

## APPLICATION FOR TRANSFER OF WATER RIGHT – POINT(S) OF DIVERSION

This form may be used to apply to change and/or add points of diversion for existing water rights and to report an ownership change for a water right(s) in connection with the proposed point of diversion change(s). Do not use this form to apply for changes to other elements of a water right. See the Application for Transfer Instructions for help completing this form and for mailing addresses of Department offices where your application can be submitted.

Check all that apply:

- ☐ Change diversion point(s) ☒ Add diversion point(s) ☐ Ownership change ☐ Ownership split

1. **APPLICANT(S)** Kelly David Hill Phone (208) 538-7408  
 2. **MAILING ADDRESS** 4555 E 200 N City Rigby  
 State ID Zip 83442 Email \_\_\_\_\_

- ☐ If the applicant is not an individual and not registered to do business in the State of Idaho, attach documentation identifying officers authorized to sign for the applicant.  
☐ If the applicant is not the current water right(s) owner, attach documentation of authority to file the application.  
☐ If the application includes a change in ownership of water right(s), attach a copy of the conveyance document, such as a warranty deed, court decree, contract of sale, etc. The conveyance document must include a legal description of the property conveyed or description of the water right if no land is conveyed. Additional fee(s) are required for water right ownership changes; see Item 9 for the fee schedule.

If the ownership change resulted in the water right(s) being split, how did the division occur? Mark one:

- ☐ The water rights or claims were divided as specifically identified in a deed, contract, or other conveyance document.  
☐ The water rights or claims were divided proportionately based on the portion of their place(s) of use acquired by the new owner.  
☐ If the application is not signed by the applicant, attach a Power of Attorney or other documentation providing authority to sign for the applicant.

3. **LIST WATER RIGHT NUMBER(S)** 01-10028

- ☒ Attach a copy of the water right(s) as recorded, available at www.idwr.idaho.gov, *Water Right Transfers, Step 1*, or by contacting any Department office.

4. **TOTAL AMOUNT OF WATER** transferred is 2.0 cubic feet per second and/or \_\_\_\_\_ acre-feet per annum.  
 (diversion rate) (storage volume)

5. **POINT OF DIVERSION** – Describe all the point(s) of diversion to be included on the water right(s) after the proposed change.

- ☐ Attach Eastern Snake Plain Aquifer (ESPA) analysis if this transfer proposes to change a point of diversion affecting the ESPA. ESPA analysis information is available at www.idwr.idaho.gov, *Water Right Transfers, Online Resources*.

| New? | Lot | ¼  | ¼  | ¼  | Sec | Twp | Rge | County    | Source      | Local name or tag # |
|------|-----|----|----|----|-----|-----|-----|-----------|-------------|---------------------|
|      |     | SW | NW | SE | 36  | 4N  | 40E | JEFFERSON | SNAKE RIVER | MATTSON-CRAIG       |
| Y    |     | NE | SE | NE | 35  | 4N  | 40E | JEFFERSON | SNAKE RIVER | HILL PUMP           |
|      |     |    |    |    |     |     |     |           |             |                     |
|      |     |    |    |    |     |     |     |           |             |                     |
|      |     |    |    |    |     |     |     |           |             |                     |
|      |     |    |    |    |     |     |     |           |             |                     |
|      |     |    |    |    |     |     |     |           |             |                     |
|      |     |    |    |    |     |     |     |           |             |                     |
|      |     |    |    |    |     |     |     |           |             |                     |

## 6. GENERAL INFORMATION

- a. Describe the complete diversion system, including how you will accommodate a measuring device and lockable controlling works should they be required now or in the future:

Water is diverted through the Mattson-Craig ditch and delivered to a small pond. An existing pump in the pond then rediverts the water into the irrigation system.

- b. Who owns the property at the point(s) of diversion? Applicant owns property of proposed new POD

If other than the applicant, describe the arrangement enabling the applicant to access the property for the diversion system:

- c. To your knowledge, has/is any portion of the water right(s) proposed to be changed:

Yes No

- ☐ ☒ undergone a period of five or more consecutive years of non-use,  
☐ ☒ currently used in a mitigation plan limiting the use of water under the right(s), or  
☐ ☒ currently enrolled in a Federal set-aside program limiting the use of water under the right(s)?

