

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**BENEFICIAL USE FIELD REPORT**

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

**A. GENERAL INFORMATION**Permit No. 65-139631. Owner Tina Marie Hoven Phone No. 208-489-6622 messageCurrent address PO BOX 300 Garden Valley ID 836222. Examiner's name Phill Hummer EXAM DATE 10/15/20183. Accompanied by Nick Miller (IDWR) Email \_\_\_\_\_

Address \_\_\_\_\_

Relationship to permit holder \_\_\_\_\_ Phone No. \_\_\_\_\_

4. Source Dodge Creek tributary to SF Payette River**B. OVERLAP REVIEW**1. Other water rights with the same place of use 65-133922. Other water rights with the same source and point of diversion 65-13392, 65-8992**C. DIVERSION AND DELIVERY SYSTEM**

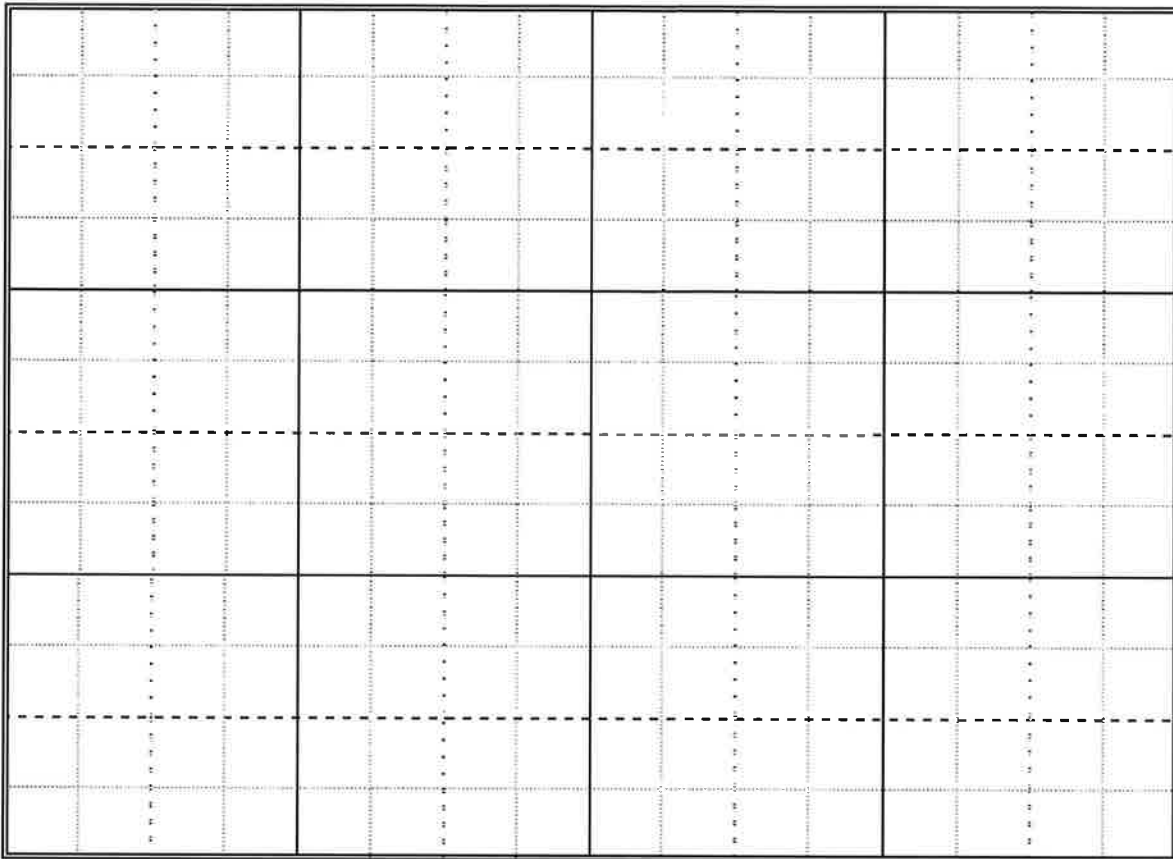
## 1. Point(s) of Diversion:

