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SEP 30 2020

DEPT OF WATER RESOURCES
SOUTHERN REGION

E-mail

WITHDRAWAL

OF

APPLICATION FOR TRANSFER OF WATER RIGHT(S)

I/We, WELDON WANKIER and MARILYN J. WANKIER,
(Applicant's Printed Name) (Applicant's Printed Name)

_____ and _____,
(Applicant's Printed Name) (Applicant's Printed Name)

hereby withdraw our Application for Transfer No. 83995 of Water Right

No(s). 37-23095

Signed this 29th day of September, 20 .

Weldon Wankier

(Signature/Title of Applicant)

WELDON & MARILYN WANKIER
WELDON & MARILYN WANKIER
LIVING TRUST
PO BOX 194
SUN VALLEY ID 83353-0194

(Signature/Title of Applicant)

(Signature/Title of Applicant)

(Signature/Title of Applicant)

Database Updated
9/30/2020 *DM*

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APR 03 2020

DEPT OF WATER RESOURCES
SOUTHERN REGION

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. 83995

MINIMUM REQUIREMENTS CHECKLIST
TO BE SUBMITTED WITH APPLICATION FOR TRANSFER

WITHDRAWN

An application for transfer must be prepared in accordance with the minimum requirements listed below to be acceptable for processing by the Department. Incomplete applications will be returned. The instructions, fee schedule, Part 2A reports and additional Part 2B forms are available from any Department office or on the Department's website at idwr.idaho.gov.

Name of Applicant(s) Weldon & Marilyn Wankier Living Trust

Check whether each item below is *attached* (Yes) or *not applicable* (N/A) for the proposed transfer.

Yes N/A * Means the item is always required and must be included with the application.

- * Completed Application for Transfer of Water Right form, Part 1.
- * Signature of applicant(s) or applicant's authorized representative on Application for Transfer Part 1. Include evidence of authority labeled Attachment #3 (see below) if signed by representative.
- * Application for Transfer Part 2A. Attach a [Part 2A](#) report describing each water right in the transfer as currently recorded.
- Complete and attach an Application for Transfer [Part 2B for each water right](#) for which only a portion is proposed to be changed through this transfer application.
- * Application for Transfer Part 3A is always required (see Attachment #7a below); Parts 3B and 3C must be completed for transfer applications proposing to change the nature of use of the water right(s) or proposing changes to supplemental right(s).
- * Correct fee submitted with transfer application form. ([Fee schedule](#) is on website and instructions for application for transfer.)

Attachments to Application - Label each attachment with the corresponding number shown below as Attachment #1-10.

- #1 If the applicant is a business, partnership, organization, or association, and not currently registered in the State of Idaho as a business entity, attach documentation identifying officers authorized to sign or act on behalf of right holder. (See Part 1.)
- #2a Water Right ownership documentation if Dept. records do not show the applicant as the current water right owner. **
- #2b If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s).**
** Additional fee(s) required for water right ownership changes; see fee schedule.
- #3 Documentation of authority to make the change if the applicant is not the water right owner.
- #4 Power of Attorney or documentation providing authority to sign or act on the applicant's behalf. (See Part 1.)
- #5 If the transfer application proposes to change the point of diversion for a water right affecting the Eastern Snake Plain Aquifer (ESPA), attach the results of an ESPA analysis and a detailed mitigation plan to offset any depletions to hydraulically connected reaches of the Snake River. ESPA transfer spreadsheet and model grid labeled cells are available on the Department's website at idwr.idaho.gov/water-rights/transfers/resources.html.
- #6 Notarized statement of agreement or a statement on official letterhead signed by an authorized representative from each lien holder or other entity with financial interest in the water right(s) or land affected by the proposed transfer. (See Part 1.5.c.)
- * #7a Attach a map identifying the proposed point(s) of diversion, place(s) of use, and water diversion and distribution system details as described on the application. Include legal description labels. If only a portion of the right is proposed to be changed, identify the current location of the part of the existing right(s) proposed to be changed. (See Part 3A.)
- #7b If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. If some or all of any right is leased to the Water Supply Bank, you must also show the the specific location and/or acres to be idled at the new, proposed place of use to satisfy lease requirements.
- #8a If the transfer application proposes to change the nature of use or period of use for one or more rights, provide documentation describing the extent of historic beneficial use for the water rights proposed to be transferred and document how enlargement will be avoided. (See Part 3B.) Additional fee required for proposed changes to nature of use; see [fee schedule](#).
- #8b If the transfer application proposes to change the place of use of a supplemental irrigation right, provide documentation regarding the historic use of the supplemental right(s) and availability or reliability of the primary right(s) being supplemented, both before and after the proposed change. (See Part 3C.)
- #9 Water Supply Bank information for all rights proposed for transfer and currently leased to the Bank. ([Attachment WSB](#))
- #10 Other. Please describe: _____

WITHDRAWN

APR 03 2020

DEPT OF WATER RESOURCES SOUTHERN REGION

APPLICATION FOR TRANSFER OF WATER RIGHT PART 1

Name of Applicant(s) Weldon & Marilyn Wankier Living Trust Phone 208-720-5526
Mailing address P.O. Box 194 Sun Valley, ID 83353 Email

- If applicant is not an individual and not registered to do business in the State of Idaho, attach documentation identifying officers authorized to sign or act on behalf of the applicant. Label it Attachment #1.
Attach water right ownership documentation if Department records do not show the transfer applicant as the current water right owner. Label it Attachment #2a.
If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s). Label it Attachment #2b.
Attach documentation of authority to make the proposed change if the applicant is not the water right owner. Label it Attachment #3.

Provide contact information below if a consultant, attorney, or any other person is representing the applicant in this transfer process.

No Representative

Name of Representative Zach Latham, Hydrologist, Brockway Engineering PLLC Phone 208-736-8543
Mailing address 2016 Washington Ave. North Suite #4 Twin Falls, ID 83301 Email zach.latham@brockwayeng.c

- Send all correspondence for this application to the representative and not to the applicant. OR
Send original correspondence to the applicant and copies to the representative.
The representative may submit information for the applicant but is not authorized to sign for the applicant. OR
The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation providing authority to sign for the applicant and label it Attachment #4.

I hereby assert that no one will be injured by the proposed changes and that the proposed changes do not constitute an enlargement in use of the original right(s). 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.

Signature of Applicant or Authorized Representative: WELDON + MARILYN WANKIER LIVING TRUST, WELDON WANKIER, 3.27.20
Signature of Applicant or Authorized Representative: MARILYN WANKIER, MARILYN WANKIER, 3-27-20

A. PURPOSE OF TRANSFER

- Change point of diversion, Change nature of use, Add diversion point(s), Change period of use, Change place of use, Other
Is this a transfer for changes pursuant to Idaho Code § 42-221.O.8? If yes, attach an explanation and any supporting documentation labeled as Part1A.2.
Describe your proposal in narrative form, including a detailed description of non-irrigation uses to justify amounts transferred (i.e. number of stock, etc.), and provide additional explanation of any other items on the application. Attach additional pages if necessary and label it Part 1A.3. Applicant seeks to change point of diversion from surface water to ground water, please see attached narrative and hydraulic analysis.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

B. DESCRIPTION OF RIGHTS AFTER THE REQUESTED CHANGES. IF THE RIGHTS ARE BEING SPLIT, DESCRIBE PORTIONS TO BE CHANGED AS THEY WOULD APPEAR AFTER THE REQUESTED CHANGES.

1.	Right Number	Amount (cfs/ac-ft)	Nature of Use	Period of Use	Source & Tributary
All or Part <input checked="" type="checkbox"/> <input type="checkbox"/>	37-23095	0.08 cfs /	Irrigation	4/15 to 10/31	Big Wood River/Malad Riv
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	
<input type="checkbox"/> <input type="checkbox"/>				to	

Total authorized under rights 0.08 cfs and/or _____ acre-feet.

2. Total amount of water proposed to be transferred or changed 0.08 cubic feet per second and/or _____ acre-feet per year.

3. Point(s) of Diversion:

- No changes to point(s) of diversion are proposed - the following chart is therefore not completed. (Proceed to #4.)
- Attach Eastern Snake Plain Aquifer analysis if this transfer proposes to change a point of diversion affecting the ESPA. Label it Attachment #5.

New ?	Lot	¼	¼	¼	Sec	Twp	Rge	County	Source	Local name or tag #
YES		SE	NE	SE	5	2N	18E	BLAINE	GROUND WATER	NEW WELL

4. Place of use: (If irrigation, identify with number of acres irrigated per ¼ ¼ tract.)

- No changes to place of use are proposed - the following chart is therefore not completed. (Proceed to #5.)

Twp	Rge	Sec	NE ¼				NW ¼				SW ¼				SE ¼				Acre Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Total Acres (for irrigation use) _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

5. 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:

Applicant seeks to divert 37-23095 from proposed well, please see attached narrative.

b. Who owns the property at the point(s) of diversion? Applicant.

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

c. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts?

If yes, attach a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes on official letterhead signed by an authorized representative. Label it **Attachment #6**. List the name of the entity and type of lien:

It is the applicant's responsibility to provide notice to lien holder, trustee, mortgagor, or contract holder of the proposed changes that may impact or change the value of the water rights or affected real property. Any misrepresentation of legal encumbrance on this application may result in rejection of the application or cancellation of an approval.

d. Are any of the water rights proposed for transfer currently leased to the Water Supply Bank?

If yes, complete **Attachment WSB**.

e. Describe the effect on the land now irrigated if the place or purpose of use is changed pursuant to this transfer:
None, 1.8 acres will continue to be irrigated.

f. Describe the use of any other water right(s) for the same purpose or land, or the same diversion system as right(s) proposed to be transferred at both the existing and proposed point(s) of diversion and place(s) use:

None.

g. 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 leased to the Water Supply Bank,
- currently used in a mitigation plan limiting the use of water under the right, or
- currently enrolled in a Federal set-aside program limiting the use of water under the rights?

If yes, describe:

It has not been used since the 2011 SRBA partial decree. An application to lease it to the Water Supply Bank was, per the IDWR Administrator's Memo, timely filed in 2017 and accepted for lease by the Bank for 2018-2019. Thus it remains a valid water right. In addition, for reasons beyond the control of the Applicant, it has been

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

**APPLICATION FOR TRANSFER OF WATER RIGHT
PART 2**

A. DESCRIPTION OF RIGHT(S) AS RECORDED

For each water right listed in Part 1B.1 of the application, attach a Part 2A report obtained from any Department office or from the Department's website @ idwr.idaho.gov, Water Right Transfers, Step 1. Insert Part 2A reports into the application following Part 1.