If yes, describe:

- d. Is any portion of the water right(s) proposed to be changed currently leased to the Water Supply Bank? ☐ Yes ☒ No

- ☐ If yes and there are multiple owners, attach a Lessor Designation form.  
☐ If yes, the individual owner or designated lessor must complete, sign and attach an IRS Form W-9.  
(Disregard if these items are on file and ownership has not changed.)

7. **MAP** - ☒ Attach a map of the diversion, measurement, control and distribution system. Include the place of use if a split of the water right occurred. Clearly label the map with township, range, section and  $\frac{1}{4}$   $\frac{1}{4}$  of section information. The *Map Tool*, available at [maps.idwr.idaho.gov/TransferApplicationLayouts/](http://maps.idwr.idaho.gov/TransferApplicationLayouts/) provides a satisfactory template for creating the required map.

8. **SIGNATURE** - The information in this application is true to the best of my knowledge. I understand any willful misrepresentations in this application may result in rejection of the application or cancellation of an approval.

Kelly Hill  
Signature of applicant or authorized agent

Kelly Hill  
Print name and title if applicable

3-29-18  
Date

\_\_\_\_\_  
Signature of applicant or authorized agent

\_\_\_\_\_  
Print name and title if applicable

\_\_\_\_\_  
Date

9. **FEE** - ☒ The application filing fee provided in Section 42-221, Idaho Code, must be submitted with the application for transfer. The Application fee is based on the total amount of water proposed for transfer in Item 4: the larger fee for either cubic feet per second (diversion rate) or acre-feet per annum (storage volume). The Fee Schedule is available at [www.idwr.idaho.gov](http://www.idwr.idaho.gov), *Water Right Transfers, Step 4* and in the Application for Transfer Instructions.

## FOR DEPARTMENT USE ONLY

Transfer includes \_\_\_\_\_ pages of attachments. Received by \_\_\_\_\_ Date \_\_\_\_\_

Fee paid 580 Date 4/3/18 Received by SL Receipt # ED43856

Preliminary review by \_\_\_\_\_ Date \_\_\_\_\_ Active in the Water Supply Bank? Yes ☐ No ☐

W-9 received? Yes ☐ No ☐ Name on W-9 \_\_\_\_\_ W-9 forwarded to fiscal? Yes ☐ No ☐

(Do NOT scan the W-9 – confidential information is held by fiscal only)

IDAHO DEPARTMENT OF WATER RESOURCES  
Water Right Report

3/20/2018

WATER RIGHT NO. 1-10028

| <u>Owner Type</u> | <u>Name and Address</u>                                           |
|-------------------|-------------------------------------------------------------------|
| Current Owner     | KELLY DAVID HILL<br>4555 E 200 N<br>RIGBY, ID 83442<br>2085387408 |

Priority Date: 04/30/1900

Basis: Decreed

Status: Active

| <u>Source</u> | <u>Tributary</u> |
|---------------|------------------|
| SNAKE RIVER   | COLUMBIA RIVER   |

| <u>Beneficial Use</u> | <u>From</u> | <u>To</u> | <u>Diversion Rate</u> | <u>Volume</u> |
|-----------------------|-------------|-----------|-----------------------|---------------|
| IRRIGATION            | 04/01       | 10/31     | 2 CFS                 |               |
| Total Diversion       |             |           | 2 CFS                 |               |

Location of Point(s) of Diversion:

SNAKE RIVER|SWNWSE|Sec. 36|Township 04N|Range 40E|JEFFERSON County

Place(s) of use:

Place of Use Legal Description: IRRIGATION JEFFERSON County

| <u>Township</u> | <u>Range</u> | <u>Section</u> | <u>Lot</u> | <u>Tract</u> | <u>Acres</u> | <u>Lot</u> | <u>Tract</u> | <u>Acres</u> | <u>Lot</u> | <u>Tract</u> | <u>Acres</u> | <u>Lot</u> | <u>Tract</u> | <u>Acres</u> |
|-----------------|--------------|----------------|------------|--------------|--------------|------------|--------------|--------------|------------|--------------|--------------|------------|--------------|--------------|
| 04N             | 40E          | 35             |            | NENE         | 36           |            | SENE         | 18           |            |              |              |            |              |              |

Total Acres: 54

823514

## Conditions of Approval:

1. P21 This right is a split from former right 1-125A.
2. C18 This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.
3. F01 Water is delivered through Mattson-Craig Canal.
4. E17 Use of this right is combined with water from Palisades Reservoir.