| Ident. No. | Gov't Lot | ¼ | ¼  | ¼  | Sec | Twp | Rge | County | Method of Determination/Remarks    |
|------------|-----------|---|----|----|-----|-----|-----|--------|------------------------------------|
|            |           |   | SW | SW | 01  | 08N | 05E | Boise  | Site visit, maps, DRG layer Arcmap |
|            |           |   |    |    |     |     |     |        |                                    |
|            |           |   |    |    |     |     |     |        |                                    |
|            |           |   |    |    |     |     |     |        |                                    |

2. Place(s) of Use: Method of determination site visit, map

| Twp | Rge | Sec | NE |    |    |    | NW |    |    |    | SW |     |     |    | SE |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|----|----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW  | SW  | SE | NE | NW | SW | SE |        |
| 08N | 05E | 01  |    |    |    |    |    |    |    |    |    |     | IS  |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |     | AS  |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    | 1.5 | 1.5 |    |    |    |    |    | 3.0    |
|     |     |     |    |    |    |    |    |    |    |    |    | L6  |     |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |    |        |

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.



Scale: 1" = \_\_\_\_\_

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)  
☒ Aerial photo attached (required for irrigation of 10+ acres)  
☒ Photo of diversion and system attached

4.

| Well or Diversion Identification No.* | Motor Make | Hp | Motor Serial No. | Pump Make | Pump Serial No. or Discharge Size |
|---------------------------------------|------------|----|------------------|-----------|-----------------------------------|
| n/a                                   |            |    |                  |           |                                   |
|                                       |            |    |                  |           |                                   |
|                                       |            |    |                  |           |                                   |

\*Code to correspond with no. on map and aerial photo

#### D. FLOW MEASUREMENTS

1.

| Measurement Equipment | Type | Make | Model No. | Serial No. | Size | Calib. Date |
|-----------------------|------|------|-----------|------------|------|-------------|
| not measured          |      |      |           |            |      |             |
|                       |      |      |           |            |      |             |

2. **Measurements:** \_\_\_\_\_

We used a measuring tape to get the dimensions of the pond. It is 53 ft across at its longest, 25 ft wide at its widest and 6.5 feet deep on average.

**E. NARRATIVE/REMARKS/COMMENTS**

See the field examination narrative for right no. 65-13392 for details regarding the diversion system, proof of beneficial use, and other examination notes.

The Dodge Creek diversion system is a gravity fed 4 inch pvc pipeline that terminates open ended in a pond in the SWSW of section 1, township 08N, range 05E. Since the pond is off stream the license should have a diversion to storage component. Since the system was not operational during the examination the only data that can be used to estimate a diversion rate would be the measurement data from 2003 submitted by Ms. Hoven on 08/15/2003. The highest rate reported on that sheet was on Jan 13, which was 0.80 cfs. This is greater than the rate authorized by the permit so the diversion to storage rate on the license should be 0.5 cfs (the permitted rate). A rate for aesthetic purposes should not be licensed because the pond does not have an outflow so no additional water greater than the capacity of the pond was diverted for flow through purposes and the diversion system is closed pipe. For these reasons an aesthetic beneficial use was not found to have been developed. No greenhouses were constructed so the commercial use of water was not developed and should not be licensed.

The permit was issued with 19.0 af authorized for aesthetic storage but the pond that as constructed has a capacity much lower than that volume. Since Ms. Hoven used a small pump and hand sprayer to water her trees and catnip an irrigation from storage beneficial use was developed. The license could be amended to include this use if part of the volume permitted for aesthetic storage could be changed to irrigation storage without increasing the total volume permitted. This should be possible since the number of acres irrigated was small. The volume recommended for irrigation storage and for irrigation from storage should be based on the standard headgate volume requirement of the area. When the syustem is operating any water diverted into the pond from Dodge Creek is stored (no overflow or bypass) and any water stored that is not used for irrigation would remain in the pond until lost to seepage or evaporation. The water in the pond provides an aesthetic use. The amount of water lost from seepage and evaporation should be included in the aesthetic storage component per current Department policy. See the attached pond spreadsheet for aesthetic storage calculations and the volume calculations section below for more details regarding the irrigation volume.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