B. IF ONLY A PORTION OF THE RIGHT IS PROPOSED TO BE CHANGED, DESCRIBE THE PORTION BEING CHANGED AS IT APPEARS BEFORE THE REQUESTED CHANGES

- Complete and attach one copy of Part 2B for each right for which only a portion is proposed to be changed. If the entire right is proposed to be changed, Part 2B is not applicable. Additional copies of the Part 2B form can be obtained from any Department office or from the Department's website @ idwr.idaho.gov, Water Right Transfers, Step 3, or Water Right Forms, Changes in Use. Insert completed Part 2B forms into the application following Part 2A of the same water right.

Right Number: _____

- amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____
 amount _____ (cfs/ac-ft) for _____ purposes from _____ to _____

2. Lands irrigated or place of use: (If irrigation, identify with number of acres irrigated per 1/4 1/4 tract.)

Twp	Rge	Sec	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Acre Totals		
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE			
Total Acres (for irrigation use)																					

**IDAHO DEPARTMENT OF WATER RESOURCES
APPLICATION FOR TRANSFER OF WATER RIGHT
PART 2A**

Current Water Right No.: 37-23095

Current Owner: WELDON & MARILYN J WANKIER LIVING TRUST
 Priority Date: 5/1/1883
 Origin: Water Right
 Status: Active
 Basis: Decreed

Source

BIG WOOD RIVER

Tributary

MALAD RIVER

Beneficial Use

IRRIGATION

From To

04/15 to 10/31

Diversion Rate

0.08 CFS

Annual Volume

Total Diversion

0.08 CFS

Location of Point(s) of Diversion

BIG WOOD RIVER

BLAINE County

SW1/4NE1/4

Sec. 5, Twp 02N, Rge 18E B.M.

BIG WOOD RIVER

BLAINE County

SE1/4NE1/4

Sec. 5, Twp 02N, Rge 18E B.M.

Place of Use

IRRIGATION Within BLAINE County

T02N R18E S4

NWSW

0.60

T02N R18E S5

NESE

1.20

Total Acres: 1.8

Conditions of Approval:

1. T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
2. 004 This right does not grant any right-of-way or easement across the land of another.
3. This right shall provide no more than 0.03 cfs per acre at the field headgate for irrigation of the lands in the place of use whenever sprinkler methods of irrigation are used.
4. T07 The right holder shall accomplish the change authorized by this transfer within one year of the date of this approval.
5. X60 Place of use is located within Lot 5, River Grove Ranch Subdivision.
6. R43 The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion(s).
7. T19 Pursuant to Section 42-1412(6), Idaho Code, this water right is subject to such general provisions necessary for the definition of the rights or for the efficient administration of water rights as may be determined by the Snake River Basin Adjudication court at a point in time no later than the entry of the final unified decree.
8. R05 Use of water under this right will be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 37.

Decreed Date: 8/30/2011

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 3

A. PLAT MAP (See Part 3A of Instructions for application for transfer for complete requirements.)

- Attach a map of the diversion, measurement, control, and distribution system. Label it **Attachment #7a.**
- If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. Label it **Attachment #7b.**

If the place of use currently consists of a permissible place of use, then the attachment is not required if the application contains a clear statement that the boundaries for the place of use are not proposed to be changed by the transfer and the total number of irrigated acres within the place of use before and after the transfer is clearly stated.

If any part of the irrigation water right is leased to the Water Supply Bank, you must also specify the location and number of acres that will remain idled for the duration of the lease contract at the new, proposed place of use.

B. CHANGES IN NATURE OF USE (Water Balance)

- If you propose to change the nature of use or period of use of all or part of the rights(s) listed in this application, attach documentation describing the extent of historic beneficial use of the portion of the right(s) proposed to be changed. Also attach documentation showing that the portion of the right(s) to be changed will not be enlarged in rate, volume, or consumptive use through the proposed change. Label it **Attachment #8a.**

C. PLACE OF USE CHANGES TO SUPPLEMENTAL IRRIGATION RIGHTS

- If you propose to change the place of use of a supplemental irrigation right, answer below and attach supporting documentation. Label it **Attachment #8b.**

Describe how the supplemental water rights have been used historically in conjunction with other water rights at the existing place of use. Describe the time during the irrigation season that the supplemental rights have been used. Include information about the availability or reliability of the primary right(s) being supplemented, both before and after the change. If the applicant is proposing to change a supplemental irrigation right to a primary right, provide the information required on Part 3B above:

FOR DEPARTMENT USE ONLY

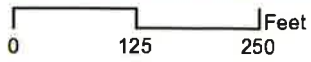
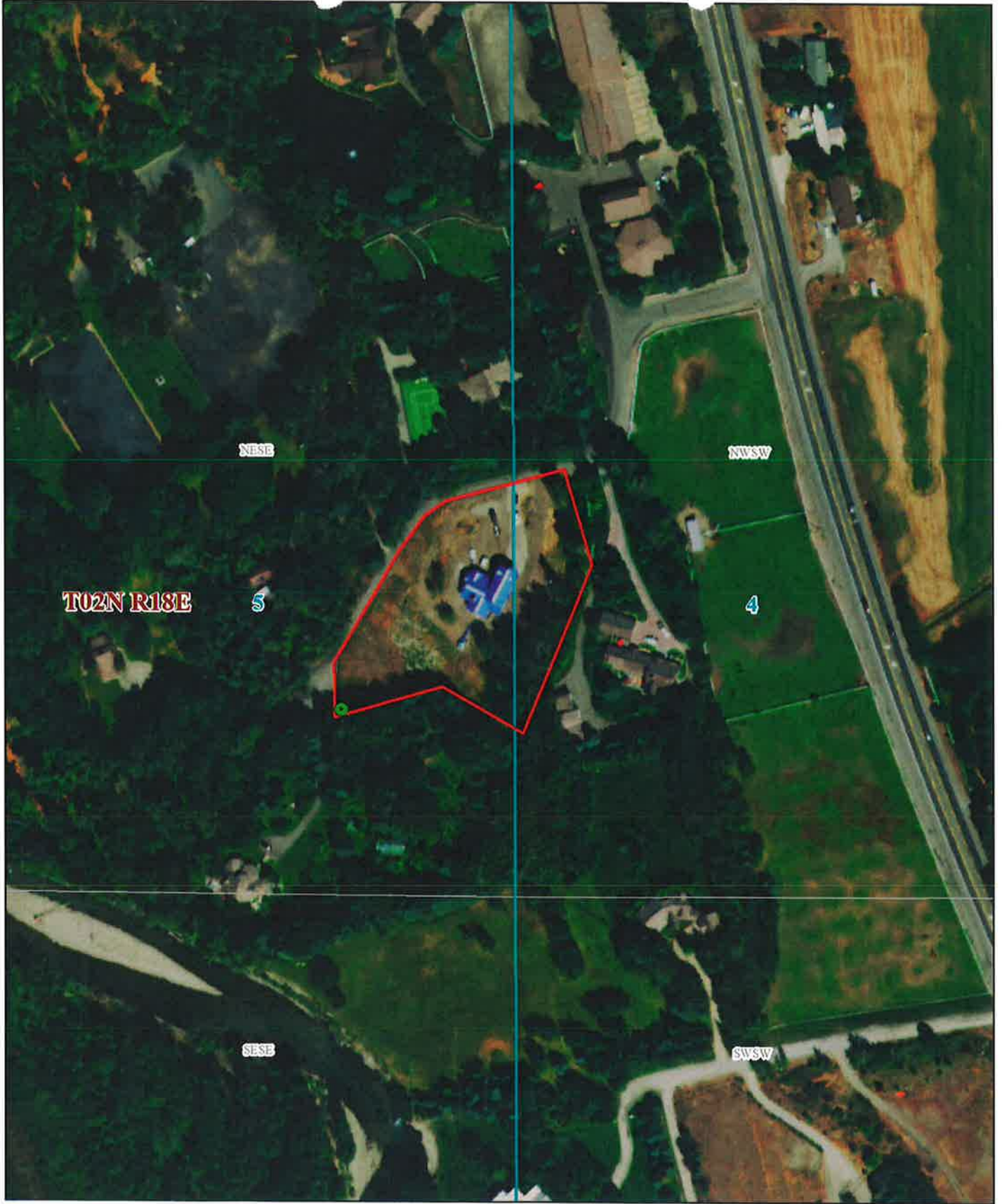
Transfer contains _____ pages and _____ attachments.

Received by DM Date 4-3-2020 Preliminary check by _____ Date _____

Fee paid \$200- Date 4-3-2020 Received by DM Receipt # SO37855

Add'l fee paid _____ Date _____ Received by _____ Receipt # _____

Check all that apply: Attachment WSB (copy sent to state office) Lessor Designation form &/or W-9 (originals to state office)



WELDON & MARILYN J WANKIER LIVING TRUST

37-23095
PROPOSED POD
NAIP 2019 AERIAL

Legend

- POD
- WR POU



APR 03 2020

DEPT OF WATER RESOURCES
SOUTHERN REGION

Wankier Living Trust- Stream Depletion Analysis for Water Right Transfer; 37-23095

To: Mr. Corey Skinner, IDWR Southern Region Manager
From: Zach Latham, M.S., Hydrologist
Cc: Mr. Weldon Wankier, Mr. Jim Speck
Date: March 31st, 2020
Re: Stream Depletion Analysis for Water Right Transfer; 37-23095

This memo serves as a stream depletion analysis for the water right transfer application being filed on behalf of the Weldon & Marilyn J Wankier Living Trust (Trust) by Brockway Engineering. The transfer application seeks to divert Big Wood River water right 37-23095 from a proposed well on the property owned by both the Trust (Applicant) in T.2N R.18E Sec.5 NE ¼ SE ¼. The current authorized points of diversion are located incorrectly in T.02N R.18E Sec. 5 SW ¼ NE ¼ and SE ¼ NE ¼; a lack of conveyance ditches on lands owned by others precludes the Applicant from taking delivery of 37-23095.