## Dates:

Licensed Date:

Decreed Date: 09/14/2007

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

## Other Information:

State or Federal: S

Owner Name Connector:

Water District Number:

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

82351

## **Support of Application for Transfer Water Right No. 01-10028**

*Kelly Hill*

Kelly Hill is the owner of water right 01-10028 for the irrigation of 54 acres from the Snake River. The water right has historically been diverted from the Snake River through the Dry Bed canal to the Mattson-Craig Ditch, which delivers the water to the Hill property. Originally, the farm was flood irrigated but has since been updated to pressurized sprinkler. Currently the ditch delivers water into a pond from which it is pumped into the irrigation system. The pond is 0.3 acres in surface area and about 8-10 feet deep holding approximately 1.0 acre-foot. Water levels in the pond are directly related to water in the Dry Bed; the pond fills by itself when the Dry Bed canal, about 60 feet away, is full.

Applicant also owns 150 acre feet of storage water through Palisades Water Users. If water right 01-10028 is curtailed based upon priority date, the storage water can then be delivered through the Mattson-Craig Ditch for continued irrigation.

This application proposes to add another point of diversion from which the water right can be legally diverted. No changes will occur with the original diversion at the Mattson-Craig headgate as it is intended that it will continue to be the primary diversion. However, seepage losses in both the Mattson-Craig Ditch and the farm ditch make it less efficient when delivering a limited supply of storage water. As an alternative, it is proposed to add the existing pump that pertains to the current pressurized irrigation system (located in the pond) as its own separate authorized point of diversion.

A hydrologic analysis was performed to determine the extent of connectivity of the pond to the Dry Bed canal. Figure 1 illustrates the relationship of the location of a pond adjacent to the canal, and between the canal and the South Fork of the Snake River. To evaluate the effect that pumping from a pond at the "Proposed POD" location would have upon flows in the Dry Bed canal, an adaptation of the Glover/Balmer/Jenkins method was employed (Contor, 2011). This adaption was developed by Idaho Water Resources Research Institute for use in a recharge study, and is based on earlier work by Miller, Durnford, Halstead, Altenhofen and Van Flory (2007).

### ***Data***

The method used requires three inputs for a scenario characterized by a well located between two linear water features (usually streams) in hydraulic communication with the same aquifer as the well. The inputs are:

- Geometric relationships between the Point of Diversion and the linear features;

- Aquifer storage coefficient;
- Aquifer transmissivity.

The data for the analysis was obtained from the following sources:

- US Department of Agriculture NAIP aerial photography (2018);
- Enhanced Snake Plain Aquifer Model Version 2.1 (Idaho Department of Water Resources, 2013)

## **Methods**

The connection between the two linear features (the South Fork of the Snake River, and the Dry Bed canal) and the aquifer was ascertained from visual observation of multiple ponds, apparently groundwater-fed, in the area between the two linear features. Geometric relationships were determined from Geographic Information Systems (GIS) processing using the features visible in the aerial image. Aquifer properties were obtained from the ESPAM2.1 data set.

## **Results**

Figure 2 provides a close-up view of the representations of geometry used in the analysis, with a wider view shown in Figure 3. The south boundary line, representing the Dry Bed, is drawn to approximate the average linear alignment in the vicinity of the proposed Point of Diversion (pPOD), and more importantly, to be approximately the same distance from the POD as the centroid of the point is from the bank of the Dry Bed.

The mathematical underpinnings of the method assume parallel linear features. Because the South Fork is nearer the Dry Bed on the east than on the west, the line representing the South Fork was drawn nearer to the pPOD than the actual perpendicular distance, but approximately equal to the radial distance between the pPOD and the South Fork to the east. This is a conservative assumption in that the nearer the second stream is to the pPOD, the smaller the fraction of pumping that will be attributed to the first stream. The selected Dry Bed canal boundary is 165 feet from the pPOD and the selected South Fork boundary is 2751 feet.

