separate page if space is insufficient and label it **Attachment 4B**:

N/A

C. Does your rental request propose to change the nature of use for any water right(s) being rented? Yes ☑ No ☐

**If yes**, explain how the water right(s) will be converted to new uses. Include the historic, consumptive use amounts for the water right being rented if you have it, as well as the new consumptive use amount for your proposed beneficial use. If space below is insufficient, attach a separate page and label it **Attachment 4C**:

It is proposed the nature of use for the water associated with this lease be changed from irrigation to aquifer recharge for the 2 year term of the lease

STATE OF IDAHO
WATER RESOURCE BOARD

## Application to Rent Water (Continued)

### 5. ADDITIONAL INFORMATION

A. Is this the first time that rental water is being requested for this purpose at the rental place of use? Yes ☑ No ☐
**If no**, list previous rental requests/agreements and explain why you have not secured a permanent water right for your needs:

B. Have you or do you intend to submit an application for permit or transfer proposing a similar use as this rental? Yes ☐ No ☑
**If yes**, describe:

C. Was this rental application submitted in response to a Notice of Violation (NOV) or a pending NOV? Yes ☐ No ☑
**If yes**, describe the date and location of the NOV.

D. Additional Information

### DECLARATION

**I hereby assert that the information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval. I understand that if this rental application is approved, it will be subject to the provisions of Section 42-1766, Idaho Code and all applicable state and federal laws. I understand that the submission of a rental application provides no guarantee for approval of a rental agreement. I also understand that, per Idaho Code 42-201, it is unlawful to divert or use water without a valid water right and that I am not authorized to utilize water as proposed in this application prior to the execution of an approved rental agreement.**

| | | |
|---|---|---|
| Rodney Dalling | Rodney Dalling | 3-11-19 |
| Signature of Applicant | Printed Name of Applicant | Date |
| Aaron Dalling | Aaron Dalling | 3-11-19 |
| Signature of Representative | Printed Name of Representative | Date |

**Mail to:**

Idaho Department of Water Resources
P.O. Box 83720
Boise, ID 83720-0098

**STATE OF IDAHO**
**WATER RESOURCE BOARD**

# Water Modeling Requirement Information Sheet

## Information on water modeling requirements for rental requests within special administrative areas

**Important information on requesting rental water within special administrative areas:** Refer to the information below to determine whether the modeling of potential impacts from your rental request is necessary. Use Section 4 of the rental application to identify selected water rights. **If you submit an application to rent water from within a special administrative area and water modeling is required, your rental request will be returned if water modeling is not provided.**

**Water modeling may be required when an application to rent water involves one of two scenarios:**

**Scenario 1:** The rental request proposes to divert water from a regulated water source and/or within a special administrative area AND the distance between the rental point(s) of diversion (POD) and the POD(s) for the leased water right(s) is greater than the administratively established, acceptable distance.

**Regulated water sources may areas include:**

A. Ground water resources within the modeled area of the Eastern Snake Plain Aquifer (ESPA) and tributary aquifers;
B. Ground water within Ground Water Management Areas (GWMAs) or Critical Ground Water Areas (CGWAs);
C. Water resources within other specified administrative areas, as established by the Idaho Water Resource Board (IWRB) or the Idaho Department of Water Resources.

The distance between any rental POD(s) and the POD(s) for a leased water right to be rented is important. On the ESPA, distance is measured in terms of model cells that cover an area of one square mile. Ground water modeling is not required if lease POD(s) and rental POD(s) are located within the same model cell or within adjacent model cells. If the lease and rental PODs are separated by more than one model cell groundwater modeling must be completed using the IDWR ESPA Transfer Tool and modeling results must be submitted with the rental application. ESPA modeling tools can be accessed and freely downloaded from IDWR's website by visiting: www.idwr.idaho.gov/WaterManagement/WaterRights/WaterRightTransfers/resources.htm.

Ground water modeling may be required within GWMAs, CGWAs or other regulated administrative areas. Applicants who desire to rent water within an established GWMA, CGWA or other regulated administrative area should consult IDWR's website before submitting their application to review the current status of administrative orders related to regulated administrative areas. Consult www.idwr.idaho.gov/WaterInformation/GroundWaterManagement/designated_areas.htm for information on GWMAs or CGWAs, visit https://idwr.maps.arcgis.com/home/ to use mapping tools to find other regulated areas.

Applicants interested in renting water within a GWMA, CGWA or other regulated administrative areas should request water rights that have been leased into the Bank from within the same administrative area. Generally, the Bank will not permit a rental of water within a regulated administrative area if the leased water rights are not located within that same administrative area.

**Scenario 2:** A rental request proposes to divert water from a different but hydraulically connected water source.

**Modeling situations may include:**

A. Rental requests that propose to divert surface water rights via ground water POD(s) (wells); and
B. Rental requests that propose to divert ground water from one aquifer when the right being rented authorizes the diversion of ground water from a hydraulically connected, tributary aquifer.

Rental requests that propose to divert surface water rights from ground water points of diversion may be considered if ground water modeling establishes that the surface and ground water resources are directly and immediately hydraulically connected. An acceptable hydraulic connection occurs when at least 50 percent of the total depletions from a well are detectable from the original water source within a 24 hour period. The existing (leased) POD and proposed (rental) POD must be proximate such that diversion and use of water from the proposed POD would have substantially the same effect on the hydraulically-connected source as diversion and use of water from the original POD.

Requests to rent ground water across tributary aquifer sources may be considered if ground water modeling is provided to demonstrate that two aquifers are hydraulically connected and the anticipated impacts of diverting ground water from one source through the other is modeled accordingly.

For more information about rental application requirements, contact IDWR at (208) 287-4800.

## Attachment 3A

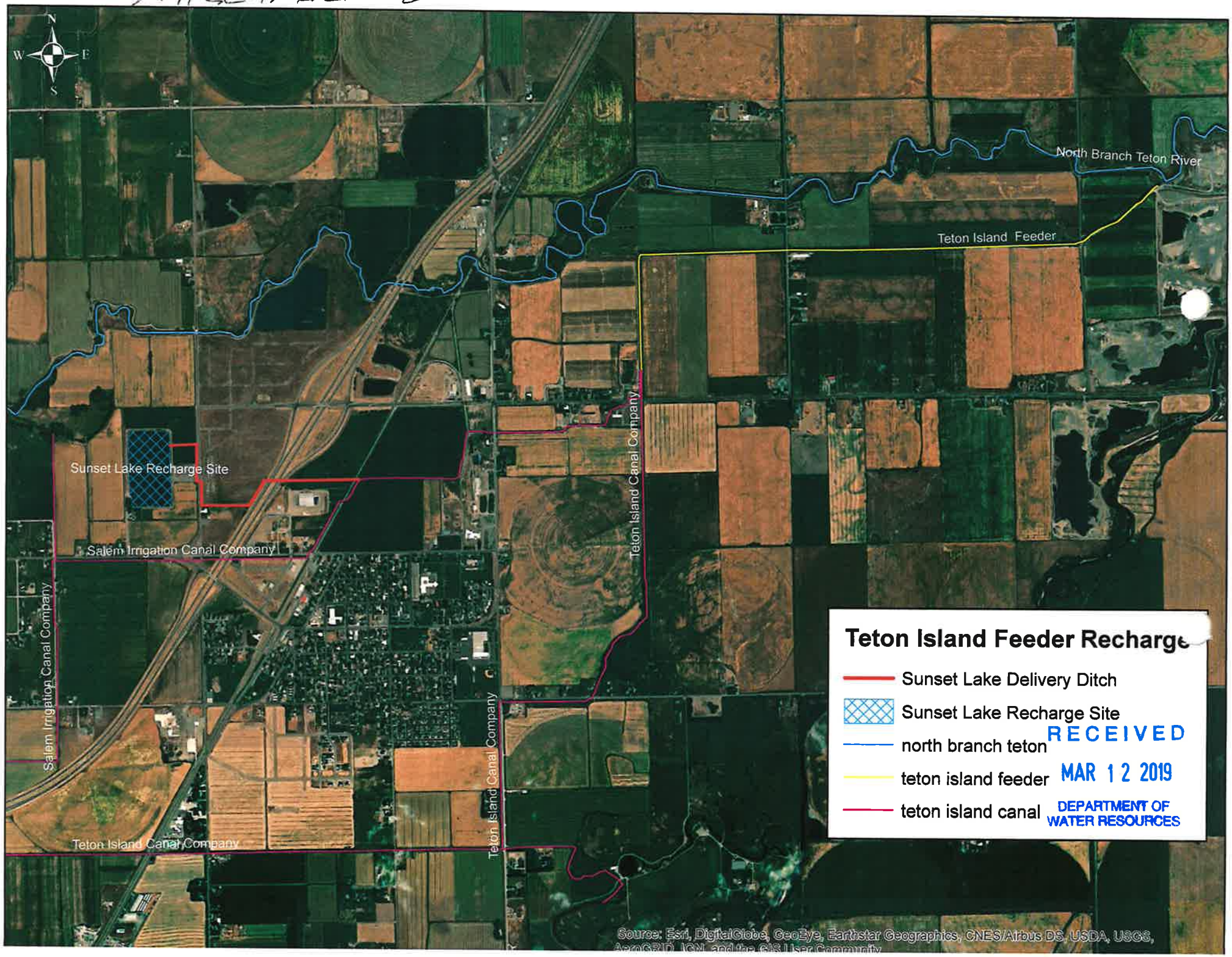
The Teton Island Feeder Canal Companies average annual diversion over the years 2014 to 2018 has been 99,389.2 Acre Feet per year. The total acres for their 7 irrigation water rights is 9448.2. To calculate the volume, we took the total average diversion divided by the total water right acres to come up with 10.5-acre feet per acre. Taking the total acres to be dried up multiplied by the diversion per acre comes to a total volume for the rental of 14,243.2-acre feet.