Water right 37-23095 is authorized to divert 0.08 cubic feet per second (cfs) or 36 gallons per minute (gpm) for the irrigation of 1.8 acres from the Big Wood River. The parent water right of 37-23095, (37-22252) was partially decreed in the Snake River Basin Adjudication on 8/30/2011. A transfer of the point of diversion from the Big Wood River to a proposed well on the property will allow actual delivery of the water right. 37-23095 has not been used since the 2011 SRBA partial decree. An application to lease it to the Water Supply Bank was, per the IDWR Administrator's Memo, timely filed in 2017 and accepted for lease by the Bank for 2018-2019. Thus it remains a valid water right. In addition, for reasons beyond the control of the Applicant, it has been physically impossible to deliver the water from the river to the place of use since at least 2011.

A new well is proposed to be located approximately 415' from the Big Wood River on the Applicant's property. Six well logs exist in and around neighboring properties in T.2N R.18E Sec.5 SE ¼ SE ¼ and NE ¼ SE ¼, (adjacent to the Trust's property) were used for this analysis. These wells are both perforated and non-perforated and are drilled into gravels, sands, clays and boulders; the wells' yields have been reported to be between 0.07 – 0.67 cfs (30-300 gpm). The surrounding well logs contain data required for aquifer parameter estimations and stream depletion analysis calculations and therefore a SDA for the proposed well is defensible.

The local aquifer appears to be approximately 68 – 108 feet deep per the surrounding well logs. A stream depletion analysis was performed to determine the portion of water supplied to each well by the Big Wood River using the Glover and Balmer method¹. This analysis calculated an average transmissivity value of 23,356 ft²/day using data from the six surrounding well logs. An

¹ Glover, R. E. and C. G. Balmer (1954) "River depletion resulting from pumping a well near a river". Am. Geophys. Union Trans. v. 35. pt. 3, pp. 468-470.

average hydraulic conductivity value of 242.0 ft/day was also calculated using values reported on the surrounding six well logs (results attached). These transmissivity and conductivity values were calculated using transmissivity estimation² with effects of a partial penetration method³ (see attached analysis summary sheets and plots). Transmissivity, conductivity and storativity (0.15) values used in the stream depletion analysis are within the range of published values for alluvium in this area.

The resulting analysis estimates approximately 50.3% of the proposed pumping (36 gpm) from the Applicant's proposed well originates from the Big Wood River within a 24 hour period using average values from the six surrounding well logs. Therefore, the analysis results exceed the 50% in 24 hour criteria set forth by IDWR Water Right Transfer Processing Memo No. 24. A transfer of the point of diversion from the Big Wood River to the Applicant's proposed well is not anticipated to impact existing minimum stream flows in the Big Wood River, nor cause an expansion in consumptive use associated with 37-23095 and is therefore approvable by IDWR.

² Bradbury, K.R., and E.R. Rothschild, (1985) "A computerized technique for estimating the hydraulic conductivity of aquifers from specific capacity data" *Ground Water*, v.23, no.2, pp. 240-246.

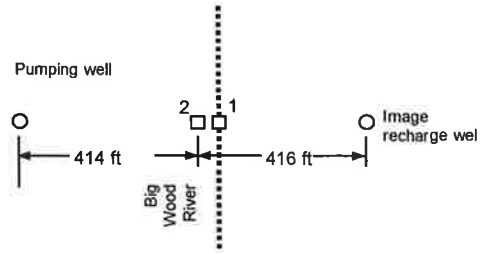
³ Sternberg, Y.M., (1973) "Efficiency of partially penetrating wells". *Groundwater* v.11 no.3 pp5-8.

Estimation of Timing of Aquifer-Stream Interaction

PROJECT: Wankier WR Transfer Application
 Brockway Engineering, PLLC 3/31/20

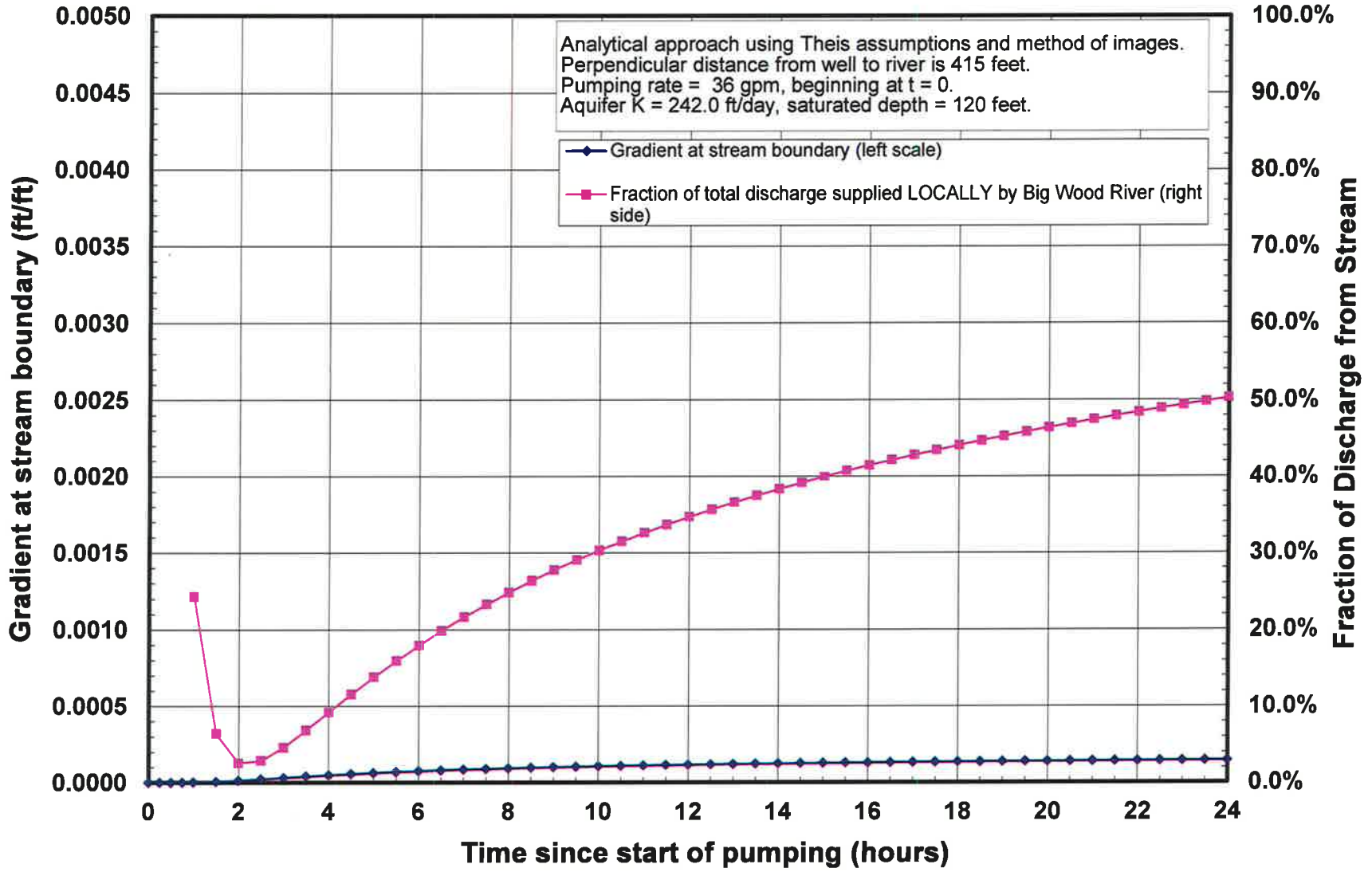
Hydraulic conductivity: **242.0** ft/day
 Aquifer saturated thickness: **120** feet
 Transmissivity: **29,043** ft²/d
 Storage coefficient: **0.15**
 Pumping rate: **35.9** gpm = **6912** ft³/d
 Pumping time: **24** hrs

These assumptions apply.
 Method of images used to estimate gw gradient at stream boundary.



