

[illegible]

PLACE OF USE: DOMESTIC, DOMESTIC FROM STORAGE

Tw	Rge	Sec	NE				NW				SW				SE				Totals
36N	01W	15	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
				X															

Method of Determination: Maps in the file; Bing Map and 2011 Arc Map Imagery

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☐ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached (no photo of the POD but the intake into the pond, and overflow at the pond).

4.

<u>Well or Diversion</u>					<u>Pump Serial No. or Discharge</u>
<u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Size</u>

Complete gravity flow system from the headgate at the creek, with 4 inch discharge to 4 inch pipe that runs down along the hillside and open discharges to the pond; an overflow at the north end of the pond at the 8 ft height dam, that when there is excess flow, the flow continues down a dirt ditch, discharging back into the creek.

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurements:
No physical measurement was taken from the 4 inch pipe or the overflow, at the time of the field examination, since there was no active flow to measure. The following calculations were used to determine the diversion rate:

4 inch pipe capacity:

$$5 \times 3.1416 \times [(diameter/12)/2]^2 = 0.44 \text{ cfs capacity}$$

IDWR Standard for Domestic external use only: 0.02 cfs

Physical Measurement from the riser located northeast of the pond:
(5 gallon X 60 sec)/30 sec. = 10 gpm X 0.00223 = 0.02 cfs

RECOMMEND:**Wildlife** 0.03 cfs (same water as diversion to storage)**Domestic** 0.02 cfs (external use only, for yard/garden, watering up to 12 head horses)**Diversion to Storage** 0.03 cfs (due to the capacity of the pipe, and flow being low at the time of the field examination, and historical evidence that flow was higher)**Total Diversion Rate:** 0.03 cfs

E. VOLUME CALCULATIONS

1. Volume Calculations for:

The pond measured 0.05 acre X 7 ft deep = 0.35 af

IDWR standard for Domestic external use only is = 0.6 af

This pond is used for Wildlife Storage, Domestic Storage, Domestic from Storage, Fire Protection Storage, and Fire Protection from Storage. All were given the same value as Domestic, since it is the same pond, with the Total Annual Volume being 1.2 af (to allow for refilling the pond).

RECOMMEND:

Wildlife Storage 0.6 af

Domestic 0.6 af

Domestic Storage 0.6 af

Domestic from Storage 0.6 af

Fire Protection Storage 0.6 af

Fire Protection from Storage 0.6 af

Total Annual Volume 1.2 af

F. NARRATIVE/REMARKS/COMMENTS

At the point of diversion is a headgate at the creek, with a 4 inch discharge to 4 inch pipe that runs across the hillside to the pond. The pond has an 8 ft height dirt dam on the north side; with the overflow that discharges to a dirt ditch that goes back to the creek. The entire system is gravity flow. At the time of the field exam, there was no flow going to the pond, and no overflow. The pond was only about 6 ft deep, but had indications on the sides of the banks that historically it had been full or at least 7 ft deep. Northeast of the pond is a riser where a hose can be attached for the risers with misc size rainbird nozzles that can be moved around. These are used for domestic external use for watering the grass area around the house, pond and garden area, and for watering up to 12 horses; also for fire protection). No Domestic internal use from the pond was determined. Wildlife use is for fox, turkey, misc birds, deer, etc. The owner runs an outfitter business, so he is not home very often, so the horses are there for short periods of time.

Have conditions of permit approval been met? ☒ Yes ☐ No

G. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
WILDLIFE	01/01 to 12/31	0.030 CFS	
DOMESTIC STORAGE	01/01 to 12/31		0.60 AF
FIRE PROTECTION FROM STORAGE	01/01 to 12/31		0.60 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		0.60 AF
DOMESTIC	01/01 to 12/31	0.020 CFS	0.60 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.030 CFS	
WILDLIFE STORAGE	01/01 to 12/31		0.60 AF
DOMESTIC FROM STORAGE	01/01 to 12/31		0.60 AF
<u>Totals:</u>		0.030 CFS	1.20 AF*

*To allow for refilling the pond.