**F. FLOW CALCULATIONS**☐ Additional computation sheets attachedMeasured Method:  
n/a**G. VOLUME CALCULATIONS**

## 1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.0 \times 4.5 = 10.5 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.5 \times 231 \times 1.9835 = 229.09 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 10.5 \text{ af}$$

## 2. Volume Calculations for Other Uses:

Aesthetic Storage

From the pond worksheet:

pond capacity: 0.2 af + seepage loss: 2.2 af + evaporative loss: 0.05 af = 2.5 af

**H. RECOMMENDATIONS**

## 1. Recommended Amounts

| Beneficial Use          | Period of Use |       | Rate of Diversion<br>Q (cfs) | Annual Volume<br>V (afa) |
|-------------------------|---------------|-------|------------------------------|--------------------------|
|                         | From          | To    |                              |                          |
| Diversion to Storage    | 01/01         | 12/31 | 0.50                         |                          |
| Aesthetic Storage       | 01/01         | 12/31 |                              | 2.5                      |
| Irrigation Storage      | 03/15         | 10/31 |                              | 10.5                     |
| Irrigation From Storage | 03/15         | 10/31 |                              | 10.5                     |
|                         |               |       |                              |                          |
| <b>Totals:</b>          |               |       | 0.50                         | 13.0                     |

## 2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1    ☐ Add P.D. as reflected on page 1    ☐ None  
☒ Change P.U. as reflected on page 1    ☒ Add P.U. as reflected on page 1    ☐ Other