5-year diversion average

Teton Island Feeder Canal Diversion

| Year | AF Diversion |
|---|---|
| 2014 | 102,444.00 |
| 2015 | 101,846.00 |
| 2016 | 90,508.00 |
| 2017 | 105,564.00 |
| 2018 | 96,584.00 |
| 5yr Avg. | 99,389.20 |

Attachment 2



Attachment 3K



Sunset Lake Farms, LLC.
4471 North 5000 West
Rexburg, ID. 83440

February 28, 2019

Teton Island Feeder Canal Company
386 North 2400 East
St. Anthony, ID. 83445

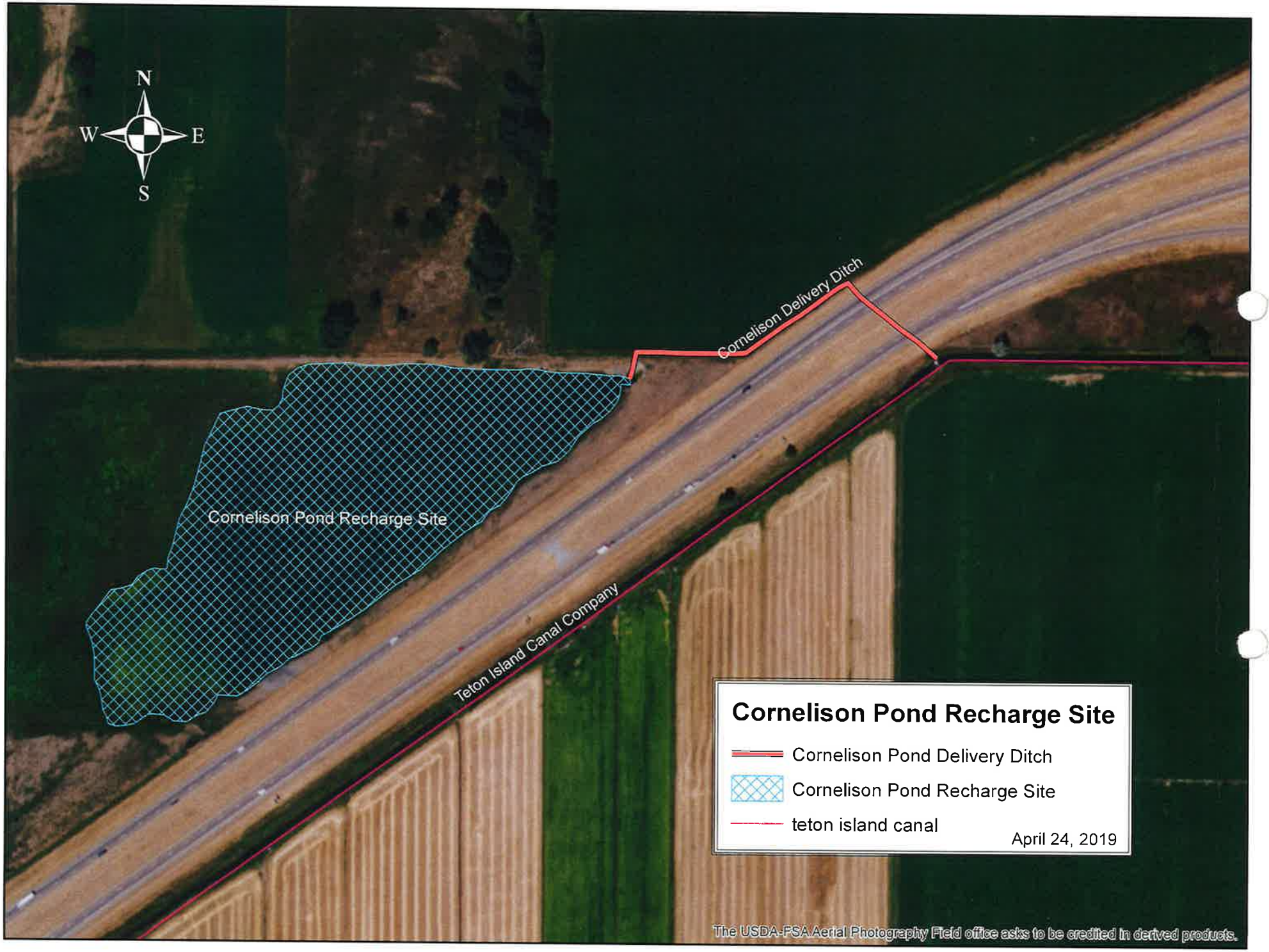
To Whom it May Concern,

We have agreed to allow Teton Island Feeder Canal Company to run managed recharge water into our 25 acre lake on the property located on parcel number RP06N40E050002 in Madison County. We will allow them to run water at our discretion within the Teton Island Feeder Canal Company contract agreement ending December 31, 2020. Also with the option to review after each year and upon them renewing their contract to run future recharge water. This is private property and we would ask that we be contacted for permission for anyone to enter the property other than Rodney Dalling who rents our farm.

Sincerely,

Jeff Parkinson, Partner 208-716-7288

Sherri Parkinson, Partner 208-716-7289


N
W
E
S
Cornelison Delivery Ditch
Cornelison Pond Recharge Site
Teton Island Canal Company
Cornelison Pond Recharge Site
Cornelison Pond Delivery Ditch
Cornelison Pond Recharge Site
teton island canal
April 24, 2019
The USDA-FSA Aerial Photography Field office asks to be credited in derived products.

3/1/2019

Teton Island Feeder Canal Company
386 North 2400 East
St. Anthony ID 83445

To Whom it May Concern,

We have agreed to allow Teton Island Feeder Canal Company to run managed recharge water into the pond on our property, Madison County parcel number RP06N40E077813.

Sincerely,

Keith Cornelison

# Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity (Ksat)* refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

# Report—Physical Soil Properties

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Physical Soil Properties–Madison County Area, Idaho | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Map symbol and soil name | Depth | Sand | Silt | Clay | Moist bulk density | Saturated hydraulic conductivity | Available water capacity | Linear extensibility | Organic matter | Erosion factors | | | Wind erodibility group | Wind erodibility index |
| | | | | | | | | | | Kw | Kf | T | | |
| | *In* | *Pct* | *Pct* | *Pct* | *g/cc* | *micro m/sec* | *In/In* | *Pct* | *Pct* | | | | | |
| 1—Annis silty clay loam | | | | | | | | | | | | | | |
| Annis | 0-7 | - 7- | -63- | 28-30- 32 | 1.20-1.25 -1.30 | 1.41-2.82-4.23 | 0.19-0.20-0. 21 | 3.0- 4.5- 5.9 | 2.0- 2.5- 3.0 | .37 | .37 | 5 | 4L | 86 |
| | 7-21 | - 9- | -66- | 22-25- 27 | 1.30-1.35 -1.40 | 1.41-2.82-4.23 | 0.19-0.20-0. 21 | 0.0- 1.5- 2.9 | 2.0- 2.5- 3.0 | .43 | .43 | | | |
| | 21-49 | - 7- | -62- | 27-31- 35 | 1.30-1.35 -1.40 | 1.41-2.82-4.23 | 0.19-0.20-0. 21 | 3.0- 4.5- 5.9 | 1.0- 2.0- 3.0 | .37 | .37 | | | |
| | 49-60 | - 9- | -67- | 22-24- 26 | 1.40-1.50 -1.60 | 1.41-2.82-4.23 | 0.19-0.20-0. 21 | 0.0- 1.5- 2.9 | 0.5- 1.3- 2.0 | .49 | .49 | | | |
| 64—Withers silty clay loam | | | | | | | | | | | | | | |
| Withers | 0-7 | -20- | -49- | 27-31- 35 | 1.25-1.30 -1.35 | 1.41-2.82-4.23 | 0.16-0.19-0. 21 | 3.0- 4.5- 5.9 | 1.0- 2.0- 3.0 | .32 | .32 | 3 | 4L | 86 |
| | 7-16 | -20- | -49- | 27-31- 35 | 1.35-1.40 -1.45 | 1.41-2.82-4.23 | 0.19-0.20-0. 21 | 3.0- 4.5- 5.9 | 0.5- 0.8- 1.0 | .43 | .43 | | | |
| | 16-26 | -20- | -49- | 27-31- 35 | 1.35-1.40 -1.45 | 1.41-2.82-4.23 | 0.19-0.20-0. 21 | 3.0- 4.5- 5.9 | 0.5- 0.8- 1.0 | .43 | .43 | | | |
| | 26-36 | -81- | -16- | 0- 3- 5 | 1.55-1.60 -1.65 | 14.11-28.23-42. 34 | 0.04-0.05-0. 06 | 0.0- 1.5- 2.9 | 0.0- 0.3- 0.5 | .05 | .17 | | | |
| | 36-60 | 100-100- 100 | - 0- | 0- 1- 1 | 1.50-1.60 -1.70 | 141.00-423.00- 705.00 | 0.00-0.01-0. 02 | 0.0- 1.5- 2.9 | 0.0- 0.0- 0.0 | .02 | .02 | | | |

# Data Source Information

Soil Survey Area: Madison County Area, Idaho
Survey Area Data: Version 13, Sep 15, 2018

Soil Map—Madison County Area, Idaho
(Sunset Lake)


Map Scale: 1:2,450 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County Area, Idaho
Survey Area Data: Version 13, Sep 15, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2011—Oct 25, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 1 | Annis silty clay loam | 3.0 | 13.0% |
| 64 | Withers silty clay loam | 20.3 | 87.0% |
| **Totals for Area of Interest** | | **23.4** | **100.0%** |

# Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

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*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

# Report—Physical Soil Properties

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

| Physical Soil Properties–Madison County Area, Idaho | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Map symbol and soil name | Depth | Sand | Silt | Clay | Moist bulk density | Saturated hydraulic conductivity | Available water capacity | Linear extensibility | Organic matter | Erosion factors | | | Wind erodibility group | Wind erodibility index |
| | | | | | | | | | | Kw | Kf | T | | |
| | *In* | *Pct* | *Pct* | *Pct* | *g/cc* | *micro m/sec* | *In/In* | *Pct* | *Pct* | | | | | |
| 21—Labenzo gravelly loam | | | | | | | | | | | | | | |
| Labenzo | 0-13 | 25-45- 52 | 35-42- 50 | 12-13- 15 | 1.04-1.11-1.21 | 1.40-7.00-14.00 | 0.13-0.15-0.15 | 1.0- 2.0- 2.9 | 3.0- 5.0-7.0 | .15 | .24 | 3 | 6 | 48 |
| | 13-34 | -24- | -61- | 10-15- 20 | 1.50-1.60-1.70 | 14.11-28.23-42.34 | 0.07-0.08-0.09 | 0.0- 1.5- 2.9 | 1.0- 2.0-3.0 | .37 | .37 | | | |
| | 34-60 | 100-100-100 | - 0- | 0- 1- 1 | 1.50-1.60-1.70 | 141.00-423.00-705.00 | 0.00-0.01-0.02 | 0.0- 1.5- 2.9 | 0.0- 0.0-0.0 | .02 | .02 | | | |
| 64—Withers silty clay loam | | | | | | | | | | | | | | |
| Withers | 0-7 | -20- | -49- | 27-31- 35 | 1.25-1.30-1.35 | 1.41-2.82-4.23 | 0.16-0.19-0.21 | 3.0- 4.5- 5.9 | 1.0- 2.0-3.0 | .32 | .32 | 3 | 4L | 86 |
| | 7-16 | -20- | -49- | 27-31- 35 | 1.35-1.40-1.45 | 1.41-2.82-4.23 | 0.19-0.20-0.21 | 3.0- 4.5- 5.9 | 0.5- 0.8-1.0 | .43 | .43 | | | |
| | 16-26 | -20- | -49- | 27-31- 35 | 1.35-1.40-1.45 | 1.41-2.82-4.23 | 0.19-0.20-0.21 | 3.0- 4.5- 5.9 | 0.5- 0.8-1.0 | .43 | .43 | | | |
| | 26-36 | -81- | -16- | 0- 3- 5 | 1.55-1.60-1.65 | 14.11-28.23-42.34 | 0.04-0.05-0.06 | 0.0- 1.5- 2.9 | 0.0- 0.3-0.5 | .05 | .17 | | | |
| | 36-60 | 100-100-100 | - 0- | 0- 1- 1 | 1.50-1.60-1.70 | 141.00-423.00-705.00 | 0.00-0.01-0.02 | 0.0- 1.5- 2.9 | 0.0- 0.0-0.0 | .02 | .02 | | | |

# Data Source Information

Soil Survey Area: Madison County Area, Idaho
Survey Area Data: Version 13, Sep 15, 2018

Soil Map—Madison County Area, Idaho
(Cornelison Pond)


Map Scale: 1:2,310 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County Area, Idaho
Survey Area Data: Version 13, Sep 15, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2011—Oct 25, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres In AOI | Percent of AOI |
|---|---|---|---|
| 21 | Labenzo gravelly loam | 9.3 | 68.5% |
| 64 | Withers silty clay loam | 4.3 | 31.5% |
| **Totals for Area of Interest** | | **13.6** | **100.0%** |

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 E Front Street, Suite 648 • PO Box 83720 • Boise ID 83720-0098
Phone: (208) 287-4800 • Fax: (208) 287-6700
Website: idwr.idaho.gov • Email: idwrinfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

July 27, 2020

TETON ISLAND FEEDER CANAL CO
386 N 2400 E
ST ANTHONY, ID 83445

**RE: RENTAL OF WATER FROM THE WATER SUPPLY BANK**
**WATER RIGHT NO(S). 22-12694, 22-288, 22-12695, 22-589B, 22-12696, 22-571, 22-12697,**
**AGREEMENT 348**

Dear Renter:

Please find enclosed a receipt in the amount of $3,181.80 and a copy of a fully executed Water Supply Bank Rental Agreement of 1529.2 acre-feet of water for ground water recharge. A refund of $123.40 has been requested and will be sent under a separate cover. Upon receipt of this fully executed agreement, you are authorized to divert water in compliance with the conditions of water use described in the agreement.