Time (hrs)	IMAGE WELL R = 416 feet			PUMPING WELL R = 414 feet			IMAGE WELL R = 416 feet			RESULTANT using R = 414' (pumping) and R = 416' (image)	Portion of total dischar supplied by the stream (after Glover and Balm)	
	u	W(u)	z (feet)	u	W(u)	z (feet)	z (feet)	z (feet)	Gradient at river	x'	Qs / Q	
0	--	--	0.000	--	--	0.000	0.000	0.0000	0.0000			
0.25	2.1E+01	0.000	0.000	2.1E+01	0.000	0.000	0.000	0.0000	0.0000	4.632		
0.5	1.1E+01	0.000	0.000	1.1E+01	0.000	0.000	0.000	0.0000	0.0000	3.275		
0.75	7.2E+00	0.000	0.000	7.1E+00	0.000	0.000	0.000	0.0000	0.0000	2.674	50.4%	
1	5.4E+00	0.001	0.000	5.3E+00	0.001	0.000	0.000	0.0000	0.0000	2.316	24.3%	
1.5	3.6E+00	0.006	0.000	3.5E+00	0.007	0.000	0.000	0.0000	0.0000	1.891	6.4%	
2	2.7E+00	0.020	0.000	2.7E+00	0.020	0.000	0.000	0.0000	0.0000	1.638	2.6%	
2.5	2.1E+00	0.040	0.001	2.1E+00	0.041	0.001	-0.001	0.0000	0.0000	1.465	2.9%	
3	1.8E+00	0.066	0.001	1.8E+00	0.068	0.001	-0.001	0.0000	0.0000	1.337	4.6%	
3.5	1.5E+00	0.095	0.002	1.5E+00	0.097	0.002	-0.002	0.0000	0.0000	1.238	6.9%	
4	1.3E+00	0.127	0.002	1.3E+00	0.130	0.002	-0.002	0.0000	0.0000	1.158	9.2%	
4.5	1.2E+00	0.161	0.003	1.2E+00	0.163	0.003	-0.003	0.0001	0.0001	1.092	11.6%	
5	1.1E+00	0.195	0.004	1.1E+00	0.198	0.004	-0.004	0.0001	0.0001	1.036	13.8%	
5.5	9.8E-01	0.229	0.004	9.7E-01	0.232	0.004	-0.004	0.0001	0.0001	0.987	16.0%	
6	8.9E-01	0.263	0.005	8.9E-01	0.267	0.005	-0.005	0.0001	0.0001	0.945	18.0%	
6.5	8.3E-01	0.297	0.006	8.2E-01	0.301	0.006	-0.006	0.0001	0.0001	0.908	19.9%	
7	7.7E-01	0.330	0.006	7.6E-01	0.335	0.006	-0.006	0.0001	0.0001	0.875	21.7%	
7.5	7.2E-01	0.363	0.007	7.1E-01	0.368	0.007	-0.007	0.0001	0.0001	0.846	23.3%	
8	6.7E-01	0.396	0.007	6.6E-01	0.401	0.008	-0.007	0.0001	0.0001	0.819	24.9%	
8.5	6.3E-01	0.427	0.008	6.2E-01	0.432	0.008	-0.008	0.0001	0.0001	0.794	26.4%	
9	6.0E-01	0.458	0.009	5.9E-01	0.464	0.009	-0.009	0.0001	0.0001	0.772	27.8%	
9.5	5.6E-01	0.488	0.009	5.6E-01	0.494	0.009	-0.009	0.0001	0.0001	0.751	29.1%	
10	5.4E-01	0.518	0.010	5.3E-01	0.524	0.010	-0.010	0.0001	0.0001	0.732	30.4%	
10.5	5.1E-01	0.547	0.010	5.1E-01	0.553	0.010	-0.010	0.0001	0.0001	0.715	31.5%	
11	4.9E-01	0.575	0.011	4.8E-01	0.581	0.011	-0.011	0.0001	0.0001	0.698	32.7%	
11.5	4.7E-01	0.603	0.011	4.6E-01	0.609	0.012	-0.011	0.0001	0.0001	0.683	33.7%	
12	4.5E-01	0.630	0.012	4.4E-01	0.636	0.012	-0.012	0.0001	0.0001	0.669	34.8%	
12.5	4.3E-01	0.656	0.012	4.2E-01	0.662	0.013	-0.012	0.0001	0.0001	0.655	35.7%	
13	4.1E-01	0.682	0.013	4.1E-01	0.688	0.013	-0.013	0.0001	0.0001	0.642	36.7%	
13.5	4.0E-01	0.707	0.013	3.9E-01	0.714	0.014	-0.013	0.0001	0.0001	0.630	37.6%	
14	3.8E-01	0.732	0.014	3.8E-01	0.738	0.014	-0.014	0.0001	0.0001	0.619	38.4%	
14.5	3.7E-01	0.756	0.014	3.7E-01	0.762	0.014	-0.014	0.0001	0.0001	0.608	39.2%	
15	3.6E-01	0.779	0.015	3.5E-01	0.786	0.015	-0.015	0.0001	0.0001	0.598	40.0%	
15.5	3.5E-01	0.802	0.015	3.4E-01	0.809	0.015	-0.015	0.0001	0.0001	0.588	40.8%	
16	3.4E-01	0.825	0.016	3.3E-01	0.832	0.016	-0.016	0.0001	0.0001	0.579	41.5%	
16.5	3.3E-01	0.847	0.016	3.2E-01	0.854	0.016	-0.016	0.0001	0.0001	0.570	42.2%	
17	3.2E-01	0.869	0.016	3.1E-01	0.876	0.017	-0.016	0.0001	0.0001	0.562	42.9%	
17.5	3.1E-01	0.890	0.017	3.0E-01	0.897	0.017	-0.017	0.0001	0.0001	0.554	43.5%	
18	3.0E-01	0.911	0.017	3.0E-01	0.918	0.017	-0.017	0.0001	0.0001	0.546	44.1%	
18.5	2.9E-01	0.931	0.018	2.9E-01	0.938	0.018	-0.018	0.0001	0.0001	0.538	44.7%	
19	2.8E-01	0.951	0.018	2.8E-01	0.959	0.018	-0.018	0.0001	0.0001	0.531	45.3%	
19.5	2.8E-01	0.971	0.018	2.7E-01	0.978	0.019	-0.018	0.0001	0.0001	0.524	45.9%	
20	2.7E-01	0.990	0.019	2.7E-01	0.998	0.019	-0.019	0.0001	0.0001	0.518	46.4%	
20.5	2.6E-01	1.009	0.019	2.6E-01	1.017	0.019	-0.019	0.0001	0.0001	0.511	47.0%	
21	2.6E-01	1.028	0.019	2.5E-01	1.035	0.020	-0.019	0.0001	0.0001	0.505	47.5%	
21.5	2.5E-01	1.046	0.020	2.5E-01	1.054	0.020	-0.020	0.0001	0.0001	0.499	48.0%	
22	2.4E-01	1.064	0.020	2.4E-01	1.072	0.020	-0.020	0.0001	0.0001	0.494	48.5%	
22.5	2.4E-01	1.082	0.020	2.4E-01	1.089	0.021	-0.020	0.0001	0.0001	0.488	48.9%	
23	2.3E-01	1.099	0.021	2.3E-01	1.107	0.021	-0.021	0.0001	0.0001	0.483	49.4%	
23.5	2.3E-01	1.116	0.021	2.3E-01	1.124	0.021	-0.021	0.0001	0.0001	0.478	49.8%	
24	2.2E-01	1.133	0.021	2.2E-01	1.141	0.022	-0.021	0.0001	0.0001	0.473	50.3%	

Timing of Influence on Big Wood River by Proposed Wankier Well Pumping



Transmissivity Estimation with Partial Penetration

Bradbury and Rothschild (1985) specific capacity method.
 Suitable for situations where a single time and drawdown measurement is available.
 Includes effects of partial penetration using Sternberg (1973) approach.
 Enter data in blue, pay attention to units. Vary "Trial T" until equal to "Calc T".

Well No.	Name	Location*	Pumping Rate [gpm]	Drawdown [ft]	Time [min]	Well radius [in]	Storativity	SWL [ft]	Aquifer bottom [ft]	Avg open interval [ft]	Average aquifer thickness [ft]	Specific capacity	L/b	G	sp	Trial T (vary) [ft ² /d]	Calc T [ft ² /d]	Calc K [ft/d]	In K
1	Walton	T.2N R.18E SEC 5 NESE	50	20	120	3	0.15	9	120	1	101	2.5	0.01	2.88	312.52	24440.3	24440.3	242.0	5.49
2	P. Thomas	T.2N R.18E SEC 5 NESE	100	3	120	4	0.15	15	120	20	103.5	33.3	0.19	1.92	15.95	22642.0	22642.0	218.8	5.39
3	B. Reese	T.2N R.18E SEC 5 NESE	30	20	60	3	0.15	8	120	1	104	1.5	0.01	2.88	324.70	15197.1	15197.1	146.1	4.98
4	D. Donnley	T.2N R.18E SEC 5 NESE	60	1	60	4	0.15	12	120	15	107.5	60.0	0.14	2.13	22.48	52910.6	52910.6	492.2	6.20
5	Peter Sturdavant	T.2N R.18E SEC 5 NESE	300	94	60	4	0.15	6	120	1	67	3.2	0.01	2.84	162.54	16452.8	16452.8	245.6	5.50
6	P Thomas 91	T.2N R.18E SEC 5 SENE	90	68	120	4	0.15	7	120	1	79	1.3	0.01	2.86	203.69	8492.7	8492.7	107.5	4.68

* From drilling records, corrected if needed based on water right records and/or aerial photo evidence.

Mean	23,355.9	242.0	5.4
Median	22,642.0	242.0	5.5
Max	52,910.6	492.2	6.2
Min	15,197.1	146.1	5.0
Std dev	15,372.1	131.1	0.4

Maline, Denise

From: Maline, Denise
Sent: Thursday, October 01, 2020 9:31 AM
To: Invoices
Cc: Marston, Sascha
Subject: Refund Request
Attachments: Refund Request for Brockway Engineering.pdf

Good morning,

Attached please find a refund request being submitted for processing, due to the withdrawal of an application for transfer. Please let me know if there are any questions.

Thank you,

Denise

Denise Maline
Administrative Assistant I
Idaho Dept of Water Resources, Southern Region
650 Addison Ave W, Ste 500
Twin Falls, ID 83301
(208) 293-9908
denise.maline@idwr.idaho.gov

Idaho Department of Water Resources Receipt
Receipt ID: S037855

Payment Amount	\$200.00	Date Received	4/3/2020	Region	SOUTHERN
Payment Type	Check	Check Number	15823		
Payer	BROCKWAY ENGINEERING PLLC				
Comments	APPLICATION FOR TRANSFER FOR WELDON & MARILYN WANKIER LIVING TRUST: 37-23095 (0.08 CFS)				

Fee Details

Amount	Description	PCA	Fund	Fund Detail	Subsidiary	Object
\$200.00	TRANSFERS	64106	0229	21		1155



Signature Line (Department Representative)

Application for Transfer No. 83995 (water right no. 37-23095) was withdrawn on September 30, 2020. Brockway Engineering requested a refund of the fees, as the application was not advertised or processed.

Please issue a \$200.00 refund to:

Brockway Engineering PLLC
2016 N Washington St Ste 4
Twin Falls ID 83301-3082
(208) 736-8543

DM 9-30-2020



State of Idaho

DEPARTMENT OF WATER RESOURCES

SOUTHERN REGION • 650 ADDISON AVE W STE 500 • TWIN FALLS ID 83301-5858

Phone: (208) 736-3033 • Fax: (208) 736-3037

Website: www.idwr.idaho.gov • Email: southerninfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

September 30, 2020

WELDON & MARILYN WANKIER LIVING TRUST
PO BOX 194
SUN VALLEY ID 83353-0194

Re: Withdrawal of Application for Transfer No. 83995, Water Right No. 37-23095

Dear Applicant(s):

Thank you for your recent withdrawal of the above referenced application for transfer. No further action is required at this time.

A refund request in the amount of \$200.00 has been submitted for processing and will be sent to Brockway Engineering PLLC.

Please contact our office at 208-736-3033 if you have additional questions on this matter. Also, more information about water rights and other matters administered by this agency is available our website at www.idwr.idaho.gov.

Sincerely,

A handwritten signature in blue ink that reads "Denise Maline".

Corey Skinner
Southern Regional Manager

c: Brockway Engineering PLLC

Skinner, Corey

From: Skinner, Corey
Sent: Wednesday, September 30, 2020 10:02 AM
To: 'Zach Latham'
Cc: Mills, Bill; Jim Speck
Subject: RE: Wankier Withdrawal of App for Transfer

Got it!