**I. AUTHENTICATION**

Field Examiner's Signature



Date

2/7/19

Reviewer

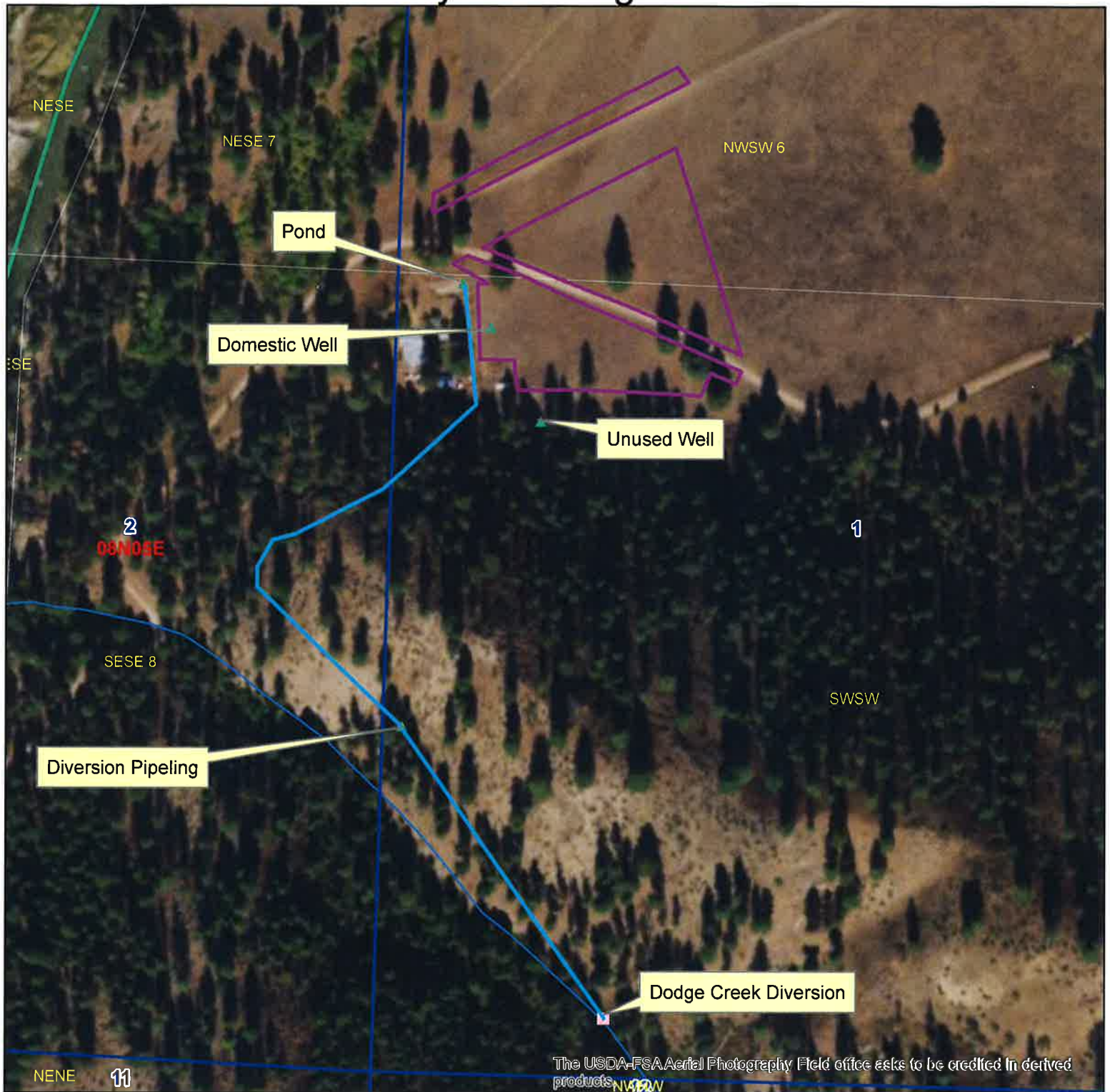


Date

2/7/19

SEAL

# System Diagram



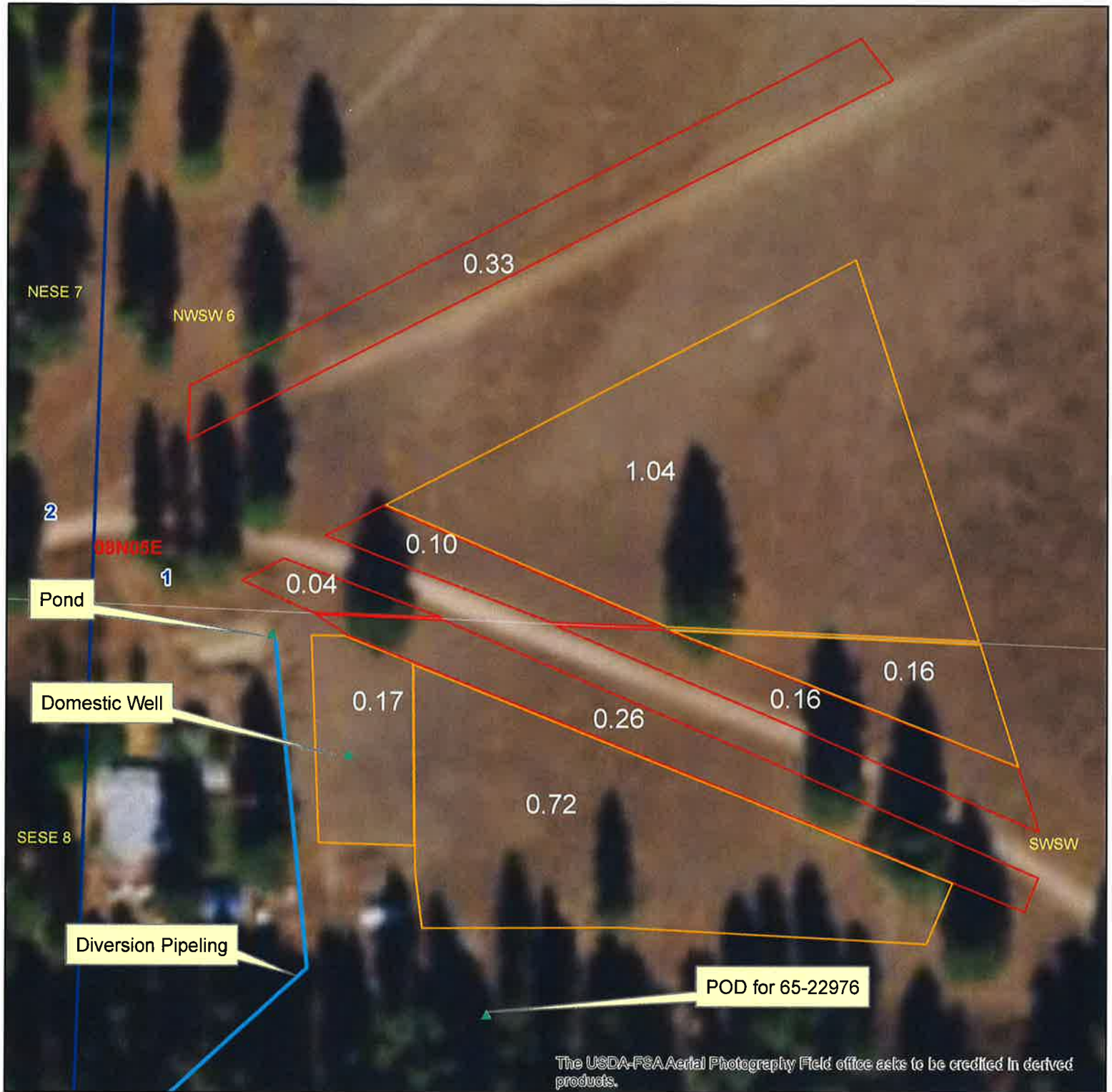
## Legend

- Water Right POD
- Field Exam GPS Points
- Irrigation POU
- Township/Range
- Sections
- QQ

0 0.0225 0.045 0.09 Miles



# Irrigated Acres



## Legend

- ▲ gps
- Tree Boundaries
- Catnip Boundaries
- Township/Range
- Sections
- QQ

0 0.0075 0.015 0.03 Miles



# Diversion Measurements

| date 2003 | rate (gal/sec) | rate (gal/min) | rate (cfs) |
|-----------|----------------|----------------|------------|
| 13-Jan    | 6.000          | 360            | 0.80       |
| 31-Jan    | 1.250          | 75             | 0.17       |
| 21-Mar    |                | 75             | 0.17       |
| 19-Apr    | 0.625          | 37.5           | 0.08       |
| 25-Apr    | 0.714          | 42.84          | 0.10       |
| 29-Apr    | 1.250          | 75             | 0.17       |
| 10-May    | 1.000          | 60             | 0.13       |
| 11-May    | 1.667          | 100.02         | 0.22       |
| 20-Jun    | 0.417          | 25.02          | 0.06       |
| 26-Jun    | 0.278          | 16.68          | 0.04       |
| 15-Jul    | 0.417          | 25.02          | 0.06       |
| 12-Aug    |                | 5              | 0.01       |
| 13-Aug    |                | 5              | 0.01       |
|           |                | avg            | 0.15       |

\*Data received 08/15/2003 scanned to 65-13963

## Seepage Loss Calculations

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

|             |              |
|-------------|--------------|
| FILE NUMBER | 65-13963     |
| REVIEWER    | Phill Hummer |
| DATE        | 10/26/2018   |

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

### INPUTS

|                         |        |     |
|-------------------------|--------|-----|
| Pond Surface Area (AC.) | 0.0304 | AC. |
|-------------------------|--------|-----|

|                             |      |         |
|-----------------------------|------|---------|
| Pond Surface Area (SQ. FT.) | 1324 | SQ. FT. |
|-----------------------------|------|---------|

|                                                                           |                      |         |
|---------------------------------------------------------------------------|----------------------|---------|
| I used the following method to obtain my Soil Classification information: | NRCS Web Soil Survey |         |
| My Soil Classification is                                                 | SM                   |         |
| Suggested Seepage Rate (FT./DAY)                                          | 0.2000               | FT./DAY |

formula  
0.2

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

|                |      |     |
|----------------|------|-----|
| Convert to GPD | 1981 | GPD |
|----------------|------|-----|

|                          |     |     |
|--------------------------|-----|-----|
| Total Seepage Loss (AFA) | 2.2 | AFA |
|--------------------------|-----|-----|