A rental fee of **$3,058.04** was calculated based on the current rental rate of $20.00 per acre-foot times a diversion volume of 1529.2 acre-feet. Since you are both the lessor and the renter of the right(s), you are only obligated to pay the 10% administrative fee or $3,058.40.

If you have any questions, please contact this office at bank@idwr.idaho.gov or (208) 287-4800.

Sincerely,

Amanda Johnson-Veibell

Water Supply Bank

Enclosures: Receipt No. C108177
Rental Agreement (copy)

c: Sascha Marston – Fiscal
IDWR Eastern Regional Office
State Water District No. 01

## Buyer, Remington

**From:** Buyer, Remington
**Sent:** Monday, January 6, 2020 9:56 AM
**To:** Marston, Sascha
**Subject:** WSB Refund

Sascha,

We need to request a refund be issued to Fremont-Madison Irrigation District, in the amount of $123.40. This is the amount that was overpaid on Receipt C108177 for rental agreement 348.

The check can be mailed to: PO Box 15, St. Anthony, ID, 83445.

Thanks,

Remington

**MEMORANDUM FOR AGREEMENT # 348**

**To:** Water Right(s) 22-288, 22-571, 22-589, 2212694, 22-12695, 22-12696 and 22-12697

**From:** Remington Buyer

**Date:** December 27, 2019

**Re:** Review & Analysis of Application to Rent Water from the State Water Supply Bank

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**PURPOSE/NARRATIVE:** On March 12, 2019, IDWR received from the Teton Island Feeder Canal Company (TIFCC), an application to rent from the Water Supply Bank the leased extent of the above listed water rights, for the purposes of ground water recharge. It is proposed that ground water recharge will be accomplished by diverting water from the Teton River via TIFCC infrastructure, for delivery to "Sunset Lake" and "Cornelison Pond" where diverted water will be ponded and allowed to settle into the ground.

IDWR approved a rental of 4,468.2 af for recharge in July 2019, however TIFCC felt that they would be unable to actually recharge this amount from July through October, 2019, and so a second rental application was submitted on August 8, 2019 (application 1453) in which TIFCC requested a rental specifically for 500.0 af for recharge during 2019. This review memo pertains specifically to the 2020 rental (application 1365).

Rental Agreement 348 (for rental application 1365) was originally drafted to approve ground water recharge of 4,468.20 af of water. However, on December 26, 2019, TIFCC confirmed to IDWR that they desired a rental of only 1,500 af during 2020. As such, the amount rented and approved for diversion to ground water recharge was adjusted down, to more closely match the desired ground water recharge volume.

**AUTHORITY TO FILE:** The applications have been submitted by Rodney and Aaron Dalling, who respectively have represented themselves as the president and executive officer of the canal company. It was not possible to discern the specific organizational structure of TIFCC, however it is assumed the Dallings hold the self-described positions with the canal company and are authorized to conduct administrative matters on behalf of the canal company.

Sunset Lake is located on lands owned by Sunset Lake Farms, LLC, while Cornelison Pond is located on lands owned by Keith and Karen Cornelison. Sunset Lake Farms, LLC is an incorporated business which lists Jeffrey and Sherri Parkison as manager and member, respectively. Both the Parkinsons and the Cornelisons have provided documented approval for the TIFCC to conduct recharge in their ponds via the requested rental. No concerns about the authority of the TIFCC to file this rental request.

**WATER RIGHT VALIDITY:** There are no storage water rights associated with the two ponds. Per applicant-provided information, the ponds have historically been filled to irrigate agricultural lands; effectively, prior to the irrigation season, canal water is delivered to the ponds for "subirrigation" (charging ground water tables), while during the irrigation season, water is spilled into the ponds as part of the management and operation of the canal system. The water rights proposed to be rented are the same water rights that authorize subirrigation and delivery of canal water to the ponds for irrigation purposes. No concerns about water right validity.

**INJURY:** Because recharge under this rental will be restricted to the two aforementioned ponds, which have historically received water during the irrigation season in past years, it is not apparent that any additional injury might occur by delivering recharge water to these ponds. Also, because the rental requests the delivery of water via the infrastructure system into which

TIFCC water rights are typically diverted, it is not anticipated that this rental will cause injury through a change in return flows to downstream users, however, this rental will be conditioned to acknowledge that recharge cannot injure prior appropriators. This rental will also include a condition to acknowledge that water quality monitoring may be required.

**ENLARGEMENT OF USE:** Because this rental proposes a change in nature of use, avoiding enlargement in the overall water use authorized for the rental requires consideration of the consumptive use extent of the leased portions of the TIFCC irrigation water rights. Enlargement will be avoided if the consumptive use of water authorized for the recharge rental does not exceed the consumptive use volume limits set for the portions of the TIFCC water rights leased to the Bank which are the basis for the rental. Similarly, enlargement will be avoided if the overall diversion volume for the rental does not exceed the diversion volume limits set for the portions of the TIFCC water right leased to the Bank, which will be the basis for the rental.

Validating that no enlargement will occur under this rental thus requires evaluating consumptive and overall diversionary volumes of water associated with TIFCC irrigation practices, as well as consumptive and diversionary volumes attributable to recharge activities proposed for the rental.

Consistent with previous reviews of rental requests for recharge, an analysis was conducted by IDWR's Hydrology Section staff to ascertain the overall and consumptive use diversion volumes associated with the leased portions of the TIFCC water rights that have been requested for this rental. The report, titled: **Determining Irrigation Water Volume Diversions Associated with Lease Contract 990**, affirmed that during the most recent five year period (2014 through 2018):

- a maximum of 8,337.5 acres (out of a possible 9,448.2 acres) were irrigated (during 2014);
- the most water consumptive year for irrigation of lands was 2016, when 19,217 af of water was consumed (from an overall diversion volume amount of 26,904 af) to provide for the irrigation of 8,090 acres, which corresponds to an average per-acre duty of water of 3.3 afa/ac, and an average, per-acre consumptive use volume of 2.4 afa/ac.

In 2019, portions of TIFCC's irrigation water rights equivalent to 85.81 cfs and 4,739 af for the irrigation of 1,354.0 acres were accepted for lease to the Bank. Based on the highest calculated consumptive use volume of 2.4 afa (calculated from 2016 irrigation data), the maximum consumptive use volume associated with the lease would be 3,249.6 af.

This rental requests a recharge diversion volume of 1,500 af. Typically the diversion volume authorized for a rental that involves a change in nature of use would be set by the consumptive use extent of the leased water right being rented. Because the leased portions of the TIFCC water rights are calculated to be equivalent to 3,249.6 af, a rental of approximately 46.2% of the water right lease would be required to provide 1,500 af of consumptive use water for this rental.

However, ground water recharge is a largely non-consumptive water use and the consumptive use of water under this rental is anticipated to come from pond evaporation. Because water is already present in the ponds at the start of (and during) the irrigation season, determining the evaporative loss of water specific to recharge use under a rental requires subtracting the evaporative losses of pond water attributable to standard irrigation-related deliveries of water to the pond from the overall annual evaporative losses of water that will be attributable to multiple fills of the pond, based on deliveries of both subirrigation water and ground water recharge water. Pond loss calculations indicate that the maximum annual consumptive use of water from evaporative losses from both ponds will be approximately 64.1 af/year.[1]

[1] See the attachments A & B of this memo for information on how seepage and evaporation losses were calculated.

As an alternative to establishing a diversion volume for this rental based off a consumptive use volume of 1,500 af, it is envisioned that enlargement will be avoided if the 1,500 af diversion volume to be authorized under this rental is instead calculated, based off the field headgate standard calculated for TIFCC's water rights during their most water consumptive year (2016). Because the 2016 field headgate standard of 3.3 afa/ac, a rental diversion volume of 1,500 af would require a rental of approximately 32.3% of the leased extent of TIFCC's leased water rights, as follows:

| WSB Approval | Div. Rate Leased/Rented | Div. Volume Leased/Rented | Consumptive Use Volume Leased/Rented | Irrigable Acres Leased/Rented |
|---|---|---|---|---|
| Contract 990 | 85.81 cfs | 4,739.0 af | 3,249.6 af | 1,500 acres |
| Rental 348 | 27.70 cfs | 1,529.2 af | 1,048.6 af | 436.9 acres |

A rental of 32.3% of lease contract 990, would be equivalent to 1,529.2 af, of which 1,048.6 af would be consumptive use water. The maximum consumptive use of water through rental agreement 348 AND through use of TIFCC's water rights already being delivered to the recharge ponds is calculated to be 64.1 af. As such, enlargement in water use will be avoided if TIFCC rents 1,529.2 af of lease contract 990, and delivers 1,500 af of water to the recharge ponds, of which the consumptive use value of the water would be 1,048.6 af, since this is significantly more than the 64.1 af of consumptive evaporation that is likely to occur during the rental.

**Note:** per information provided by the applicant, the ponds where recharge water will be delivered are typically filled during the start of the irrigation season, between mid-April through mid-May, after which, the ponds are topped up over the course of a day, one day each week, from mid-May through mid-August. The applicant has proposed to both measure and discount any deliveries of water to the ponds for the period of April through mid-May, and for one day each week (approximately 14.3% of the time) during the period of mid-May through mid-August. If no further irrigation-related top ups of the ponds occur after mid-August, deliveries of water to the ponds after this period of time through the end of the irrigation season can be considered specifically for recharge and not for irrigation water delivery purposes.

**LOCAL PUBLIC INTEREST**: Staff have no information to suggest this rental is inconsistent with local public interests.

**BENEFICIAL USE/CONSERVATION OF WATER RESOURCES:** Ground water recharge is a beneficial use of water. However, the extent to which this rental approval will enable an actual beneficial use of water specific to ground water recharge at the two ponds will be a function of:

a) the efficiency of the two ponds as locations for conducting recharge; and
b) the incremental, additional recharge of the ground water that will occur via the ponds, over and above any incidental recharge that would already be occurring in the ponds through subirrigation and canal management practices.