-----Original Message-----

From: Zach Latham [mailto:zach.latham@brockwayeng.com]
Sent: Wednesday, September 30, 2020 9:57 AM
To: Skinner, Corey <Corey.Skinner@idwr.idaho.gov>
Cc: Mills, Bill <William.Mills@idwr.idaho.gov>; Jim Speck <jim@speckandaanestad.com>
Subject: FW: Wankier Withdrawal of App for Transfer

Corey-

Attached is the signed withdrawal of application for transfer form, signed yesterday by Mr. Wankier. Please confirm receipt, thank you.

Zach Latham

Hydrologist
Brockway Engineering, P.L.L.C.
2016 Washington Street North, Suite 4
Twin Falls, ID 83301
t. 208-736-8543
c.208-721-2114
f. 208-736-8506
zach.latham@brockwayeng.com

All information, calculations, maps, drawings, or other documents transmitted via e-mail are preliminary unless explicitly stated in the e-mail text or in the documents themselves.

-----Original Message-----

From: Zach Latham [mailto:zlatham@gmail.com]
Sent: Wednesday, September 30, 2020 9:55 AM
To: Zach Latham
Subject: Wankier Withdrawal of App for Transfer

Scanned with FastScanner!

Skinner, Corey

From: Skinner, Corey
Sent: Tuesday, September 29, 2020 9:20 AM
To: 'Zach Latham'
Cc: Mills, Bill
Subject: RE: Wankier Transfer 83995 Withdrawal Forthcoming

Zach,

That will work. We will initiate a request for refund of the filing fees after we receive the withdrawal.

We appreciate your efforts on this,

Corey

From: Zach Latham [mailto:zach.latham@brockwayeng.com]
Sent: Tuesday, September 29, 2020 9:13 AM
To: Skinner, Corey <Corey.Skinner@idwr.idaho.gov>
Cc: Mills, Bill <William.Mills@idwr.idaho.gov>
Subject: Wankier Transfer 83995 Withdrawal Forthcoming

Corey and Bill-

I will be getting a withdrawal of water right transfer application form signed by Mr. Wankier today. I will forward a picture copy of the signature to you both, the hard copy will be mailed to your office but obviously won't get to your office by tomorrow.

Will this suffice for a) withdrawal of the application, b) a refund of \$200, and c) cessation of advertisement?

Thanks-

Zach Latham

Hydrologist
Brockway Engineering, P.L.L.C.
2016 Washington Street North, Suite 4
Twin Falls, ID 83301
t. 208-736-8543
c.208-721-2114
f. 208-736-8506
zach.latham@brockwayeng.com

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State of Idaho

DEPARTMENT OF WATER RESOURCES

SOUTHERN REGION • 650 ADDISON AVE W STE 500 • TWIN FALLS ID 83301-5858

Phone: (208) 736-3033 • Fax: (208) 736-3037

Website: www.idwr.idaho.gov • Email: southerninfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

September 11, 2020

Zach Latham
Brockway Engineering
2016 Washington St N
Suite 4
Twin Falls, ID 83301

RE: Weldon & Marilyn Wankier Living Trust Transfer Application (Transfer # 83995)

Dear Mr. Latham:

As you recall you filed a water right transfer application with the Idaho Department of Water Resources (IDWR) in April of 2020 in the name of the Weldon & Marilyn Wankier Living Trust. The application proposes changing the point of diversion of a Big Wood River right, 37-23095, having a May 1, 1883 priority date to a proposed new well to be located approximately 415 feet from the Big Wood River. Upon receiving the application, IDWR assigned Transfer # 83995 to the application.

As you are aware, Idaho Code 42-222 (the statute that allows for changes in points of diversion for water rights) does not specifically allow for changes from a surface water source to a groundwater source. However, IDWR will allow a change in source if the ground water and surface water sources are so interconnected that they constitute the same source for purposes of a proposed change in point of diversion. IDWR's transfer processing guidance memo indicates that "*the ground water and surface water sources must have a direct and immediate hydraulic connection (at least 50 percent depletion in original source from depletion at proposed point of diversion in one day)*" in order to approve a surface water to ground water change.

When the Weldon & Marilyn Wankier Living Trust transfer application was received, a review by IDWR Southern Region office staff indicated that previously approved surface water to groundwater transfers in the Big Wood River area involved wells that were about 70 to 300 feet from the river with an overall average of about 200 feet between the river and new wells (significantly less than the 415 feet proposed by the Weldon & Marilyn Wankier Living Trust transfer). A preliminary review was conducted by IDWR Southern region staff attempting to replicate the stream depletion analysis provided with the Weldon & Marilyn Wankier Living Trust transfer. However, IDWR Southern Region staff's analysis revealed a stream depletion rate of 48.2% and a stream depletion volume of 31.6% within a 24 hour period (both values less than the 50% depletion requirement indicated in IDWR's

Page 2

Zach Latham Transfer # 83995 Letter
September 11, 2020

transfer processing guidance memo). IDWR Southern Region staff then requested a review of the submitted stream depletion analysis by IDWR's state office staff. IDWR's State Office Hydrology Section staff conducted a review of the provided stream depletion analysis and also performed a separate stream depletion analysis. This IDWR Hydrology Section review and analysis was summarized in an April 30, 2020 memorandum that was provided to you via e-mail on May 12, 2020. The Hydrology Section review and analysis revealed a stream depletion rate of 39.6% and a stream depletion volume of 20.9% within a 24 hour period (both values less than the 50% depletion requirement indicated in IDWR's transfer processing guidance memo).

Since the IDWR Hydrology Section's review and analysis, multiple conversations (via e-mail and telephone) have been held between you and IDWR staff relating to options on how to, or how not to, proceed with processing of the application. As you are aware, Idaho Code 42-222, prevents IDWR from allowing a change in point of diversion that injures other water rights. When considering a proposed move from the Big Wood River to a new well, IDWR must consider the impacts of the change to other water rights (including groundwater rights near the proposed well). IDWR will allow such a change if it can be demonstrated that there will be a 50% depletion in the original source within a 24 hour period and injury will not occur to other water users. IDWR Hydrology Section's review and analysis indicated a stream depletion rate of 39.6% and a stream depletion volume of 20.9% within a 24 hour period (both values less than the 50% depletion requirement) which is presumed to cause injury to existing water rights.

IDWR can proceed with processing the application and advertise the application as part of the public notice and protest process. However, as currently filed and without any additional information indicating otherwise, IDWR cannot ascertain that the change proposed by Transfer # 83995 will not cause injury to existing water rights. **IDWR will hold further processing of Transfer # 83995 until September 30th, 2020, and then proceed with processing and advertising the application. However, if the application is not protested, IDWR will issue a preliminary order rejecting Transfer # 83995.** As an alternative, the applicant can formally withdraw pending transfer # 83995. If the application is withdrawn prior to advertising, Brockway Engineering can request a refund of the \$200.00 filing fee.

If you have any questions, or if I can be of any further assistance, feel free to contact me at your convenience.

Sincerely,



Corey Skinner, PE
IDWR Southern Region Manager

cc: Weldon & Marilyn Wankier Living Trust

Skinner, Corey

From: Skinner, Corey
Sent: Friday, September 11, 2020 3:19 PM
To: 'Zach Latham'
Cc: charles.g.brockway@brockwayeng.com; 'Erick Powell'; Grimm, Angie; Mills, Bill; Rauhut, Manuel
Subject: RE: TansferApp_37_23095_Review_MM_MR.docx
Attachments: 20200911151744.pdf

Zach,

The attached letter is being sent out this afternoon regarding this application. Hopefully this summarizes our conversations and documents IDWR's position on this matter. Let me know if you have any questions.

Corey

From: Zach Latham [mailto:zach.latham@brockwayeng.com]
Sent: Wednesday, September 09, 2020 5:08 PM
To: Skinner, Corey <Corey.Skinner@idwr.idaho.gov>
Cc: charles.g.brockway@brockwayeng.com; 'Erick Powell' <erick.powell@brockwayeng.com>; Grimm, Angie <Angie.Grimm@idwr.idaho.gov>; Mills, Bill <William.Mills@idwr.idaho.gov>; Rauhut, Manuel <Manuel.Rauhut@idwr.idaho.gov>
Subject: RE: TansferApp_37_23095_Review_MM_MR.docx

Corey-

We would like to circle around on this application in order to get some closure and find a way forward. You indicated in a recent telephone call that our application would be denied after being advertised as is. What is the basis for the denial, is it that the Department disagrees with our hydraulic parameters, or is it that the Department requires the volumetric depletion in this case? We can justify our hydraulic parameters if needed, but we don't want to waste our client's money if the denial is due to a volumetric depletion requirement and or for a different reason.

Please let us know, we appreciate your input as always and look forward to moving this application forward. Thanks again for your time-

Zach Latham

Hydrologist
Brockway Engineering, P.L.L.C.
2016 Washington Street North, Suite 4
Twin Falls, ID 83301
t. 208-736-8543
c.208-721-2114
f. 208-736-8506

zach.latham@brockwayeng.com

All information, calculations, maps, drawings, or other documents transmitted via e-mail are preliminary unless explicitly stated in the e-mail text or in the documents themselves.

From: Grimm, Angie [mailto:Angie.Grimm@idwr.idaho.gov]
Sent: Thursday, July 23, 2020 4:38 PM
To: Zach Latham
Cc: charles.g.brockway@brockwayeng.com; 'Erick Powell'; Skinner, Corey; Mills, Bill; Rauhut, Manuel
Subject: RE: TansferApp_37_23095_Review_MM_MR.docx

Zach,

Good afternoon! I had an opportunity to do more research and discuss the policy question with Shelley. We concluded that despite ambiguity in the policy, a transfer may ultimately be approved provided Idaho Code § 42-222 review criteria are met. In other words, if a 50% depletion in terms of rate or volume can be shown and the transfer will not result in injury to other water users, it may be processed. I think there are circumstances where a 50% depletion in terms of volume would need to be shown to avoid injury where in other circumstances only a 50% depletion in rate is needed to avoid injury. I discussed this idea at some length with Corey and Bill during a meeting this week. I think we are all on the same page as to what needs to be considered so I'll let them handle the particulars of processing Transfer 83995 moving forward. However, if I can help with anything else, please let me know.