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

| Suggested Seepage Rates for Different Soil Types:                                                   |
|-----------------------------------------------------------------------------------------------------|
| GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = 0.2 ft per day |
| OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.02 ft per day        |
| SC (clayey sands, sand clay mixtures) = 0.007 ft per day                                            |
| CL (Low to medium plasticity clays) = 0.003 ft per day                                              |
| MH, OH, PT and CH (high plasticity clays) = 0.0003 ft per day                                       |
| LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day                           |
| Ponds Intercepting Groundwater (excavated ponds filled by ground water) = 0 ft per day              |

**PLEASE NOTE:** The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

## Evaporation Loss Calculations

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

|             |              |
|-------------|--------------|
| FILE NUMBER | 65-13963     |
| REVIEWER    | Phill Hummer |
| DATE        | 10/26/2018   |

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

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

|                                        |
|----------------------------------------|
| P = Precipitation                      |
| ET= Evapotranspiration                 |
| P <sub>d</sub> = Precipitation deficit |
| P <sub>d</sub> =ET-P                   |

### USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at X:/Spatial/Climate/ETIdahostations.shp.

### Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

### Precipitation Deficit

Station: Garden Valley RS

| Month     | mm/day <sup>1</sup> | Days per month | mm/Month |
|-----------|---------------------|----------------|----------|
| Jan       | -2.92               | 31             | 0.00     |
| Feb       | -1.50               | 28             | 0.00     |
| March     | -0.40               | 31             | 0.00     |
| April     | 0.90                | 30             | 27.00    |
| May       | 1.91                | 31             | 59.21    |
| June      | 2.96                | 30             | 88.80    |
| July      | 4.41                | 31             | 136.71   |
| August    | 3.73                | 31             | 115.63   |
| September | 2.01                | 30             | 60.30    |
| October   | 0.16                | 31             | 4.96     |
| November  | -2.40               | 30             | 0.00     |
| December  | -3.60               | 31             | 0.00     |

Total mm/year = 492.61

**PLEASE NOTE:** The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

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

$$(492.61 \div 304.8) \times 0.03 = 0.049 \text{ AFA}$$

## Total Storage Calculations

|             |             |
|-------------|-------------|
| FILE NUMBER | 65-13963    |
| REVIEWER    | Phil Hummer |
| DATE        | 10/26/2018  |

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

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

|                                                                                              |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface Area (AC.)                                                                           | 0.0304 | "Surface Area" is automatically carried over from the "Seepage Loss" sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Average Pond Depth (FT.)                                                                     | 6.5    | "Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Pond Capacity (AF)                                                                           | 0.1976 | Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above.<br><b>Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.</b>                                                                                                                                                                                                                                                                                                                                                                                         |
| Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF) | 0      | The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed).<br><b>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</b> |
| Estimated Seepage Loss (AF)                                                                  | 2.2    | The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Estimated Evaporation Loss (AF)                                                              | 0.0    | The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Total Volume Required (AF)                                                                   | 2.5    | The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



Picture 1.