Information about the recharge potential of the ponds was requested from the applicant and they responded with soil survey data from the Natural Resource Conservation Service (NRCS). Per NRCS data, the soils under the ponds are predominantly "withers silty loam clay" (unified soil classification system: "CL") and "labenzo gravelly loam" (unified soil classification system: "ML"). NRCS data included information about "saturated hydraulic conductivity" (how quickly water travels through pores in saturated soils) and "available water capacity" (the quantity of water that can be stored in soil) for the ponds.

The following summarizes relevant NRCS findings for the ponds:

| | Moist Bulk Density (less than 1.4 g/cc) | Saturated Hydraulic Connectivity (micrometers/second) | Calculated Hydraulic Connectivity (cubic feet per second) | Available Water Capacity (inches of water per inch of soil) |
|---|---|---|---|---|
| Sunset Lake | 0 - 30 feet | 1.41 - 14.1 micro m/sec | 4.84 - 49.43 cfs | 0.19 – 0.21 inches/inch |
| Cornelison Pond | 0 - 13 feet | 1.41 - 14.1 micro m/sec | 2.50 - 25.06 cfs | 0.13 – 0.15 inches/inch |

Based on the above, it appears a beneficial use of water for ground water recharge might be possible in both Sunset Lake and Cornelison Pond. However, use of IDWR's pond seepage calculation tool did not provide similarly high rates of seepage/infiltration. Inputting CL and ML soil classification values (and other parameters) into IDWR's pond calculation tool resulted in an annual calculated seepage and evaporation loss in the ponds as follows:

| Pond | Storage Capacity | Annual Seepage (af/year) | Instant Seepage (cfs) | Annual Evaporation (af/year) | Annual Losses (af/year) | Drainage Time (years) |
|---|---|---|---|---|---|---|
| Sunset Lake | 288 af | 26.3 af | 0.04 cfs | 42.3 af | 68.6 af | 4.2 |
| Cornellison Pond | 124 af | 13.6 af | 0.02 cfs | 21.8 af | 35.4 af | 3.5 |
| Totals | 412 af | 39.9 af | 0.06 cfs | 64.1 af | 104 af | 4.0 |

It is presumed that the seepage rates are too low within IDWR's pond seepage calculation tool, because information from the applicant, and a review of satellite imagery, confirms water is lost from the ponds over the course of a year, not four years, as calculated above. Taking the lower of the hydraulic connectivity values derived from USDA soil survey data (4.84 cfs for Sunset Lake and 2.5 cfs for Cornelison Pond), one would expect Sunset Lake to lose 9.6 af/day to seepage and be drained within 29 days, while Cornelison Pond would lose 5.0 af/day and be empty within 24 days. It may be necessary to further ascertain a more exact seepage rate for the ponds, however based on the above, the ponds appear to be appropriate locations for conducting ground water recharge. However, ascertaining the real beneficial use of water (via recharge) that might occur under this rental also requires considering how the ponds are currently being filled and operated, based on irrigation-related activities of the TIFCC.

Presuming the ponds empty within 24-29 days, they would need to be topped up with water multiple times during the course of the irrigation season to maintain storage contents. This is consistent with information provided by the applicant, who affirmed that the ponds are typically filled during the start of the irrigation season, from mid-April through mid-May, after which, water is delivered to the ponds to maintain storage contents, one day each week, from mid-May through mid-August. Presumably, following mid-August, water is no longer delivered to the ponds to maintain storage contents for irrigation-related activities.

Presently, review staff are unaware of any Department of Water Resources and/or Idaho Water Resource Board (IWRB) policy to distinguish between when diverting additional water to a recharge location, on top of water that is already enabling incidental recharge, should or should not constitute a beneficial use of water. Absent a policy to distinguish between beneficial and non-beneficial additional diversions of water for recharge, this rental request might be considered to constitute a beneficial use. However, to be considered a beneficial use, this rental must enable deliveries of water to the ponds, above and beyond and distinctly different to and separate from diversions of water into the ponds that would have otherwise have occurred absent the rental, through typical canal operations managed by TIFCC.

Stated differently: if the volume of water that is on average delivered to the ponds in association with TIFCC irrigation-related activities can be established, then it may be possible to calculate the volume of water going to the ponds for recharge, as the annual diversion volumes minus the irrigation-related delivery volumes.

The applicant has stated that the TIFCC delivers water to the ponds, on average, one day per week, each week, from mid-May through mid-August, for irrigation-related activities. Presuming that, but for one day each week from mid-May through mid-August, all other deliveries to the ponds are for recharge, a beneficial use is likely to occur if additional water delivered to the ponds results in increased seepage and ground water recharge from the ponds. As a condition of approval, the renter should be required to measure daily, and to report annually, the overall total volumes of water diverted into the pond, and to distinguish between the volumes diverted into the ponds that are attributable to natural canal operations versus diversions that are specifically attributable to this recharge rental.

It is anticipated that 85.7% of all deliveries to the ponds will be considered as ground water recharge deliveries, and that 14.3 % (equivalent to one out of seven) of deliveries will be for irrigation-related activities. To ensure that the renter remains aware that the beneficial use of their rental might be called into question in the future, the rental agreement should also include conditional language to affirm that Departmental approval of this rental does not give rise to the notion that the Department will recognize or give credit for any recharge activities, in any other administrative process.

**DEPARTMENT STAFF OR WATERMASTER COMMENTS:** Comments were requested from IDWR's Eastern Regional Office and Water District 1 staff. There were no objections to the rental.

# Attachment A – Pond Loss Calculations for Sunset Lake

## 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 | WSB1365A |
| REVIEWER | Remington Buyer |
| DATE | 6/19/2019 |

| |
|---|
| User Input |
| **Calculated value** |
| Formula Explanations |

**INPUTS**

| | | |
|---|---|---|
| Pond Surface Area (AC.) | 24 | AC. |
| Pond Surface Area (SQ. FT.) | 1045440 | SQ. FT. |
| I used the following method to obtain my Soil Classification information: | NRCS Web Soil Survey | |
| My Soil Classification is | CL | |
| Suggested Seepage Rate (FT./DAY) | 0.0030 | FT./DAY |

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

| | | |
|---|---|---|
| Convert to GPD | 23460 | GPD |
| **Total Seepage Loss (AFA)** | 26.3 | 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 | WSB1365A |
| REVIEWER | Remington Buyer |
| DATE | 6/19/2019 |

| |
|---|
| User Input |
| Calculated value |
| Formula Explanations |

**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.

**The acronyms used on the Kimberly Research Center website are defined below:**

| |
|---|
| P = Precipitation |
| ET= Evapotranspiration |
| $P_d$ = Precipitation deficit |
| $P_d$ =ET-P |

**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: Rexburg (RXGI)

| Month | mm/day[1] | Days per month | mm/Month |
|---|---|---|---|
| Jan | -0.49 | 31 | 0.00 |
| Feb | 0.05 | 28 | 1.40 |
| March | 0.77 | 31 | 23.87 |
| April | 1.72 | 30 | 51.60 |
| May | 2.02 | 31 | 62.62 |
| June | 2.62 | 30 | 78.60 |
| July | 3.63 | 31 | 112.53 |
| August | 3.59 | 31 | 111.29 |
| September | 2.30 | 30 | 69.00 |
| October | 0.75 | 31 | 23.25 |
| November | 0.09 | 30 | 2.70 |
| December | -0.41 | 31 | 0.00 |

Total mm/year = 536.86

**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.

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

( 536.86 ÷ 304.8 ) X 24.00 = 42.3 AFA

# Total Storage Calculations

| | |
|---|---|
| FILE NUMBER | WSB1365A |
| REVIEWER | Remington Buyer |
| DATE | 6/19/2019 |

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.) | 24 | "Surface Area" is automatically carried over from the "Seepage Loss" sheet. |
| Average Pond Depth (FT.) | 12 | "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) | 288 | 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 *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) | 26.3 | The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet. |
| Estimated Evaporation Loss (AF) | 42.3 | The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet. |
| Total Volume Required (AF) | 356.6 | 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. |

## Attachment B – Pond Loss Calculations for Cornelison Pond

### 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 | WSB1365B |
| REVIEWER | Remington Buyer |
| DATE | 6/19/2019 |

| |
|---|
| User Input |
| **Calculated value** |
| Formula Explanations |

**INPUTS**

| | | |
|---|---|---|
| Pond Surface Area (AC.) | 12.4 | AC. |
| Pond Surface Area (SQ. FT.) | 540144 | SQ. FT. |
| I used the following method to obtain my Soil Classification information: | NRCS Web Soil Survey | |
| My Soil Classification is | ML | |
| Suggested Seepage Rate (FT./DAY) | 0.0200 | FT./DAY |

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

| | | |
|---|---|---|
| Convert to GPD | 80806 | GPD |
| **Total Seepage Loss (AFA)** | 90.5 | 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 | WSB1365B |
| REVIEWER | Remington Buyer |
| DATE | 6/19/2019 |

| |
|---|
| User Input |
| Calculated value |
| Formula Explanations |

**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.

**The acronyms used on the Kimberly Research Center website are defined below:**

| |
|---|
| P = Precipitation |
| ET= Evapotranspiration |
| $P_d$ = Precipitation deficit |
| $P_d$ =ET-P |

**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: Rexburg (RXGI)

| Month | mm/day¹ | Days per month | mm/Month |
|---|---|---|---|
| Jan | -0.49 | 31 | 0.00 |
| Feb | 0.05 | 28 | 1.40 |
| March | 0.77 | 31 | 23.87 |
| April | 1.72 | 30 | 51.60 |
| May | 2.02 | 31 | 62.62 |
| June | 2.62 | 30 | 78.60 |
| July | 3.63 | 31 | 112.53 |
| August | 3.59 | 31 | 111.29 |
| September | 2.30 | 30 | 69.00 |
| October | 0.75 | 31 | 23.25 |
| November | 0.09 | 30 | 2.70 |
| December | -0.41 | 31 | 0.00 |

| | |
|---|---|
| Total mm/year = | 536.86 |

**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.

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

( 536.86 ÷ 304.8 ) X 12.40 = 21.8 AFA

# Total Storage Calculations

| | |
|---|---|
| FILE NUMBER | WSB1365B |
| REVIEWER | Remington Buyer |
| DATE | 6/19/2019 |

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.) | 12.4 | "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) | 124 | 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 *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) | 90.5 | The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet. |
| Estimated Evaporation Loss (AF) | 21.8 | The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet. |
| Total Volume Required (AF) | 236.4 | 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. |

| No. **W 85353** | **Due no later than Jul 31, 2018**<br>**Annual Report Form** | 2. Registered Agent and Address **(NO PO BOX)** |
|---|---|---|
| Return to:<br>SECRETARY OF STATE<br>700 WEST JEFFERSON<br>PO BOX 83720<br>BOISE, ID 83720-0080<br><br>**NO FILING FEE IF RECEIVED BY DUE DATE** | **1. Mailing Address: Correct in this box if needed.**<br>SUNSET LAKE FARMS, LLC<br>JEFFREY D PARKINSON<br>4471 N 5000 W<br>REXBURG ID 83440 | JEFFREY D PARKINSON<br>5384 W 7000 N<br>SAINT ANTHONY ID 83445<br><br>3. New Registered Agent Signature:* |

4. Limited Liability Companies: Enter Names and Addresses of at least one Member or Manager.

| Office Held | Name | Street or PO Address | City | State | Country | Postal Code |
|---|---|---|---|---|---|---|
| MANAGER | JEFFREY D PARKINSON | 5384 WEST 7000 NORTH | ST. ANTHONY | ID | USA | 83445-3059 |
| MEMBER | SHERRI L PARKINSON | 4471 NORTH 5000 WEST | REXBURG | ID | USA | 83440 |

| 5. Organized Under the Laws of: | 6. Annual Report must be signed.* | |
|---|---|---|
| **ID**<br>**W 85353** | Signature: Sherri Lyn Parkinson | Date: 05/26/2018 |
| | Name (type or print): Sherri Lyn Parkinson | Title: Officer |
| Processed 05/26/2018 | * Electronically provided signatures are accepted as original signatures. | |

**From:** Buyer, Remington
**Sent:** Friday, December 27, 2019 9:54 AM
**To:** 'aaron.fmid@myidahomail.com' <aaron.fmid@myidahomail.com>
**Subject:** RE: Rental Agreement 348

Aaron,

Thanks for confirming the extent of the recharge rental desired for 2020. The ratio of irrigation volume leased (and needing to be rented) to the volume which might be conveyed to recharge is calculated to be 1.02 to 1.00, so a recharge rental of 1,500 af is equal to an irrigation rental of 1,529.3 af. The rental fee for 2020 will thus be $3,058.60. Our office will finalize the paperwork for rental agreement 348 and mail it to you for finalization.