Figure 3 also illustrates the aquifer properties derived from ESPAM2.1. The transmissivity values (bold, italic print in yellow) are the base-10 logarithm of transmissivity, and the value in both of the model cells of interest is 4.04. Hence, a transmissivity of  $10^{4.04}$ , or 10,064.78, feet<sup>2</sup>/day is used in the analysis. The storage coefficients are in white regular font. The cell containing more of the perpendicular line has a modeled storage coefficient of 0.120174, while the cell containing more of the direct path to the South Fork on the east has a modeled storage coefficient of 0.109593. A value of 0.11 was used in the analysis.

Figure 4 shows the results of the Jenkins analysis. The horizontal axis is time in days, and the calculations were done on a 0.1 day basis. The vertical axis is " $q/Q$ ," which represents the ratio of pumping rate expressed at the linear boundary ( $q$ ) to pumping from the well ( $Q$ ). **After one day of pumping, 71.1% of the pumping rate is indicated to be expressed (from) at the Dry Bed, and almost none is indicated to be expressed (from) at the South Fork.** The value of 71.1% exceeds 50.0% which is the measured threshold set by IDWR for determining a sufficient hydraulic connection of a well to a surface water source of which the water right pertains thereto.

### ***Administration***

The water right or the storage water will not be delivered through and accounted to both diversions simultaneously. Two delivery scenarios may occur:

- (1) Water will be delivered through the Mattson-Craig Ditch into the pond where the pond pump will act as a redirection of the water into the irrigation system. In this scenario, the water right/storage water will be accounted to the Mattson-Craig diversion.
- (2) Water will be delivered through the point of diversion in the pond into the irrigation system. The water right/storage water owned by Hill will be accounted only to the pond pump. No water will be accounted to the Mattson-Craig Ditch.

Applicant will cooperate with the water master of the Mattson-Craig Ditch to ensure the water right/storage water are accounted properly.

### ***Summary***

The existing original POD of the Mattson-Craig Ditch, will be used as the primary diversion for delivering the Hill water right 01-10028 and portions of the pertaining Palisades storage water. Water from the Mattson-Craig Ditch conveyed to the pond is then redirected through the existing pump into a pressurized sprinkler irrigation system. The proposed POD, the existing pump in the pond, will be used as a "stand alone" secondary point of diversion for when the Hill water right is out of priority or otherwise when water delivered from the Mattson-Craig Ditch is not reasonably available but water is still flowing in the Dry Bed canal. The hydrologic analysis described herein shows that 71.1% of the water diverted from the pond comes directly from the Dry Bed after just one day of pumping exceeding the 50% threshold set by IDWR. Diverting directly from the pump while relying upon subsurface seepage from the Dry Bed will limit delivery losses that would otherwise occur through delivery from the ditches. Therefore, whether through the Mattson-

Craig Ditch or the pond pump, the Hill water right or storage water is delivered from the Dry Bed.