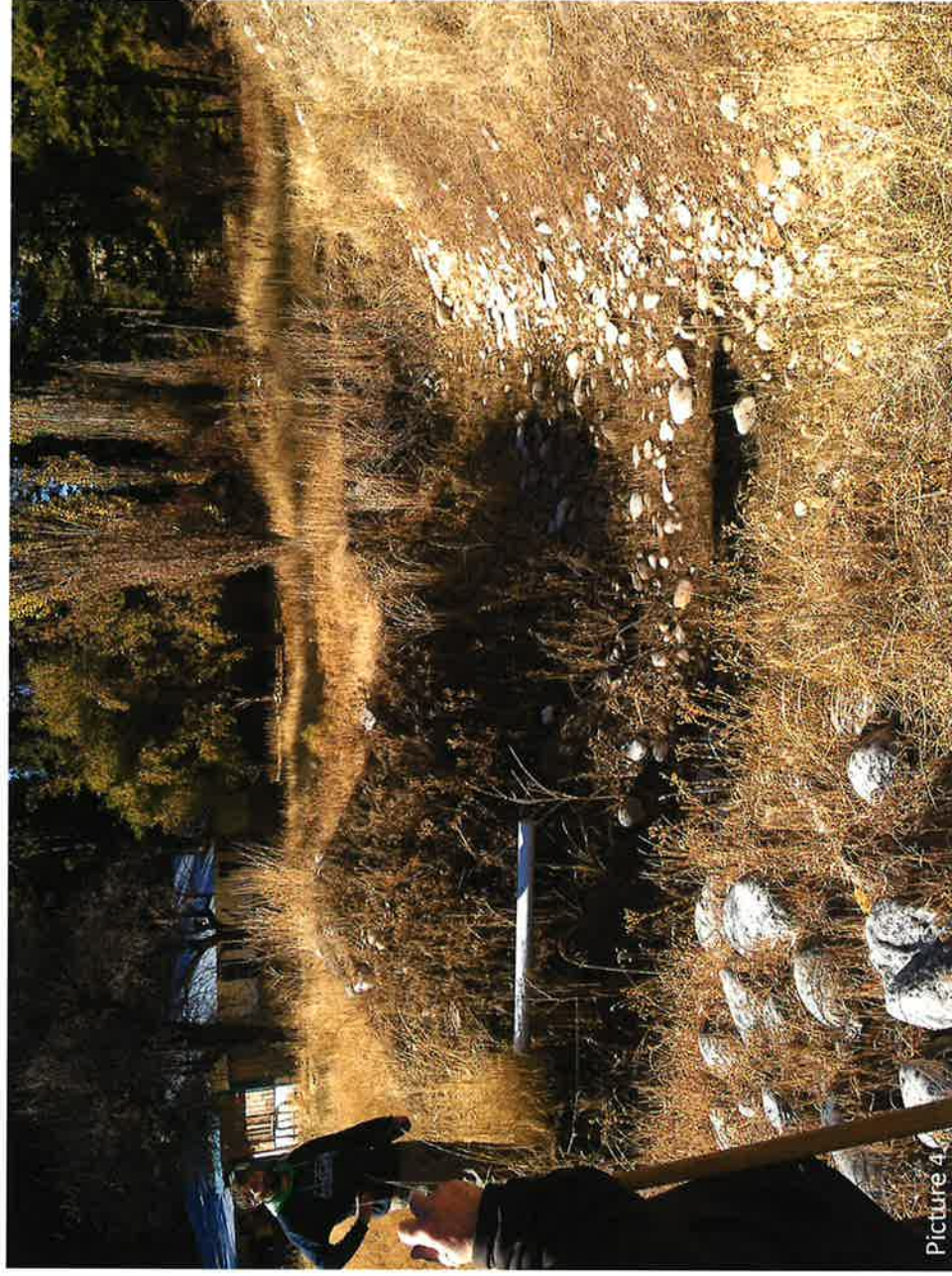


Picture 2.

Pictures 1 and 2 show the diversion end of the pvc pipe in the bed of Dodge Creek. Photos submitted by Ms. Hoven that show the rest of the pipeline were scanned to the records for 65-13392 and 65-13963 on 04/04/2018 under "Order Voiding Permit & Supporting Documents". Photos submitted by Ms. Hoven that show the lockable controlling device are also in the same location.



Picture 3.



Picture 4.

Photo 3 and 4 showing the end of the pvc pipeline where it discharges into the pond.



Picture 5.



Picture 6.

Photos 5 and 6 show parts of the irrigation place of use. Photo #5 is the view North/Northwest across the property and Photo 6 is looking East from the unused well (65-22976).