Regards,

Remington

**From:** aaron.fmid@myidahomail.com [mailto:aaron.fmid@myidahomail.com]
**Sent:** Thursday, December 26, 2019 12:05 PM
**To:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** RE: Rental Agreement 348

Hi Remington,

After discussing it we would like to have 1500 AF available for aquifer recharge under the agreement for 2020. I think that will require us to pay a fee on 1590.9 AF. Do you need to work an agreement up to reflect those numbers for Teton Island Feeder Canal Company to sign?

Let me know.

Thanks,

Aaron

**From:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Sent:** Monday, November 25, 2019 11:39 AM
**To:** aaron.fmid@myidahomail.com
**Subject:** RE: Rental Agreement 348

Aaron,

Thanks for reaching out; following up with TIFCC on the pending 2020 rental agreement was on my to-do list. Can you confirm with TIFCC the desired extent of their rental request prior to December 31, 2019? Ideally, we would like to finalize this application as soon as possible, and if we can close it prior to the end of the year, that will work well for our purposes.

Also, in our last correspondence, you indicated TIFCC might desire to exchange the Teton River water with Henrys Fork water, is that still being considered?

Thanks,

Remington

**From:** aaron.fmid@myidahomail.com [mailto:aaron.fmid@myidahomail.com]
**Sent:** Monday, November 25, 2019 7:43 AM
**To:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** RE: Rental Agreement 348

Hi Remington,

Just touching basis on this rental application again. TIFCC is preparing to finalize this rental application for 2020. They would like it to be something less then the total amount available. That is the number they are still working on. I think we should know within the next couple of weeks. Will that work?

Thanks,

Aaron

**From:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Sent:** Thursday, August 22, 2019 10:08 AM
**To:** aaron.fmid@myidahomail.com
**Subject:** RE: Rental Agreement 348

Hi Aaron,

We have pushed rental application 1365 into our 2020 rental application queue, which we won't be evaluating until November 1 of this year, so there is time to propose amending the rental application, to either reduce the amount requested to be recharged via the rental in 2020, or to request consideration of additional recharge places of use for 2020. Any new recharge place of use will need to be hydraulically connected to the Teton River; recharge locations within the service area of the TIFCC are possible, however, how can Teton River water be delivered to the Henrys Fork?

Remington

**From:** aaron.fmid@myidahomail.com [mailto:aaron.fmid@myidahomail.com]
**Sent:** Thursday, August 22, 2019 9:52 AM
**To:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** RE: Rental Agreement 348

Remington,

The first reason they haven't signed it yet is because they may want to reduce it again. They wanted to have this fall to see how much recharge they run before signing the agreement for next year. Is this ok?

They also have a couple of questions they would like me to ask on this.

They wanted me to ask if we could add an additional place of use? There is another pond within about ½ mile from one of the existing sites they would like to add as a recharge site. They didn't include it initially because it took them a while to get landowner permission but they have it now.

If they don't think they will be able to recharge the full amount of the lease in their own recharge sites is it possible to move the point of diversion for the water? Like for instance could it be moved to the Henrys Fork, diverted and recharged at the Egin Lakes site? I realize this would take addition evaluation on your part but they are curious if it is even possible?

Thanks for all your help on this!

Aaron

**From:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Sent:** Tuesday, August 20, 2019 4:42 PM
**To:** aaron.fmid@myidahomail.com
**Subject:** Rental Agreement 348

Aaron,

IDWR still has active Water Supply Bank rental application 1365, for TIFCC, to authorize ground water recharge during 2020, under agreement 348. If TIFCC still desires to conduct recharge via a rental during 2020, when do you anticipate that TIFCC will be ready to execute the agreement by signing the agreement and submitting payment to IDWR?

Thanks,

Remington

## Buyer, Remington

**From:** Buyer, Remington
**Sent:** Thursday, August 8, 2019 4:50 PM
**To:** 'aaron.fmid@myidahomail.com'
**Subject:** RE: Teton Island Water Bank Rental
**Attachments:** Rental Agreement 348.pdf; Rental_Map - Agreement 348.pdf; Rental Agreement 368.pdf; Rental_Map Agreement 368.pdf

Aaron,

I've drafted a recharge rental agreement for TIFCC for 500 AF for 2019 (agreement 368), attached for your review. I'm also attaching rental agreement 348, now only for 2020, which has been updated slightly from the last iteration (diversion volumes adjusted slightly).

Please have a look at these documents. If they are acceptable, TIFCC can sign and return 368 with payment to IDWR and begin conducting recharge this year. If TIFCC believes that they will be able to conduct recharge during 2020 as authorized under agreement 348, that agreement can also be signed and returned to our office with payment for 2020, which will set TIFCC up to conduct recharge both this year, and next year.

Feel free to follow up with me if you have any questions,

Regards,

Remington

**From:** aaron.fmid@myidahomail.com [mailto:aaron.fmid@myidahomail.com]
**Sent:** Thursday, August 8, 2019 12:30 PM
**To:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** RE: Teton Island Water Bank Rental

Remington,

Thanks for being willing to work with us on this. TIFCC would like to reduce the rental down to around 500 AF this year and see how it goes. They plan to be better set up for the full volume next year. I reduced all the numbers in the application down to about 10% of what they were in the original application. Let's try to push this through as quickly as possible.

Let me know if you have any questions or concerns.

Thanks,

Aaron

**From:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Sent:** Tuesday, August 6, 2019 1:29 PM
**To:** aaron.fmid@myidahomail.com
**Subject:** RE: Teton Island Water Bank Rental

Aaron,

Water Supply Bank Rental Agreement 348 authorizes up to 4,738.7 acre feet for recharge in 2019 and 2020. If TIFCC wants to be able to divert up to 4,738.7 acre feet during 2020, but will divert less than 4,738.7 during 2019, we can approve Agreement 348 for 2020 only, and we can approve a different, new rental agreement for 2019. Because the analysis on this rental request has already been completed, I don't foresee that it will take more than a few days to generate a new rental agreement for a 2019-specific rental request.

Here's my recommendation: complete and submit a new rental application to IDWR (emailing it to me is fine) and request a diversion rate and volume for recharge that TIFCC thinks they can successfully recharge during 2019. We'll turn around the rental paperwork as quickly as possible on our end, and provide you with a reduce rental authorization for 2019, likely by the end of August. IDWR will levy a rental fee of $2/acre foot, so the rental price would be whatever your recharge volume is intended to be, multiplied by $2.00.

Hope that makes sense. Call on me if you have any questions, else, I'll look forward to receiving from you a reduced rental application for 2019.

Remington
(208) 287-4918

**From:** aaron.fmid@myidahomail.com [mailto:aaron.fmid@myidahomail.com]
**Sent:** Sunday, August 4, 2019 9:17 PM
**To:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** Teton Island Water Bank Rental

Hi Remington,

Teton Island Feeder does not think they can recharge the full amount of the rental this year. Can they just rent back a portion of the total amount this year? They are concerned if they pay the full fee they will have trouble breaking even this year.

Let me know what you think.

Thanks,

Aaron

State of Idaho
DEPARTMENT OF WATER RESOURCES
322 E Front Street, Suite 648 • PO Box 83720 • Boise ID 83720-0098
Phone: (208) 287-4800 • Fax: (208) 287-6700
Website: idwr.idaho.gov • Email: idwrinfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

July 31, 2019

TETON ISLAND FEEDER CANAL CO
386 N 2400 E
ST ANTHONY ID 83445

**RE: APPLICATION TO RENT WATER FROM THE WATER SUPPLY BANK WATER RIGHT NOS. 22-288, 22-571, 22-589B, 22-12694, 22-12695, 22-12696, and 22-12697 - AGREEMENT 348**

*****TIME SENSITIVE RESPONSE REQUIRED*****

Dear Applicant:

The Department of Water Resources acknowledges receipt of your application to rent water from the Water Supply Bank. **I have enclosed a Water Supply Bank Rental Agreement for your review and signature.** Upon signature and return of the original agreement, together with the rental fee described below, the Department will also sign the original agreement and return an executed copy to you. Execution of the agreement and compliance with the conditions of approval authorize diversion and use of water as provided in the agreement.

A rental fee of **$94,774.00** was calculated based on the current rental rate of $20.00 per acre-foot times a diversion volume of 4,738.7 acre-feet. Since you are both the lessor and the renter of the rights, **you are only obligated to pay the 10% administrative fee or $9,477.40.** An annual payment shall be received by the Department prior to the execution of this agreement and prior to January 1 in all subsequent years for the duration of the rental period. The agreement will be void if payment is not received prior to the due date in a given year. If you would like to terminate the agreement prior to the end of the rental period, you must submit written notice of your intent to the Department at least 30 days prior to the rental fee due date.

**Please send a check for $9,477.40** made payable to the Idaho Department of Water Resources, **together with the signed rental agreement, within 14 days** so I can complete processing.

If you have any questions, please contact this office at (208) 287-4800.

Sincerely,

Water Supply Bank

Enclosure

c: IDWR Front Desk
Aaron Dalling

## Webster, Clay

**From:** Olenichak, Tony
**Sent:** Thursday, July 18, 2019 5:20 PM
**To:** Webster, Clay
**Cc:** Buyer, Remington
**Subject:** RE: Water District Comments on Recharge Rental Request

Clay,

The last two sentences in your response illustrate how there can be different interpretations for what is written. Prior to the rental agreement, water right 22-571 allows Teton Island Feeder to divert 3.36 cfs through its river headgate year 'round when this water right for irrigation/subirrigation is in priority. Rental Agreement No. 348 allows the canal "to use" 0.48 cfs of the total 3.36 cfs for recharge (not to exceed 26.5 AF of diversion towards recharge purposes) under this agreement. The full 0.48 cfs under this rental agreement can only be used for recharge when the canal is diverting less than 2.88 cfs of the water right for irrigation/subirrigation purposes. The 0.48 cfs does not add to the 3.36 cfs allowed under water right 22-571 when it is in priority. The effect of the rental agreement reduces the amount allowed for irrigation/subirrigation to 2.88 cfs when the 0.48 cfs is being used for recharge (total of 3.36 cfs diverted at the headgate) and when the remainder of the water right is being used for irrigation/subirrigation on other places of use not described in the rental agreement.