Regards,
Angie

Angela M. Grimm, P.G.
Water Rights Section Manager
IDWR - State Office
322 E Front St Ste 648
Boise, ID 83702-7371
(208) 287-4951 phone
(208) 287-6700 fax

From: Zach Latham [<mailto:zach.latham@brockwayeng.com>]
Sent: Wednesday, July 8, 2020 5:20 PM
To: Grimm, Angie <Angie.Grimm@idwr.idaho.gov>
Cc: charles.g.brockway@brockwayeng.com; 'Erick Powell' <erick.powell@brockwayeng.com>; Skinner, Corey <Corey.Skinner@idwr.idaho.gov>; Mills, Bill <William.Mills@idwr.idaho.gov>; Rauhut, Manuel <Manuel.Rauhut@idwr.idaho.gov>
Subject: RE: TransferApp_37_23095_Review_MM_MR.docx

Thank you for the email update Angie,
I will get with the applicant and circle back around with you, we will likely provide additional information for the basis for our hydraulic analysis.
I am out of the office starting tomorrow and will be back in the office on 7/17/20, so I will be back in touch at that time.
Thanks again and have a great rest of your week-

Zach Latham

Hydrologist
Brockway Engineering, P.L.L.C.
2016 Washington Street North, Suite 4
Twin Falls, ID 83301
t. 208-736-8543
c. 208-721-2114
f. 208-736-8506
zach.latham@brockwayeng.com

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From: Grimm, Angie [<mailto:Angie.Grimm@idwr.idaho.gov>]
Sent: Tuesday, July 07, 2020 5:04 PM
To: Zach Latham
Cc: charles.g.brockway@brockwayeng.com; 'Erick Powell'; Skinner, Corey; Mills, Bill; Rauhut, Manuel
Subject: RE: TransferApp_37_23095_Review_MM_MR.docx

Zach,

Good afternoon! I just wanted to send you a quick update on where I'm at with this request. I'm still digging into the background of the Wood River Valley and previous policies for that area related to previous stream-depletion studies. After that, I would like to discuss this topic in more detail with Shelley in a meeting I have tentatively scheduled for 7/21.

I recognize this delay may affect your client's decision regarding whether to publish their pending transfer application, hence my sending this email update. While the overall policy question requires more consideration at this point, for the specific transfer application (Transfer No. 83995), it appears Mike's memo concludes the 50% depletion criteria is not met for rate or volume (based on the aquifer properties he recommends see Figure B-2 of Mike's 4/30/2020 memo). Are you planning to provide additional information to support the aquifer properties you provided and/or to refute Mike's recommendations? It seems this would be necessary to move forward with the application regardless of the decision on the policy clarification question.

While I'm still researching the policy question, please let me know if you have any questions regarding the second item – specific request for Transfer No. 83995. Hope all is well in Hailey.

Regards,
Angie

Angela M. Grimm, P.G.
Water Rights Section Manager
IDWR - State Office
322 E Front St Ste 648
Boise, ID 83702-7371
(208) 287-4951 phone
(208) 287-6700 fax

From: Zach Latham [<mailto:zach.latham@brockwayeng.com>]
Sent: Tuesday, June 23, 2020 3:42 PM
To: Grimm, Angie <Angie.Grimm@idwr.idaho.gov>
Cc: charles.g.brockway@brockwayeng.com; 'Erick Powell' <erick.powell@brockwayeng.com>
Subject: RE: TransferApp_37_23095_Review_MM_MR.docx

Angie-

Thank you for taking the time to discuss Mr. McVay's memo and the larger issue of flow rate depletion associated with a transfer/change in source from surface water to ground water. All of the proposed transfer applications with changes in source submitted to IDWR from Brockway Engineering have based depletion on a flow rate.

As we discussed, here are six transfers that have recently been approved by IDWR based on a flow rate depletion:

74716
79140
79933
79984
80971
82269

We appreciate your willingness to review the depletion analysis as it relates to this transfer application in light of the consistent approval of past transfer applications with a change in source based on flow rate.

Thanks again for your time and we hope to hear from you in the near future.

Zach Latham
Hydrologist

Brockway Engineering, P.L.L.C.
2016 Washington Street North, Suite 4
Twin Falls, ID 83301
t. 208-736-8543
c.208-721-2114
f. 208-736-8506
zach.latham@brockwayeng.com

All information, calculations, maps, drawings, or other documents transmitted via e-mail are preliminary unless explicitly stated in the e-mail text or in the documents themselves.

From: Skinner, Corey [<mailto:Corey.Skinner@idwr.idaho.gov>]
Sent: Tuesday, May 12, 2020 4:47 PM
To: Zach Latham
Subject: FW: TransferApp_37_23095_Review_MM_MR.docx

Zach,

Here is the memo we talked about. Let me know how you want to proceed.

Corey

From: Rauhut, Manuel
Sent: Friday, May 01, 2020 10:55 AM
To: Skinner, Corey <Corey.Skinner@idwr.idaho.gov>; Mills, Bill <William.Mills@idwr.idaho.gov>
Cc: Grimm, Angie <Angie.Grimm@idwr.idaho.gov>; McVay, Michael <Michael.McVay@idwr.idaho.gov>
Subject: TansferApp_37_23095_Review_MM_MR.docx

Good morning –

Please see the attached document from Mike McVay. The memo provides a technical and detailed breakdown of the Stream Depletion Analysis for the referenced transfer.

As you can see in the conclusion and based on the information provided the proposed transfer does not meet IDWR's requirement of a direct and immediate hydraulic connection (at least 50 percent depletion in original source from depletion at proposed point of diversion in one day).

Please let me know if you have any other questions.

Thanks,

Manuel

Skinner, Corey

From: Skinner, Corey
Sent: Tuesday, June 02, 2020 5:02 PM
To: 'Zach Latham'
Cc: Mills, Bill
Subject: RE: TansferApp_37_23095_Review_MM_MR.docx

Zach,

It's been a while since we talked about this transfer, and it is sitting around in our backlog. Any idea how you &/or your client want to proceed?

Give me a call if you want to discuss further,

Corey

From: Skinner, Corey
Sent: Tuesday, May 12, 2020 4:47 PM
To: 'Zach Latham' <zach.latham@brockwayeng.com>
Subject: FW: TansferApp_37_23095_Review_MM_MR.docx

Zach,

Here is the memo we talked about. Let me know how you want to proceed.

Corey

From: Rauhut, Manuel
Sent: Friday, May 01, 2020 10:55 AM
To: Skinner, Corey <Corey.Skinner@idwr.idaho.gov>; Mills, Bill <William.Mills@idwr.idaho.gov>
Cc: Grimm, Angie <Angie.Grimm@idwr.idaho.gov>; McVay, Michael <Michael.McVay@idwr.idaho.gov>
Subject: TansferApp_37_23095_Review_MM_MR.docx

Good morning –

Please see the attached document from Mike McVay. The memo provides a technical and detailed breakdown of the Stream Depletion Analysis for the referenced transfer.

As you can see in the conclusion and based on the information provided the proposed transfer does not meet IDWR's requirement of a direct and immediate hydraulic connection (at least 50 percent depletion in original source from depletion at proposed point of diversion in one day).

Please let me know if you have any other questions.

Thanks,
Manuel

Mills, Bill

From: Rauhut, Manuel
Sent: Friday, May 01, 2020 10:55 AM
To: Skinner, Corey; Mills, Bill
Cc: Grimm, Angie; McVay, Michael
Subject: TransferApp_37_23095_Review_MM_MR.docx
Attachments: TransferApp_37_23095_Review_MM_MR.docx

Good morning –

Please see the attached document from Mike McVay. The memo provides a technical and detailed breakdown of the Stream Depletion Analysis for the referenced transfer.

As you can see in the conclusion and based on the information provided the proposed transfer does not meet IDWR's requirement of a direct and immediate hydraulic connection (at least 50 percent depletion in original source from depletion at proposed point of diversion in one day).

Please let me know if you have any other questions.

Thanks,

Manuel

MEMO

State of Idaho

Department of Water Resources

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

Phone: (208) 287-4800 Fax: (208) 287-6700

Date: April 30, 2020

To: Manuel Rauhut, Staff Engineer

From: Mike McVay, Technical Engineer 1

Subject: Stream depletion analysis for transfer application #83995

Introduction

Per your request, I have completed a review of the stream-depletion analysis that was submitted by Brockway Engineering (Consultant) in support of a transfer application #83995 for water right 37-23095.

The transfer application seeks to change the point of diversion for water right 37-23095 from a surface-water right to a groundwater right that will divert from a proposed new well located approximately 415 feet from the Big Wood River.

This review addresses whether the interaction between the Big Wood River and the proposed well constitutes a direct and immediate hydraulic connection so as to constitute the same source. Such a connection is defined as “at least 50 percent depletion in original source from depletion at proposed point of diversion in one day” (Peppersack, 2009).

Stream-depletion Analysis

The Consultant estimated the depletion of surface water due to pumping of the proposed well using stream-depletion equations developed by Glover and Blamer (1954) using the IDWR Stream Depletion Analysis Tool (IDWR Tool), and a spreadsheet tool they built.

Inputs required for the stream-depletion calculations include the aquifer properties, stream-to-well distance, and pumping rate. The Consultant used well driller’s reports (well logs) from 6 wells located within 1,720 feet of the proposed well (Figure 1) to estimate aquifer properties for input into stream-depletion calculations.



Figure 1. Locations of Wankier property and the wells used to estimate transmissivity.

Aquifer Properties

Specific Yield – The specific yield of an aquifer can only be determined via lab tests or pumping tests with observation wells. However, specific yield is often estimated based on textbook values for different sediment sizes. The Consultant chose a value of 0.15, but this appears to be a low-end value based on the sediments in and around the applicant's property. A value of 0.20 is more appropriate given the material size, and is consistent with the USGS methodology for determining transmissivity in the Wood River Valley (Bartolino and Adkins, 2012), as well as the interim policy for Wood River Valley groundwater rentals from the Water Supply Bank (IWRB, 2015).

Transmissivity – The Consultant estimated transmissivity by employing the widely used Bradbury and Rothschild (1985) specific-capacity method with data from six well driller's reports, and calculated a mean transmissivity of 23,355.9 ft²/day (Table 1). However, the calculated transmissivity for well #4 (Donnley) is based on drawdown of 1 foot, but the reported drawdown was reported as "nil." Nil typically means zero, and as such, this well should not be included in the analysis. The Ahrons well (Appendix A), is plotted in the same location as Donnley, has sufficient information to estimate transmissivity, and the resulting value more closely matches the values calculated for the other five wells (Table 2). IDWR used the same method, but with the Arhons well instead of the Donnley well, to calculate a mean transmissivity of 23,963 ft²/day.