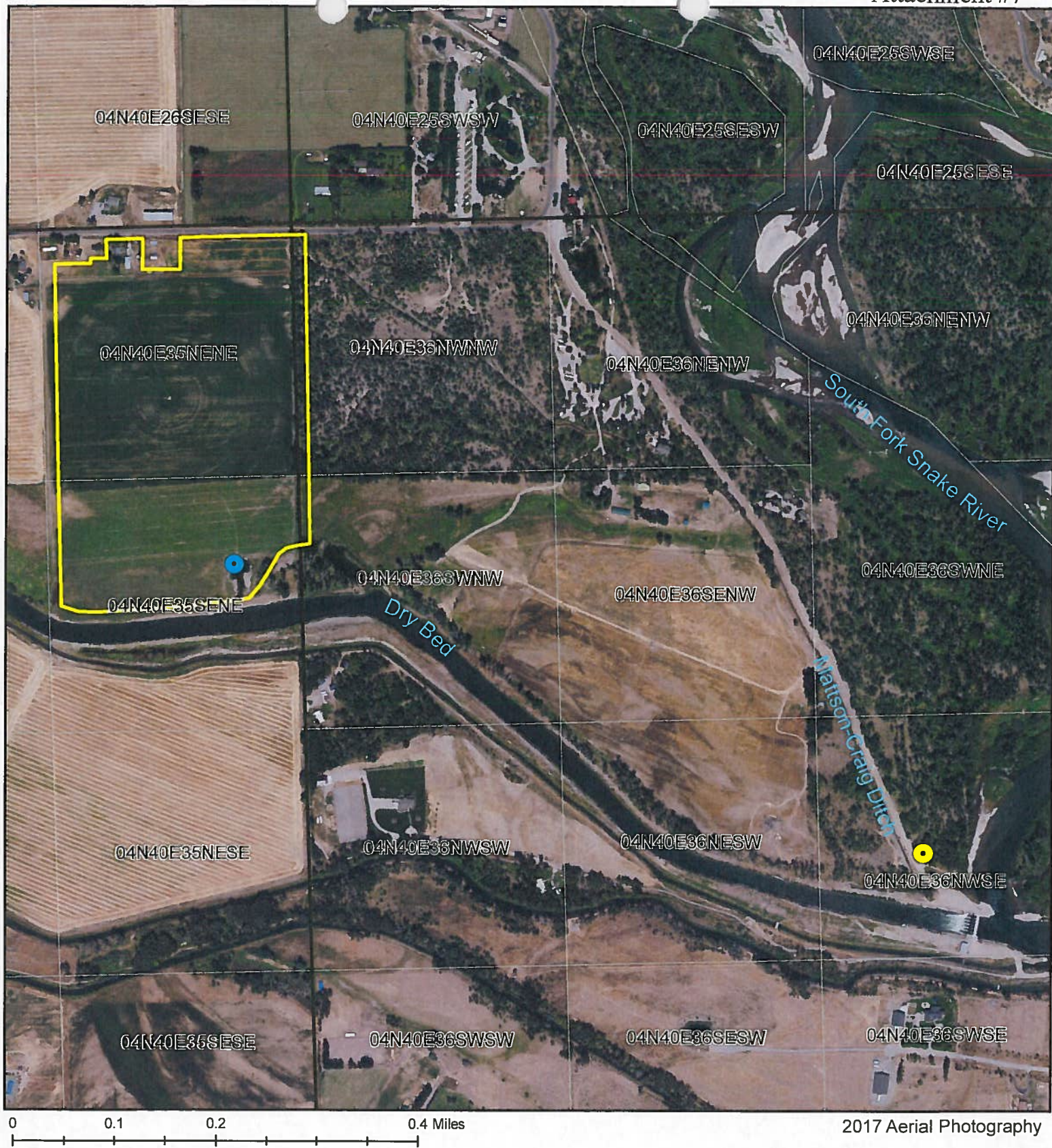
## References

Contor, Bryce A. 2011. Adaptation of the Glover/Balmer/Jenkins Analytical Stream-Depletion Methods for No-flow and Recharge Boundaries. Idaho Water Resources Research Institute Technical Completion Report 201101.

Idaho Department of Water Resources with guidance from the Eastern Snake Hydrologic Modeling Committee. 2013. Enhanced Snake Plain Aquifer Model Version 2.1 Final Report.

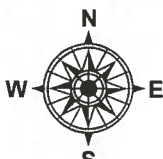
Miller, C.D., D. Durnford, M.R. Halstead, J. Altenhofen and Val Flory. 2007. *Stream Depletion in Alluvial Valleys Using the SDF Semianalytical Model*. Ground Water 45, no. 4. 506-514.

US Department of Agriculture Farm Service Agency. 2018. National Agricultural Imagery Program image for Jefferson County Idaho, 2017.  
<https://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/>