My point was that the Watermaster does not know when the canal is not using the full 3.36 cfs for irrigation/subirrigation unless the water right is out of priority or the canal has shut below the amount needed to fill its June 1, 1888 priority right. The Watermaster also does not know when 0.48 cfs is being used for recharge and how much of the water delivered to the 3.36 water right should be applied to the 26.5 AF volume limitation each day before the recharge use under this right is curtailed.

I would prefer the IDWR or the canal be responsible for notifying the Watermaster on the day on which all, or a portion of, 22-571 should not be delivered to the canal on days when the June 1, 1888 priority can be delivered from the Teton River, instead of Condition #19 giving the impression that the Watermaster is responsible for keeping track of all this in real-time to insure proper distribution among all appropriators.

Tony

**From:** Webster, Clay
**Sent:** Thursday, July 18, 2019 12:05 PM
**To:** Olenichak, Tony <Tony.Olenichak@idwr.idaho.gov>
**Cc:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** RE: Water District Comments on Recharge Rental Request

Tony,

As we discussed, condition 19 is a standard condition that is placed on all surface water rights within all Water Districts throughout the state. There has been a change in the verbiage to change the wording in March 2017. Which will be reflected on the Rental Agreement. The intent of this condition is to give notice to a water user that it is within a water district and that the watermaster has regulatory authority. If a water right has to be curtailed, the watermaster curtails that diversion at the river.

In the way you describe your function, the lease reduces the amount of water that is authorized to divert from the river. The rental adds an amount to divert from the river.

Thanks,
Clay

**From:** Olenichak, Tony
**Sent:** Thursday, July 18, 2019 11:11 AM
**To:** Webster, Clay <Clay.Webster@idwr.idaho.gov>
**Subject:** FW: Water District Comments on Recharge Rental Request

**From:** Olenichak, Tony
**Sent:** Wednesday, July 17, 2019 4:03 PM
**To:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Subject:** RE: Water District Comments on Recharge Rental Request

Remington,

Sorry it's taken so long for me to reply. I've been putting it off because I was pretty sure I wouldn't have any further questions or objections but I've finally gotten around to examining the rental agreement in greater detail.

My only concern is with Rental Agreement Condition #19. I think this is probably a standard condition put on all surface water rights within Water District #1. The primary purpose of Water District #1 is to regulate the "diversion" of water at a canal's main headgate and not to regulate the "use of water" within the canal system after it passes through the river headgate. I think Condition #19 would have some people believe that Water District #1 is going to regulate all usage of water under this agreement and these water rights.

My preference for future rental agreements, transfers, permits, etc. is that Condition #19 be broken into at least two separate conditions. The first condition would be.....The flow rate diverted at the point of diversion under this agreement will be regulated by a Watermaster with responsibility for the distribution of water among appropriators within a water district. The second condition would be.....The use of water under this agreement will be regulated by the IDWR.

Water District #1 doesn't investigate or respond to complaints that someone is using canal water within the canal system for a purpose or on a place-of-use not described in its water right.....or is exceeding the usage of its water right within the canal system when the water right flow rate is not being exceeded at the river headgate. IDWR usually responds to these types of regulation complaints within a canal system instead of the Watermaster.

Water District #1 also doesn't differentiate between the different volumes diverted at the river headgate. For example, Rental Agreement No. 348 says the total volume that can be used for recharge purposes is 4,467.9 AF, however, if there have been 30,000 AF diverted at the river headgate, Water District #1 doesn't know what volume has been diverted for irrigation and what volume has been diverted for recharge at the river headgate. If IDWR wants to regulate the volume used for recharge within the canal system, that condition should be spelled out in the agreement and should not be presumed in Condition #19. Condition #19, as it is currently written on the rental agreement, promulgates the idea that Water District #1 should be monitoring and regulating the use of water within the canal system, which it does not. Water District #1 only regulates the diversion of water at the river headgate.

Tony

**From:** Buyer, Remington
**Sent:** Friday, July 12, 2019 3:32 PM
**To:** Olenichak, Tony <Tony.Olenichak@idwr.idaho.gov>
**Subject:** Water District Comments on Recharge Rental Request

Tony,

I've had a chance to discuss Teton Island Feeder Canal Company's irrigation to recharge water right lease/rental proposal with Clay, Angie and Shelley here at the State Office and we're ready to move forward with issuing the attached rental agreement for consideration and signature by TIFCC. Prior to executing the agreement, I wanted to check in with you one last time to see if there were any water district questions or concerns that should be addressed before we finalize this approval. Please consider the attached and let me know if you would like anything to be further addressed on this rental request.

Thanks,

Remington

## Buyer, Remington

**From:** Buyer, Remington
**Sent:** Tuesday, June 4, 2019 1:23 PM
**To:** Olenichak, Tony; Cefalo, James
**Cc:** Webster, Clay; Keen, Shelley; Grimm, Angie; Hipke, Wesley
**Subject:** FW: WSB Lease
**Attachments:** Draft Rental Agreement.docx; Rental Review Memo.docx; Determining Irrigation Water Volume Diversions Associated with Lease Con....docx; Rental_Map.pdf

Tony, James,

In follow up to my prior email, attached to this email are my review memo, map and draft rental agreement for an irrigation to ground water recharge rental request by TIFCC. Please take a moment to consider this rental request and let me know what questions, comments or concerns you might have about this request. I would also welcome any changes you might recommend to improve the accuracy of materials associated with the review of this rental.

Clay, Angie, Shelley and Wes, I would also welcome your input on this rental and I'd be happy to schedule a conference call if some or all of us wanted to discuss as a group on how it might be best to proceed on this matter.

Please advise, and thanks,

Remington

**From:** Buyer, Remington
**Sent:** Friday, May 31, 2019 4:12 PM
**To:** Olenichak, Tony <Tony.Olenichak@idwr.idaho.gov>; Cefalo, James <James.Cefalo@idwr.idaho.gov>
**Cc:** Webster, Clay <Clay.Webster@idwr.idaho.gov>
**Subject:** WSB Lease

Tony, James,

Teton Island Feeder Canal Company has proposed to lease into the Bank 1,354 acres of their 9,448.2 acre irrigable service area, so that they might rent back to themselves from the Bank, an equivalent amount of the leased water rights for ground water recharge purposes via a rental. Attached are the draft contract, review memo and map for the lease. Early next week, I intend to submit for your consideration the review memo, map and draft rental agreement.

Please let me know if you have any questions, comments, or concerns about this lease proposal.

Thanks,

Remington

Date: August 8, 2019; Updated December 27, 2019

To: Water Supply Bank Application 1365

From: Kara Ferguson, Staff Hydrologist
Remington Buyer, Water Supply Bank Coordinator

Subject: Determining Irrigation Water Volume Diversions Associated with Lease Contract 990

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## Overview

On March 12, 2019 IDWR received from Teton Island Feeder Canal Company (TIFCC) applications to lease into the Water Supply Bank portions of irrigation usage under seven water rights, coupled with an application to rent the water rights from the Bank, to authorize ground water recharge by TIFCC. This memo documents an IDWR procedure for evaluating the maximum volume of water that may have been diverted by TIFCC for irrigation purposes during recent years, as well as the diversion volumes that might be appropriate for a ground water recharge rental. The process utilizes the following steps:

1) Determine regionally-specific evapotranspiration values for specific crops in specific years;
2) Determine regionally-specific precipitation values;
    a. Determine monthly precipitation values;
    b. Determine the effectiveness of observed monthly precipitation values;
3) Determine regionally-specific consumptive irrigation requirement (non-precipitation) values for specific crops in specific years;
4) Determine regionally-specific crop mixes and associated diversion volume requirements;
    a. Determine regionally-specific diversion volumes for specific crops in specific years;
    b. Determine crop-specific acreages within water right irrigation places of use;
    c. Determine crop-specific acreages within water right irrigation places of use being leased;
    d. Determine consumptive irrigation and overall diversion volumes for places of use;
5) Determine overall and consumptive use diversion volumes for the irrigation water rights;
6) Establish appropriate rental volume limits

## Step 1: Determining Evapotranspiration Data

Rexburg (RXGI) is the closest AgriMet climate station and daily evapotranspiration (ET) data for the Rexburg AgriMet climate station were downloaded for the years 2014 to 2018 from the AgriMet website (http://www.usbr.gov/pn/agrimet/etsummary.html). These data were imported into Microsoft Excel and the daily ET values for each crop type reported were tabulated into total ET values for the irrigation season for each crop type.

| Year | ETr | ALFP | ALFM | PAST | LAWN | WGRN | SGRN | POTA | FCRN |
|---|---|---|---|---|---|---|---|---|---|
| 2014 | 43.21 | 36.61 | 31.81 | 26.00 | 31.59 | 26.27 | 22.90 | 22.90 | 20.52 |
| 2015 | 45.10 | 38.56 | 33.46 | 27.11 | 33.24 | 24.56 | 20.90 | 24.56 | 23.55 |
| 2016 | 47.73 | 43.24 | 37.29 | 30.65 | 36.92 | 26.99 | 25.51 | 27.15 | 24.99 |
| 2017 | 41.03 | 36.29 | 31.52 | 25.58 | 30.99 | 20.34 | 16.86 | 23.04 | 21.06 |
| 2018 | 46.13 | 39.33 | 34.19 | 27.50 | 33.78 | 26.87 | 22.98 | 24.25 | 25.07 |

**Table 1. ET values (inches) for the Rexburg (RXGI) Idaho AgriMet weather station.**

**Step 2: Determining Precipitation Data**

Monthly precipitation data (Parameter: PP – Daily (24 hour) Precipitation (in)) for the Rexburg AgriMet weather station were downloaded from the AgriMet website (https://www.usbr.gov/pn/agrimet/webarcread.html). The time period of the precipitation data downloaded was equivalent to the time period of the ET data. The precipitation data were for the years 2014 to 2018 and for the months April to September for years 2014 to 2017 and April to October 4 for 2018. The precipitation data were imported into Microsoft Excel and effective precipitation was calculated by multiplying the monthly precipitation values by the "Percent Effective" from Table 3 in USDA Technical Bulletin 1275.

| Year | Apr | May | Jun | Jul | Aug | Sep | Oct |
|---|---|---|---|---|---|---|---|
| 2014 | 1.13 | 0.51 | 0.73 | 0.6 | 3.67 | 3 | - |
| 2015 | 0.53 | 2.88 | 0.78 | 0.87 | 0.54 | 0.37 | - |
| 2016 | 0.89 | 1.81 | 0.16 | 0.21 | 0 | 1.54 | - |
| 2017 | 1.87 | 1.02 | 1.59 | 0.13 | 0.08 | 1.75 | - |
| 2018 | 2.21 | 3.38 | 3.14 | 0.13 | 0.27 | 0 | 0.24 |

**Table 2. Monthly Precipitation (inches) for the Rexburg (RXGI) Idaho AgriMet weather station.**

| Total Monthly Precipitation (in) | Percent Effective | Total Monthly Effective Precipitation (in) |
|---|---|---|
| 1 | 95% | 0.95 |
| 2 | 90% | 1.85 |
| 3 | 82% | 2.67 |
| 4 | 65% | 3.32 |
| 5 | 45% | 3.77 |
| 6 | 25% | 4.02 |
| >6 | 5% | |