It is important to note that the IDWR Tool requires hydraulic conductivity for input, which is calculated as transmissivity divided by the aquifer thickness (Tables 1 and 2).

Aquifer Thickness – The estimation of transmissivity requires aquifer thickness as an input. The Consultant used static water-level information found in the well logs) to determine that depth to groundwater in this area ranges from six to 15 feet. The static water level in a unconfined aquifer is generally assumed to represent the top of the aquifer, and aquifer thicknesses is typically estimated by subtracting the static water level from the depth to bedrock as reported in the well logs. Since the wells did not reach bedrock, the Consultant used an assumed aquifer depth of 120 feet. Instead of subtracting the static water level from aquifer depth, the Consultant employed an unusual technique that averages the static water level with a combination of static water level and well-testing drawdown to estimate the top of the aquifer. This technique is not a generally accepted method. Furthermore, this methodology was not applied uniformly to the wells used in the analysis. The Consultant used this "average" water level and the assumed aquifer depth to determine that the aquifer thickness in this area ranges from approximately 67 feet to 108 feet, with an average of 93.7 feet (Table 1). The Consultant did not use the calculated aquifer thickness, but instead, used 120 feet as the aquifer thickness in the IDWR Tool. The traditional approach of subtracting static water level from aquifer depth results in more uniform aquifer thicknesses that range from 105 feet to 114 feet, with an average of 111 feet (Table 2).

Table 1. Aquifer properties as determined by the Consultant.

Well Number	Name	Pumping Rate (gpm)	Drawdown (ft)	Time (min)	Well Radius (in)	Storage Coefficient	SWL (ft)	Aquifer Bottom (ft)	Open Interval (ft)	Avg. Aquifer Thickness (ft)	Transmissivity (ft ² /day)	Hydraulic Conductivity (ft/day)
1	Walton	50	20	120	3	0.15	9	120	1	101	24,440.3	248
2	Thomas	100	3	120	4	0.15	15	120	20	103.5	22,642.0	217
3	Reese	30	20	60	3	0.15	6	120	1	104	15,197.1	150
4	Donnley	60	1	60	4	0.15	12	120	15	107.5	52,910.6	490
5	Sturdavant	300	94	60	4	0.15	6	120	1	67	16,452.8	291
6	Thomas91	90	68	120	4	0.15	7	120	1	79	8,492.7	120

MEAN	93.7	23,355.9	242.0
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Table 2. Aquifer properties as determined by IDWR.

Well Number	Name	Pumping Rate (gpm)	Drawdown (ft)	Time (min)	Well Radius (in)	Storage Coefficient	SWL (ft)	Aquifer Bottom (ft)	Open Interval (ft)	Aquifer Thickness (ft)	Transmissivity (ft ² /day)	Hydraulic Conductivity (ft/day)
1	Walton	50	20	120	3	0.2	9	120	1	111	27,570	248
2	Thomas	100	3	120	4	0.2	15	120	20	105	22,812	217
3	Reese	30	20	60	3	0.2	6	120	1	114	17,088	150
4	Donnley ¹	60	1	60	4	0.2	12	120	15	108	52,889	490
5	Sturdavant	300	94	60	4	0.2	6	120	1	114	33,182	291
6	Thomas91	90	68	120	4	0.2	7	120	1	113	13,600	120
	Ahrons ²	50	2	60	3	0.2	7	120	12	113	29,366	260

¹ Well not included in analysis due to lack of drawdown data.

² Well used in place of Donnley.

MEAN	111	23,936	215
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Distance between Stream and Well – The transfer application describes the distance between the Big Wood River and the proposed well as approximately 415 feet (Figure 1).

Pumping Rate - The water right authorizes a withdrawal rate of 0.08 cfs.

Depletion of Big Wood River Streamflow

The Consultant used the IDWR Tool and a spreadsheet tool they created to estimate stream depletion. The stream-depletion analysis submitted by the Consultant, as calculated with the IDWR Tool, indicates that the well obtains 31.6% of the pumped volume from the Big Wood River in the first 24 hours. However, using the same inputs, IDWR estimated that the Big Wood River contributes 30.3% of the pumped volume in 24 hours (Appendix B). Using IDWR input values in the IDWR Tool, the Big Wood River contributes 20.9% of the pumped volume in 24 hours. The spreadsheet tool submitted by the Consultant only reports depletion percent and does not address the transfer policy requirements¹.

Table 3. Glover and Balmer (1954) method input values and stream depletion.

	Consultant	IDWR
Time (days)	1	1
Hydraulic Conductivity (ft/day)	242	215
Aquifer Thickness (ft)	120	111
Specific Yield (unitless)	0.15	0.20
Distance (ft)	415	415
Pumping Rate (cfs)	0.08	0.08
Stream Depletion (%)*	31.6	20.9

*IDWR estimated 30.3 % stream depletion using the Consultant's input values in the IDWR Tool

Summary

The transfer application seeks to change the point of diversion for water right 37-23095 from a surface-water right to a groundwater right that will divert from a proposed new well located approximately 415 feet from the Big Wood River.

The Consultant and IDWR generated different aquifer property values for the calculation of stream depletion due to pumping of the proposed new well. Despite the different inputs, both the Consultant and IDWR estimate that the Big Wood River contributes less than 50% of the pumped volume.

¹ An application proposing to change the point of diversion to a location resulting in a change from ground water to surface water or from surface water to ground water shall include an analysis confirming a direct and immediate hydraulic connection (at least 50 percent depletion in original source from depletion at proposed point of diversion in one day).

References

- Bartolino, J.R., and Adkins, C.B., 2012. Hydrogeologic Framework of the Wood River Valley Aquifer System, South-Central Idaho. U.S. Geological Survey Scientific Investigations Report 2012-5053. <http://pubs.usgs.gov/sir/2012/5053/>
- Glover, R.E. 1974. Transient Ground Water Hydraulics, Water Resources Publications. Fort Collins, CO.
- Glover, R.E., and Balmer, C.G., 1954. River Depletion Resulting from Pumping a Well Near a River, American Geophysical Union Transactions 35, no. 3, pgs 468-470.
- Peppersack, J., 2009. Transfer Processing Policies & Procedures. Transfer Processing Memo #24, Idaho Department of Water Resources, December 21, 2009.

APPENDIX A

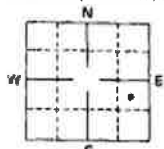
Ahrons Well Driller's Reports

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

RECORDED
SUBMITTED BY TYPEWRITER OR
PRINTED BY PERMIT PEN

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

JUN 29 1979
Department of Water Resources
Southern District Office

<p>1. WELL OWNER</p> <p>Name <u>Peter Ahrens</u></p> <p>Address <u>Hailey, Idaho (Donnelly Sub.)</u></p> <p>Owner's Permit No. _____</p>	<p>7. WATER LEVEL</p> <p>Static water level <u>7</u> feet below land surface.</p> <p>Flowing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No G.P.M. flow _____</p> <p>Artesian closed-in pressure _____ p.s.i.</p> <p>Controlled by: <input type="checkbox"/> Valve <input type="checkbox"/> Cap <input type="checkbox"/> Plug</p> <p>Temperature _____ °F. Quality _____</p>																																																				
<p>2. NATURE OF WORK</p> <p><input checked="" type="checkbox"/> New well <input type="checkbox"/> Deepened <input type="checkbox"/> Replacement</p> <p><input type="checkbox"/> Abandoned (describe method of abandoning) _____</p>	<p>8. WELL TEST DATA</p> <p><input type="checkbox"/> Pump <input checked="" type="checkbox"/> Baller <input type="checkbox"/> Air <input type="checkbox"/> Other _____</p> <table border="1"> <tr> <th>Discharge G.P.M.</th> <th>Pumping Level</th> <th>Hours Pumped</th> </tr> <tr> <td>50</td> <td>9</td> <td>1</td> </tr> </table>	Discharge G.P.M.	Pumping Level	Hours Pumped	50	9	1																																														
Discharge G.P.M.	Pumping Level	Hours Pumped																																																			
50	9	1																																																			
<p>3. PROPOSED USE</p> <p><input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Test <input type="checkbox"/> Municipal</p> <p><input type="checkbox"/> Industrial <input type="checkbox"/> Stock <input type="checkbox"/> Waste disposal or injection</p> <p><input type="checkbox"/> Other _____ (specify type)</p>	<p>9. LITHOLOGIC LOG</p> <table border="1"> <thead> <tr> <th rowspan="2">Hole Diam.</th> <th colspan="2">Depth</th> <th rowspan="2">Material</th> <th colspan="2">Water</th> </tr> <tr> <th>From</th> <th>To</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>0</td> <td>5</td> <td>top soil</td> <td></td> <td>X</td> </tr> <tr> <td>8</td> <td>5</td> <td>7</td> <td>clay</td> <td></td> <td>X</td> </tr> <tr> <td>8</td> <td>7</td> <td>14</td> <td>gravel & sand</td> <td>X</td> <td>X</td> </tr> <tr> <td>8</td> <td>14</td> <td>18</td> <td>gravel set in clay</td> <td></td> <td>X</td> </tr> <tr> <td>6</td> <td>18</td> <td>30</td> <td>" " " "</td> <td></td> <td>X</td> </tr> <tr> <td>6</td> <td>30</td> <td>34</td> <td>sand with water</td> <td>X</td> <td></td> </tr> <tr> <td>6</td> <td>34</td> <td>52</td> <td>coarse sand & gravel</td> <td>X</td> <td></td> </tr> </tbody> </table>	Hole Diam.	Depth		Material	Water		From	To	Yes	No	8	0	5	top soil		X	8	5	7	clay		X	8	7	14	gravel & sand	X	X	8	14	18	gravel set in clay		X	6	18	30	" " " "		X	6	30	34	sand with water	X		6	34	52	coarse sand & gravel	X	
Hole Diam.	Depth		Material	Water																																																	
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8	5	7	clay		X																																																
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8	14	18	gravel set in clay		X																																																
6	18	30	" " " "		X																																																
6	30	34	sand with water	X																																																	
6	34	52	coarse sand & gravel	X																																																	
<p>4. METHOD DRILLED</p> <p><input type="checkbox"/> Rotary <input type="checkbox"/> Air <input type="checkbox"/> Hydraulic <input type="checkbox"/> Reverse rotary</p> <p><input checked="" type="checkbox"/> Cable <input type="checkbox"/> Dug <input type="checkbox"/> Other _____</p>																																																					
<p>B. WELL CONSTRUCTION</p> <p>Casing schedule: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____</p> <p>Thickness <u>.250</u> inches Diameter <u>6</u> inches From <u>1</u> feet To <u>52</u> feet</p> <p>Was casing drive shoe used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Was a packer or seal used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Perforated? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>How perforated? <input type="checkbox"/> Factory <input checked="" type="checkbox"/> Knife <input type="checkbox"/> Torch</p> <p>Size of perforation <u>5</u> inches by <u>1 1/2</u> inches</p> <p>Number <u>4</u> perforations From <u>35</u> feet To <u>47</u> feet</p> <p>Well screen installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Manufacturer's name _____</p> <p>Type _____ Model No. _____</p> <p>Diameter _____ Slot size _____ Set from _____ feet to _____ feet</p> <p>Gravel packed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Size of gravel _____</p> <p>Placed from _____ feet to _____ feet</p> <p>Surface seal depth <u>18</u> Material used in seal: <input type="checkbox"/> Cement grout <input checked="" type="checkbox"/> Pudding clay <input type="checkbox"/> Well cuttings</p> <p>Sealing procedure used: <input type="checkbox"/> Slurry pit <input checked="" type="checkbox"/> Temp. surface casing <input type="checkbox"/> Overbore to seal depth</p> <p>Method of joining casing: <input type="checkbox"/> Threaded <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Solvent Weld</p> <p><input type="checkbox"/> Cemented between strata</p> <p>Describe access port _____</p>	<p>051872</p> <p>10. Work started <u>6/18/79</u> finished <u>6/21/79</u></p>																																																				
<p>6. LOCATION OF WELL</p> <p>Sketch map location must agree with written location.</p>  <p>Subdivision Name _____</p> <p>Lot No. _____ Block No. _____</p> <p>County <u>BLAINE</u></p> <p><u>N.E. 1/4 S.E. 1/4 Sec. 5, T. 2, R. 18 W.</u></p>	<p>11. DRILLERS CERTIFICATION</p> <p>I/We certify that all minimum well construction standards were complied with at the time the rig was removed.</p> <p>Firm Name <u>Ken Smith Well Drilling</u> No. <u>265</u></p> <p>Address <u>Box 1165 Hailey, Ida</u> Date <u>6/22/79</u></p> <p>Signed by (Firm Official) <u>Ken Smith</u></p> <p>and Operator _____</p>																																																				