### Legend

- Proposed POD
- Existing POD
- WR POU
- Twp & Rng
- Section
- QQ



**82351**

## Application for Transfer - POD

### Kelly Hill

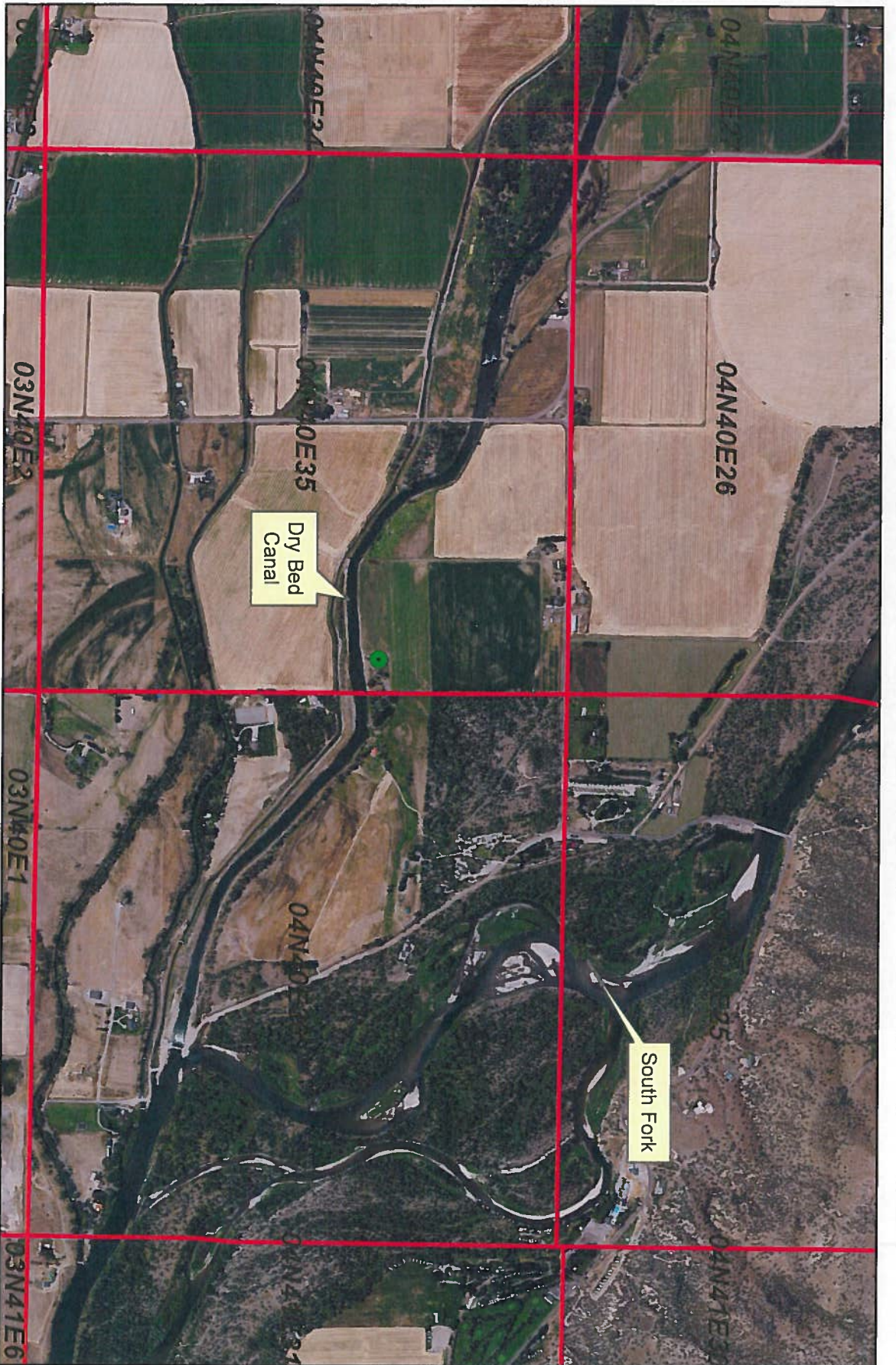
RMEA #18-0037

by: KM

Date: 4/3/2018



**Rocky Mountain**  
**ENVIRONMENTAL**  
ASSOCIATES, INC.



482 Constitution Way, Suite 303  
Idaho Falls, ID 83402 208-524-2353

Figure 1: Location and Physical Features  
Two-boundary Jenkins/Glover/Balmer  
Analysis  
Project 18-0037