**Table 3. Percent Effective Precipitation: Recreated from USDA Technical Bulletin 1275 Table 3.**

| Year | Apr | May | Jun | Jul | Aug | Sep | Oct | Totals |
|---|---|---|---|---|---|---|---|---|
| 2014 | 1.07 | 0.48 | 0.69 | 0.57 | 3.11 | 2.67 | - | 8.59 |
| 2015 | 0.50 | 2.57 | 0.74 | 0.83 | 0.51 | 0.35 | - | 5.51 |
| 2016 | 0.85 | 1.68 | 0.15 | 0.20 | 0.00 | 1.44 | - | 4.31 |
| 2017 | 1.73 | 0.97 | 1.48 | 0.12 | 0.08 | 1.63 | - | 6.01 |
| 2018 | 2.02 | 2.92 | 2.76 | 0.12 | 0.26 | 0.00 | 0.23 | 8.31 |

**Table 4. Monthly Effective Precipitation (inches) for the RXGI Idaho AgriMet weather station.**

**Step 3: Determining Consumptive Irrigation (CIR) (non-precipitation) Data**

The Consumptive Irrigation Requirement (CIR) was calculated in Excel by subtracting the effective precipitation for the irrigation season (Table 4 values) from the ET values for the irrigation season for each crop type (Table 1 values).

| Year | ETr | ALFP | ALFM | PAST | LAWN | WGRN | SGRN | POTA | FCRN |
|---|---|---|---|---|---|---|---|---|---|
| 2014 | 34.62 | 28.02 | 23.22 | 17.41 | 23.00 | 17.68 | 14.31 | 14.31 | 11.93 |
| 2015 | 39.59 | 33.05 | 27.95 | 21.60 | 27.73 | 19.05 | 15.39 | 19.05 | 18.04 |
| 2016 | 43.42 | 38.93 | 32.98 | 26.34 | 32.61 | 22.68 | 21.20 | 22.84 | 20.68 |
| 2017 | 35.02 | 30.28 | 25.51 | 19.57 | 24.98 | 14.33 | 10.85 | 17.03 | 15.05 |
| 2018 | 37.82 | 31.02 | 25.88 | 19.19 | 25.47 | 18.56 | 14.67 | 15.94 | 16.76 |

**Table 5. CIR (Inches) for the Rexburg (RXGI) Idaho AgriMet weather station.**

The Consumptive Irrigation Requirement values for each crop type (Table 5 values) were then divided by 12 to convert from inches to feet.

| Year | ETr | ALFP | ALFM | PAST | LAWN | WGRN | SGRN | POTA | FCRN |
|---|---|---|---|---|---|---|---|---|---|
| 2014 | 2.88 | 2.33 | 1.93 | 1.45 | 1.92 | 1.47 | 1.19 | 1.19 | 0.99 |
| 2015 | 3.30 | 2.75 | 1.19 | 1.80 | 2.31 | 1.59 | 1.28 | 1.59 | 1.50 |
| 2016 | 3.62 | 3.24 | 2.75 | 2.19 | 2.72 | 1.89 | 1.77 | 1.90 | 1.72 |
| 2017 | 2.92 | 2.52 | 2.13 | 1.63 | 2.08 | 1.19 | 0.90 | 1.42 | 1.25 |
| 2018 | 3.15 | 2.59 | 2.16 | 1.60 | 2.12 | 1.55 | 1.22 | 1.33 | 1.40 |

**Table 6. CIR (Feet) for the Rexburg (RXGI) Idaho AgriMet weather station.**

**Step 4: Evaluating Crop Mixes**

The United States Department of Agriculture's (USDA) Cropland Data Layer (CDL) datasets for the most recent five years (2014-2018), the same five-year period as the ET and precipitation data, were downloaded from the NASS website (http://nassgeodata.gmu.edu/CropScape). Speckling in the CDLs was removed in ArcGIS using Zonal Statistics to assign the majority crop within the boundaries of polygons delineated by IDWR in an irrigated lands dataset. There were no IDWR irrigated lands datasets available for the years 2012-2018 so the 2011 IDWR Irrigated Lands dataset was utilized.

The irrigated lands proposed to be idled by the Teton Island Feeder Canal Company (through a lease of their water rights) were delineated in a shapefile submitted by TIFCC. The above steps enabled IDWR to calculate within ArcGIS the irrigated land crop mixes within the TIFCC irrigation water right place of use (POU) proposed to be idled, as well as within the within the entire service area for the canal company.

To ensure processing in ArcGIS was consistent for each CDL, a "geoprocessing" model named "WSB_CDL_Recharge" in the "WSB_CDL_Toolbox.tbx" was utilized. A subset of each CDL was created by extracting (clipping) the portion of the CDL that corresponded to the lease POU shapefiles. Crop types in the CDL that didn't match were grouped with a crop in the CDL of similar consumptive use. Crop types in the CDL that are not related to agriculture, such as "developed/open space", "deciduous forest", and "shrubland", were combined into a group named "z_Non-Crop". The acres for each crop type were calculated and the results are output into a Microsoft Excel spreadsheet.

| CDL Value | CDL Crop Name | Assigned to AgriMet Crop Code | AgriMet Crop Description |
|---|---|---|---|
| 1 | Corn | FCRN | Field Corn |
| 21 | Barley | SGRN | Spring Grain |
| 23 | Spring Wheat | SGRN | Spring Grain |
| 24 | Winter Wheat | WGRN | Winter Grain |
| 28 | Oats | SGRN | Spring Grain |
| 31 | Canola | SGRN | Spring Grain |
| 32 | Flaxseed | SGRN | Spring Grain |
| 35 | Mustard | SGRN | Spring Grain |
| 36 | Alfalfa | ALFM | Mean Alfalfa |
| 37 | Other Hay/Non Alfalfa | PAST | Pasture |
| 43 | Potatoes | POTA | Potatoes |
| 53 | Peas | SGRN | Spring Grain |
| 61 | Fallow/Idle Cropland | z_Non-Crop | --- |
| 111 | Open Water | z_Non-Crop | --- |
| 121 | Developed/Open Space | z_Non-Crop | --- |
| 122 | Developed/Low Intensity | z_Non-Crop | --- |
| 123 | Developed/Med Intensity | z_Non-Crop | --- |
| 131 | Barren | z_Non-Crop | --- |
| 141 | Deciduous Forest | z_Non-Crop | --- |
| 142 | Evergreen Forest | z_Non-Crop | --- |
| 152 | Shrubland | z_Non-Crop | --- |
| 176 | Grass/Pasture | PAST | Pasture |
| 190 | Woody Wetlands | z_Non-Crop | --- |
| 195 | Herbaceous Wetlands | z_Non-Crop | --- |

**Table. 7 Cross Reference of CDL and Rexburg (RXGI) AgriMet Weather Station Crop Types.**

**Step 5: Determining Diversion Volumes**

The total field headgate volume for the years 2014 through 2018 were calculated in Microsoft Excel for both the entire TIFCC POU as well as the acres proposed to be leased to the Bank. For each year analyzed, the number of acres of a particular crop type and the consumptive irrigation requirements of the crop (as obtained step 3 above) were input into Excel. The total consumptive irrigation requirement was calculated by multiplying the consumptive irrigation requirement for the crop with the total acres upon which a crop was grown in a given year. The result provided the total consumptive irrigation requirement for a specific crop, in a given year, for the entire Teton Island Feeder Canal Company POU as well as for the proposed acres to be idled within the Teton Island Feeder Canal Company POU.

Field headgate volumes and consumptive irrigation requirement field headgate volumes were calculated by dividing the annual totals of these variables by the acres where crops were observed, in a given year.

| Year | Crop | Acres | Consumptive Irrigation Requirement (Feet) | Consumptive Irrigation Requirement (AF) | Average Consumptive Use Volume (AF/Acre) | Efficiency (3.5 AF / 2.5 AF) | Field Headgate Volume (AF) | Field Headgate Volume (AF/Acre) |
|---|---|---|---|---|---|---|---|---|
| 2014 | ALFM | 4959.6 | 1.93 | 9,597 | | 1.4 | 13,435 | |
| 2014 | FCRN | 4.4 | 0.99 | 4 | | 1.4 | 6 | |
| 2014 | PAST | 491.5 | 1.45 | 713 | | 1.4 | 998 | |
| 2014 | POTA | 231.3 | 1.19 | 276 | | 1.4 | 386 | |
| 2014 | SGRN | 2555.8 | 1.19 | 3,048 | | 1.4 | 4,267 | |
| 2014 | WGRN | 95.0 | 1.47 | 140 | | 1.4 | 196 | |
| | Total | 8,338 | | 13,777 | 1.7 | | 19,288 | 2.3 |
| 2015 | ALFM | 5152.6 | 1.19 | 6,144 | | 1.4 | 8,602 | |
| 2015 | FCRN | 4.9 | 1.50 | 7 | | 1.4 | 10 | |
| 2015 | PAST | 38.9 | 1.80 | 70 | | 1.4 | 98 | |
| 2015 | POTA | 23.1 | 1.59 | 37 | | 1.4 | 51 | |
| 2015 | SGRN | 2825.3 | 1.28 | 3,624 | | 1.4 | 5,074 | |
| 2015 | WGRN | 93.2 | 1.59 | 148 | | 1.4 | 207 | |
| | Total | 8,138 | | 10,031 | 1.2 | | 14,043 | 1.7 |
| 2016 | ALFM | 4971.2 | 2.75 | 13,662 | | 1.4 | 19,126 | |
| 2016 | FCRN | 38.3 | 1.72 | 66 | | 1.4 | 92 | |
| 2016 | PAST | 24.0 | 2.19 | 53 | | 1.4 | 74 | |
| 2016 | POTA | 263.8 | 1.90 | 502 | | 1.4 | 703 | |
| 2016 | SGRN | 2774.4 | 1.77 | 4,901 | | 1.4 | 6,861 | |
| 2016 | WGRN | 18.0 | 1.89 | 34 | | 1.4 | 48 | |
| | Total | 8,090 | | 19,217 | 2.4 | | 26,904 | 3.3 |
| 2017 | ALFM | 5003.0 | 2.13 | 10,637 | | 1.4 | 14,892 | |
| 2017 | FCRN | 14.7 | 1.25 | 18 | | 1.4 | 26 | |
| 2017 | PAST | 337.6 | 1.63 | 551 | | 1.4 | 771 | |
| 2017 | POTA | 59.2 | 1.42 | 84 | | 1.4 | 118 | |
| 2017 | SGRN | 2677.8 | 0.90 | 2,422 | | 1.4 | 3,391 | |
| 2017 | WGRN | 1.8 | 1.19 | 2 | | 1.4 | 3 | |
| | Total | 8,094 | | 13,714 | 1.7 | | 19,200 | 2.4 |
| 2018 | ALFM | 5198.5 | 2.15 | 11,183 | | 1.4 | 15,657 | |
| 2018 | FCRN | 20.0 | 1.39 | 28 | | 1.4 | 39 | |
| 2018 | PAST | 283.1 | 1.59 | 451 | | 1.4 | 632 | |
| 2018 | POTA | 196.6 | 1.32 | 260 | | 1.4 | 364 | |
| 2018 | SGRN | 2446.6 | 1.22 | 2978 | | 1.4 | 4,169 | |
| | Total | 8,145 | | 14,900 | 1.8 | | 20,860 | 2.6 |
| | Minimum | 8,089.6 | | 10,030.5 | 1.2 | | 14,042.7 | 1.7 |
| | Maximum | 8,337.5 | | 19,217.2 | 2.4 | | 26,904.0 | 3.3 |
| | Average | 8,160.8 | | 14,327.9 | 1.8 | | 20,059.0 | 2.5 |
| | Median | 8,138.1 | | 13,777.4 | 1.7 | | 19,288.4 | 2.4 |