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Figure A-1. Locations for well logs used to determine aquifer thickness.

APPENDIX B

IDWR Stream Depletion Analysis Tool Estimates

Stream Depletion Analysis Tool		Read Me
Project Title		Definition of Variables
Wankler		
Calculation of Stream Depletion Rate & Volume		
User Defined Input Variables		
t =	1	duration of pumping (days)
K =	242.00	hydraulic conductivity (ft/day)
b =	120.00	saturated thickness (ft)
Sy =	0.15	specific yield in decimals (unitless)
a =	415.00	distance (ft)
Q =	0.08	pumping rate (ft ³ /s)
Calculated Input Variables		
T =	29040	transmissivity (ft ² /day)
Sy/T =	0.00000517	component of sdf (unitless) for observation only
Q =	6912	pumping rate (ft ³ /day)
Qt =	6912	pumped volume (ft ³)
	0.16	pumped vol (ac-ft)
Table Values		
sdf =	0.8896	stream depletion factor (units of time)
t/sdf =	1.12	(unitless)
q/Q =	0.482	(unitless)
v/Qt =	0.316	(unitless)
Stream Depletion Rate		
q =	0.039	stream depletion rate (ft ³ /s)
% Total =	48.2	contribution of total flow rate from stream (%)
Stream Depletion Volume		
v =	2184.192	vol. strm depletion (ft ³)
	0.0501	vol. strm depletion (ac-ft)
% Total =	31.6	contribution of total volume from stream (%)
Notes		
<p>This analysis represents my (MDVV) review of the stream depletion analysis conducted by SPF regarding the proposed Donald Nickelson transfers along the Big Wood River in basin 37.</p> <p>Hydraulic conductivity is based on an average of the average K values reported for "clean gravel" and "crushed gravel" in Table 2 of the Soil Property Tables worksheet. It is assumed that the K value extends over the entire 6-foot overlap of the perforated area (30-42 feet) and the saturated thickness or water bearing zone (15.6-36 feet). Saturated thickness is assumed to be the 6-foot depth of overlap. The specific yield (Sy) is equal to 0.23, or the average of the Sy values reported in Table 1 of the Soil Property Tables worksheet for gravels. Analysis indicates that even over the decreased saturated thickness q/Q is 93.5% (> 50%) and v/Qt is 89.2% (>50%).</p>		

Figure B-1. Consultant submittal of IDWR Tool results.

Stream Depletion Analysis Tool

[Read Me](#)

Project Title

Wankier Consultant Numbers

Definition of Variables

Calculation of Stream Depletion Rate & Volume

User Defined Input Variables

t =	1	duration of pumping (days)
K =	242.00	hydraulic conductivity (ft/day)
b =	120.00	saturated thickness (ft)
Sy =	0.15	specific yield in decimals (unitless)
a =	415.00	distance (ft)
Q =	0.08	pumping rate (ft ³ /s)

Calculated Input Variables

T =	29,040	transmissivity (ft ² /day)
Sy/T =	0.00000517	component of sdf (unitless) for observation only
Q =	6912	pumping rate (ft ³ /day)
Qt =	6912	pumped volume (ft ³)
	0.16	pumped vol (ac-ft)

Table Values

sdf =	0.8896	stream depletion factor (units of time)
t/sdf =	1.124	(unitless)
q/Q =	0.505	(unitless)
v/Qt =	0.303	(unitless)

Stream Depletion Rate

q =	0.040	stream depletion rate (ft ³ /s)
% Total =	50.5	contribution of total flow rate from stream (%)

Stream Depletion Volume

v =	2,097	vol. strm depletion (ft ³)
	0.0481	vol. strm depletion (ac-ft)
% Total =	30.3	contribution of total volume from stream (%)

Notes and Discussion

Analysis rerun by IDWR using Brockwa input values.

Reference:

The Glover & Balmer method utilized in analysis is recreated in part from Jenkins, C.T., 1968. Book 4 Hydrologic Analysis and Interpretation Chapter D1 Computation of Rate and volume of Stream Depletion by Wells. Techniques of Water-Resources Investigations of the United States Geological Survey.

Figure B-2. IDWR results using the Consultant input values in the IDWR Tool.

Stream Depletion Analysis Tool

[Read Me](#)

Project Title

Wankier McVay Numbers

[Definition of Variables](#)

Calculation of Stream Depletion Rate & Volume

User Defined Input Variables

t =	1	duration of pumping (days)
K =	215.00	hydraulic conductivity (ft/day)
b =	111.00	saturated thickness (ft)
Sy =	0.20	specific yield in decimals (unitless)
a =	415.00	distance (ft)
Q =	0.08	pumping rate (ft ³ /s)

Calculated Input Variables

T =	23,865	transmissivity (ft ² /day)
Sy/T =	0.00000838	component of sdf (unitless) for observation only
Q =	6912	pumping rate (ft ³ /day)
Qt =	6912	pumped volume (ft ³)
	0.16	pumped vol (ac-ft)

Table Values

sdf =	1.4433	stream depletion factor (units of time)
t/sdf =	0.693	(unitless)
q/Q =	0.396	(unitless)
v/Qt =	0.209	(unitless)

Stream Depletion Rate

q =	0.032	stream depletion rate (ft ³ /s)
% Total =	39.6	contribution of total flow rate from stream (%)

Stream Depletion Volume

v =	1,442	vol. strm depletion (ft ³)
	0.0331	vol. strm depletion (ac-ft)
% Total =	20.9	contribution of total volume from stream (%)

Notes and Discussion

The volumetric depletion during the first 24 hours is 20.9%

Reference:

The Glover & Balmer method utilized in analysis is recreated in part from Jenkins, C.T., 1968. Book 4 Hydrologic Analysis and Interpretation Chapter D1 Computation of Rate and volume of Stream Depletion by Wells. Techniques of Water-Resources Investigations of the United States Geological Survey.

Figure B-2. Results using IDWR input values in the IDWR Tool.



BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics

Hydrology

Water Resources

RECEIVED

APR 03 2020

DEPT OF WATER RESOURCES
SOUTHERN REGION

March 31st, 2020

Mr. Corey Skinner
Idaho Department of Water Resources
650 Addison Ave W, Ste 500.
Twin Falls, ID 83301-3380

RE: Weldon & Marilyn J. Wankier Living Trust Surface Water Right Transfer Application.

Dear Corey,

Enclosed is a water right transfer application in the name of the Weldon & Marilyn J. Wankier Living Trust (Applicant), involving a surface water right on their property north of Hailey, ID. The Applicant seeks to change the point of diversion and change the source associated with existing Big Wood River water right 37-23095. Changes to delivery ditches on lands owned by others has precluded delivery of 37-23095 to the Applicant's property from the existing points of diversion associated with the water right. The Applicant therefore proposes to divert 37-23095 from a proposed well on the Applicant's property approximately 415 feet from the Big Wood River. The attached stream depletion analysis show approximately 50.3% of the applicants pumping originates from the Big Wood River within a twenty-four hour period which meets IDWR's Transfer Processing Memo 24 50% in 24 hours criteria for a change in source. Based on this analysis, the transfer is approvable.

Please copy our office and Brockway Engineering on all correspondence regarding this water right transfer application. Also included is a check for \$200.00 to cover the cost of the water right transfer application. Don't hesitate to give me a call should you have any further questions or comments.

Regards,

Shirley Davis on behalf of
Zach Latham, M.S., Hydrologist.

Enclosures: (1) Water Right Transfer Application and Associated Map.
(1) Stream Depletion Analysis Narrative and Results.
(1) Brockway Engineering Check # 15823.

Cc: Mr. Weldon Wankier
Jim Speck

CHARLES E.
BROCKWAY,
PH.D., P.E.

CHARLES G.
BROCKWAY,
PH.D., P.E.

2016 NORTH
WASHINGTON
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TWIN FALLS,
IDAHO 83301

208•736•8543

FAX: 736•8506