Proposed POD

PLS Sections



482 Constitution Way, Suite 303  
Idaho Falls, ID 83402 208-524-2353

Figure 2: Geometry Detail

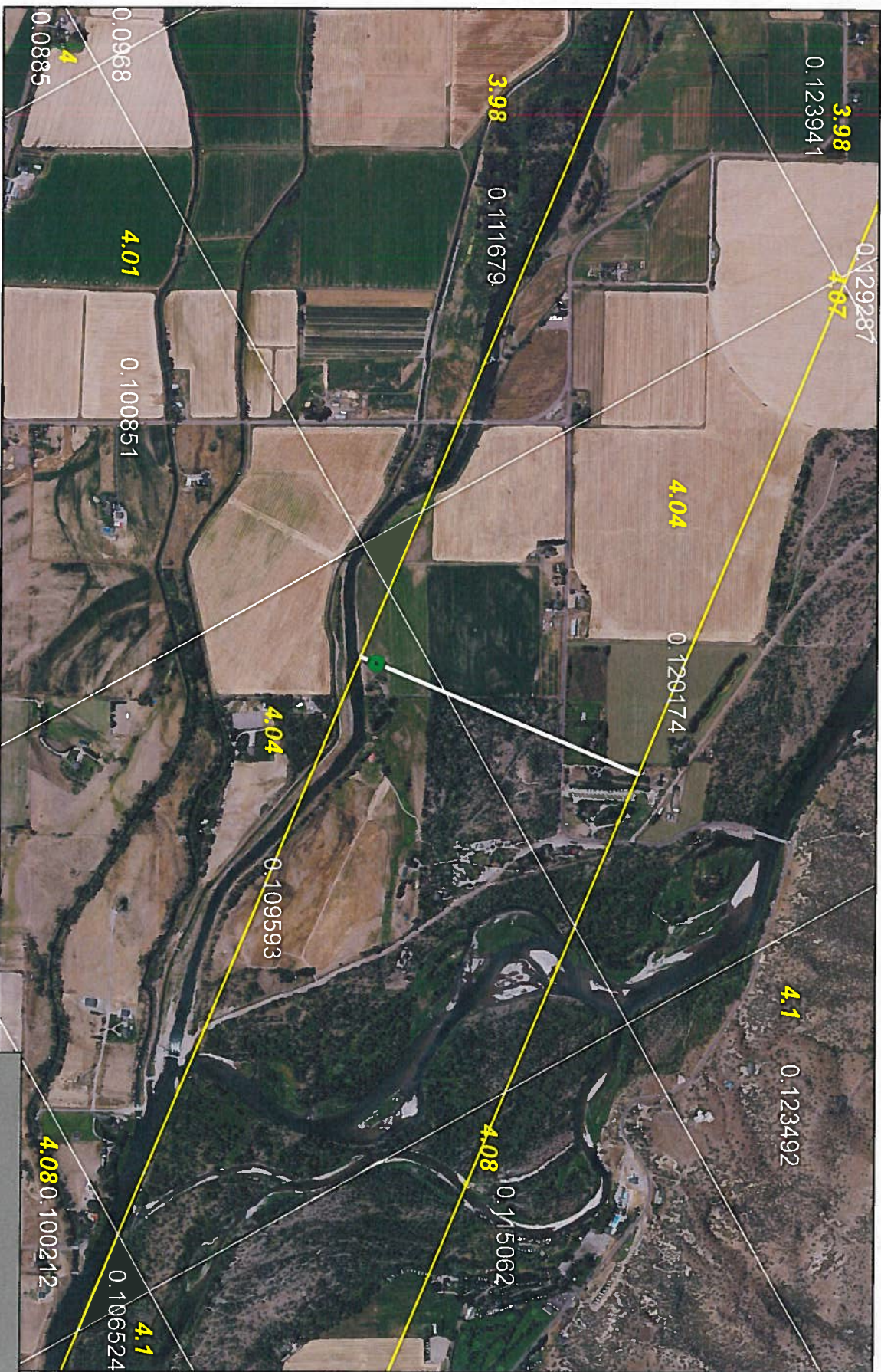
Two-boundary Jenkins/Glover/Balmer  
Analysis

Project 18-0037

Proposed POD

Boundaries

Perpendicular



482 Constitution Way, Suite 303  
Idaho Falls, ID 83402 208-524-2353

Figure 3: Aquifer Properties

Two-boundary Jenkins/Glover/Balmer  
Analysis

Project 18-0037

- Proposed\_POD
- Boundaries
- Perpendicular
- Storage Coefficient
- Log 10 Transmissivity

Figure 4  
Jenkins Two-River Analysis