**Table 8. Historical Volumes Calculated for the Entire Teton Island Feeder Canal Company POU**

| Year | Crop | Acres | Consumptive Irrigation Requirement (Feet) | Consumptive Irrigation Requirement (AF) | Average Consumptive Use Volume (AF/Acre) | Efficiency (3.5 AF / 2.5 AF) | Field Headgate Volume (AF) | Field Headgate Volume (AF/Acre) |
|---|---|---|---|---|---|---|---|---|
| 2014 | ALFM | 415.7 | 1.93 | 804 | | 1.4 | 1,126 | |
| 2014 | PAST | 82.1 | 1.45 | 119 | | 1.4 | 167 | |
| 2014 | SGRN | 155.7 | 1.19 | 186 | | 1.4 | 260 | |
| | Total | 653 | | 1,109 | 1.7 | | 1,553 | 2.4 |
| 2015 | ALFM | 373.8 | 1.19 | 446 | | 1.4 | 624 | |
| 2015 | SGRN | 156.3 | 1.28 | 201 | | 1.4 | 281 | |
| 2015 | WGRN | 0.4 | 1.59 | 1 | | 1.4 | 1 | |
| | Total | 531 | | 647 | 1.2 | | 906 | 1.7 |
| 2016 | ALFM | 387.6 | 2.75 | 1,065 | | 1.4 | 1,491 | |
| 2016 | FCRN | 3.3 | 1.72 | 6 | | 1.4 | 8 | |
| 2016 | SGRN | 132.8 | 1.77 | 235 | | 1.4 | 328 | |
| 2016 | WGRN | 2.4 | 1.89 | 5 | | 1.4 | 6 | |
| | Total | 526 | | 1,310 | 2.5 | | 1,834 | 3.5 |
| 2017 | ALFM | 364.7 | 2.13 | 775 | | 1.4 | 1,086 | |
| 2017 | FCRN | 3.3 | 1.25 | 4 | | 1.4 | 6 | |
| 2017 | PAST | 129.9 | 1.63 | 212 | | 1.4 | 297 | |
| 2017 | POTA | 0.9 | 1.42 | 1 | | 1.4 | 2 | |
| 2017 | SGRN | 32.9 | 0.90 | 30 | | 1.4 | 42 | |
| 2017 | WGRN | 0.4 | 1.19 | 1 | | 1.4 | 1 | |
| | Total | 532 | | 1,023 | 1.9 | | 1,432 | 2.7 |
| 2018 | ALFM | 375.2 | 2.15 | 807 | | 1.4 | 1,130 | |
| 2018 | FCRN | 3.3 | 1.39 | 5 | | 1.4 | 6 | |
| 2018 | PAST | 107.2 | 1.59 | 171 | | 1.4 | 239 | |
| 2018 | POTA | 0.9 | 1.32 | 1 | | 1.4 | 2 | |
| 2018 | SGRN | 31.8 | 1.22 | 39 | | 1.4 | 54 | |
| | Total | 518 | | 1,022 | 2.0 | | 1,431 | 2.8 |
| | Minimum | 518.4 | | 647.0 | 1.2 | | 905.9 | 1.7 |
| | Maximum | 653.4 | | 1,310.2 | 2.5 | | 1,834.3 | 3.5 |
| | Average | 552.2 | | 1,022.3 | 1.9 | | 1,431.3 | 2.6 |
| | Median | 530.6 | | 1,023.0 | 1.9 | | 1,432.3 | 2.7 |

**Table 9. Historical Volumes Calculated for the Teton Island Feeder Canal Company Lease POU**

**Step 6: Establish Rental Volume Limits**

The highest average annual field headgate diversion volume observed during recent years was in 2016, when a consumptive irrigation requirement (based on crop type, temperature and precipitation deficit information) was calculated as 2.4 afa/acre, or 19,217 af for the overall canal company service area. Specific to the lease place of use, during 2016, an approximately equivalent field headgate standard for the consumptive use volume (2.5 afa/ac) was calculated, which provided overall consumptive use diversion volume of 1,310 acre feet for the portions of the water rights that have been leased to the Bank.

The use of portions of TIFCC's irrigation water rights for recharge is not expected to result in significant changes to return flows (during the rental) that would otherwise historically have occurred when TIFCC used their water rights to irrigate their overall place of use. Because TIFCC's recharge rental is expected to be largely non-consumptive, limiting the rental to historic consumptive use was not considered as required, because the non-consumptive use extent of overall diversion volumes relied upon by TIFCC for irrigation use can be dedicated to a recharge rental without necessarily causing injury or enlargement.

The TIFCC irrigation water rights do not feature a volume limit, however one was established for the lease of portions of these water rights, by multiplying the lease acres (1354.0) by the regional headgate standard (3.5) to establish a maximum irrigation rental volume.

**Summary of the TIFCC water right elements leased under contract to the WSB**

| | Leased Diversion Rate (cfs) | Leased Annual Diversion Volume (AF) | Leased Acres |
|---|---|---|---|
| **Lease Totals** | 85.81 cfs | 4,739.0 af | 1,353.9 ac |

The maximum annual average field headgate standard observed and calculated for TIFCC for their entire service area was in 2016 (3.3 afa/ac). The diversion volume limit authorized for TIFCC's recharge rental was calculated by multiplying this amount by the total acres leased to the Bank by TIFCC (1354.0 acres). The diversion volume limit for TIFCC's rental was calculated to be 4,468.2 AF.

**Summary of the maximum extent of TIFCC's recharge rental from the WSB**

| | Rented Diversion Rate (cfs) | Rented Annual Diversion Volume (AF) | Rental Acres |
|---|---|---|---|
| **Rental Totals** | 85.81 cfs | 4,468.2 af | 0 ac |

On December 27, 2019 TIFCC confirmed that the maximum recharge extent desired during 2020 should be 1,500 af. Maintaining a proportionate ratio of 1:1.02 for authorized recharge volume to irrigation volumes rented, a permissible recharge volume of 1,500 af is equivalent to 1,529.3 af, as follows:

**Summary of the maximum extent of TIFCC's recharge rental from the WSB for 2019**

| | Rented Diversion Rate (cfs) | Rented Annual Diversion Volume (AF) | Rental Acres |
|---|---|---|---|
| **Rental Totals** | 27.69 cfs | 500.0 af | 0 ac |

## Buyer, Remington

**From:** aaron.fmid@myidahomail.com
**Sent:** Wednesday, April 24, 2019 11:31 AM
**To:** Buyer, Remington
**Cc:** Edl, Michele
**Subject:** RE: Sunset Lake Farms Pond Rental Location
**Attachments:** Cornelison Permission.pdf; Sunset lake Soils Report.pdf; Sunset Lake Soils Map.pdf; Cornelison Soils Map.pdf; Cornelison Soils Report.pdf; Cornelison Pond Recharge Site.pdf

Remington,

Sorry I'm slow getting back to you on this. We were having some GIS issues and I wanted to get you a map for an additional recharge site as a part of the response to this email.

We do not have any records of how much water is delivered to the pond during the irrigation season. The canal company puts water in it at the beginning of the irrigation season to bring up the sub water level. They have to do this in order to flood irrigate the surrounding farmland. As they get into the irrigation season they use it as a site for operation spill to help manage the flows in their canal. They tell me it is never really full during the irrigation season but does have water in it through the year.

I included NRCS soils data for the Sunset Lake area. It is primarily made up of Whithers Silty Clay Loam. According to the Soils Report, below 5ft it is made up of primarily sandy gravel with almost no water holding capacity indicating high infiltration. Sunset lake is over 30ft deep at its deepest points.

There are not currently measurement devices at the pond but it would be easy to install. We have already discussed this with a contractor and once this becomes an approved recharge site we will have the measurement devices installed.

Additionally we have also obtained permission for one addition recharge site. See Cornelison Pond Recharge Site Map attached. This pond is operated in a similar way but is not as deep.

I also included soils report for this pond again indication high infiltration below 5ft deep. This pond is 10-15 ft deep for the most part.

We will also need to install a measurement device on this pond.

I hope this helps move the applications forward.

Thanks,

Aaron Dalling
Fremont-Madison Irrigation District
Email:aaron.fmid@myidahomail.com
Office:(208)624-3381
Cell:(208)403-8474

**From:** Buyer, Remington <Remington.Buyer@idwr.idaho.gov>
**Sent:** Thursday, April 18, 2019 3:01 PM
**To:** aaron.fmid@myidahomail.com

**Cc:** Edl, Michele <Michele.Ed[illegible]idwr.idaho.gov>
**Subject:** Sunset Lake Farms Pond Rental Location

Aaron,

IDWR has some questions about the location where Teton Island Feeder Canal Company (TIFCC) intends to run recharge water under a Water Supply Bank rental (WSB Rental Application 1365). There do not appear to be any water rights associated with the Sunset Lake Farms pond and we're trying to determine how and under what water use authorizations water is diverted and delivered to the pond. What is the nature of this pond? I am presuming that this pond is the termination point for a segment of the TIFCC canal system—is that correct?

A review of satellite imagery from 2018 indicates that water begins to accrue in the pond in early spring, and the pond then stays full until late autumn or early winter. Do you have any records of when and how much and how quickly water is delivered to the pond during the irrigation season?

Do you have an idea of the extent of additional water that would be delivered to the pond through a rental of TIFCC's leased water rights, above and beyond what would typically be delivered to the pond, absent a recharge rental?

Do you have any data on the rate of infiltration from the surface into the ground at this location?

Are there measurement devices located at the pond, to determine instantaneous and daily delivery of water to the pond?

Thanks for your answers to the above,

Remington

**Teton Island Feeder Canal Company**
**386 North 2400 E**
**Saint Anthony, Idaho 83445**
**208-624-3381**



Remington Buyer
Water Supply Bank
Idaho Department of Water Resources
322 E Front ST STE 648
PO BOX 83720
Boise, ID 83720-0098

March 11, 2019

Dear Remington,

Please find our applications to lease water and application to rent water enclosed. We are submitting the lease applications and rental application as a package in order to lease back our own water. The purpose of the applications is to change the nature of use for the leased water from irrigation to aquifer recharge for the period of the lease.

We did not submit a W-9 form because we will not be receiving a payment from the Water Supply Bank.

The map detailing the acreages to be dried up was sent via email as a shapefile.

We calculated the volume for the lease based on the 5-year diversion average for the Teton Island Feeder Canal Company and divided it by the total acres listed on the water rights as further described in attachment 3A.

If you have questions, please contact me, Rod Dalling (208)390-2573 or Aaron Dalling (208)624-3381.

Sincerely,

Rod Dalling,
President-Teton Island Feeder Canal Company

Enclosures:

## Attachment 1D

3-11-2019

TO: The Idaho Water Supply Bank

The Teton Island Feeder Canal Company authorizes Aaron Dalling of Fremont-Madison Irrigation District as the authorized representative in regard to the Water Supply Bank application to lease water.

Rodney Dalling, President Teton Island Feeder Canal Company