2. Recommended Amendments

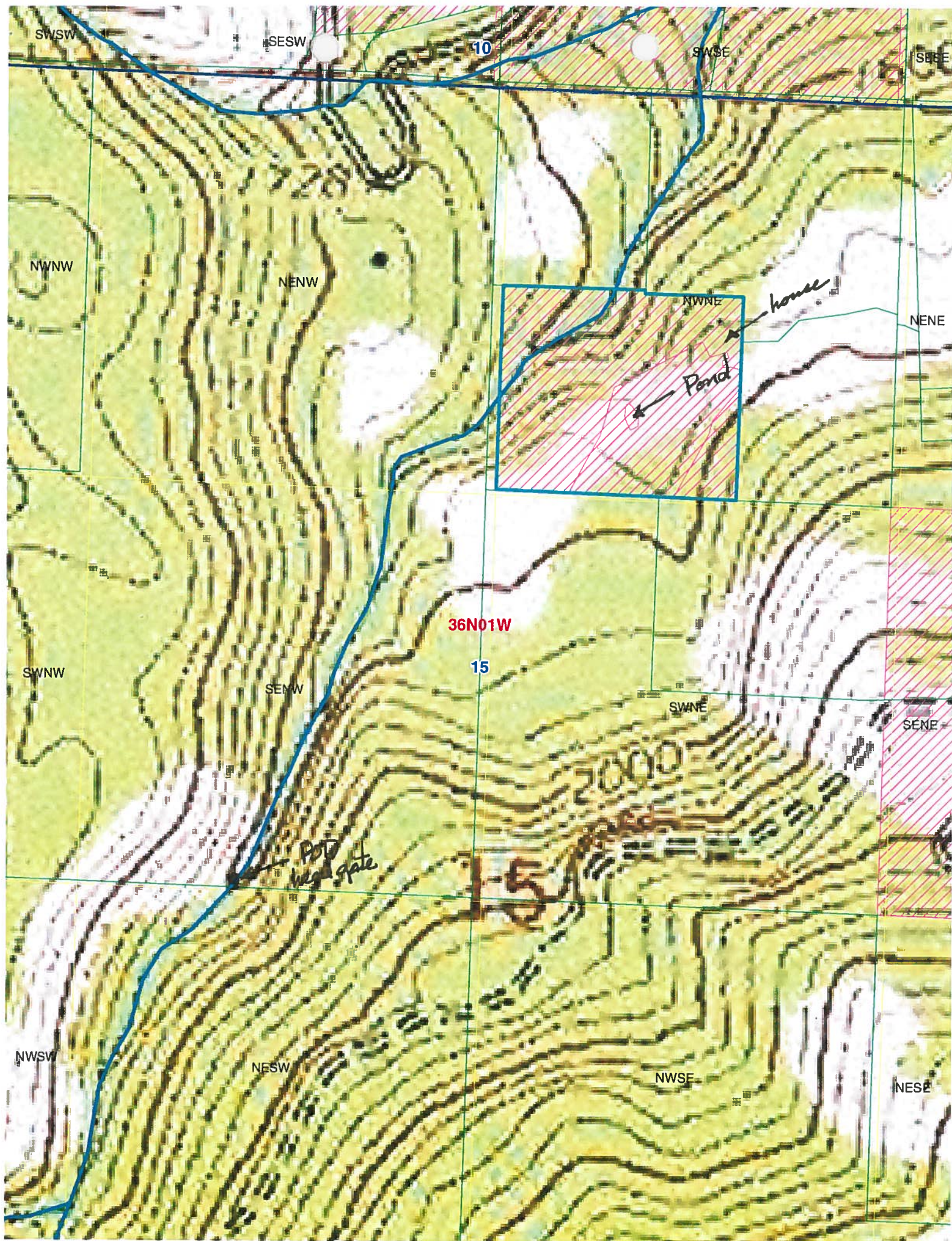
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

H. AUTHENTICATION

Field Examiner's Name Gudy Homenway Date 1/16/2013 SH.







05 15 2012



Entrance
to
POU
+
POU
slightly
east
of
home

85-7603 Kuykendall

S. Hemenway



POU
Domest
1-home
best no
interna
use.



POU
Domest
extra
extern
lookin
south-
west +
where
the
pond
is
locate
water
grass.
stocked
for up
12-hor.

85-7603 KuyKendall

S. Hernerway



POU
storage
pond,
south
end of
inlet
end of
pond.
4" pipe
(.44 cfs
capacity
from
headgate
at
Bear CK
divert:
to pond
(piped
across
hillside.



POU
storage
pond,
north
end
where
8'
height
dam &
overflow
for the
Bear
Creek
are
located
6' deep
at field
exam,
historian
can get
to 7' deep



POU
Domestic
external
looking
from
the
pond
to the
north-
east
to where
the
house
is
located



POU
Domestic
external
use,
yard +
garden
run
1-2
nozzles
at one
time
(5 gal.
bucket
measured
.02 cfs)

85-7603 Kuy Kendall

S. Hemenway

Precipitation Loss Calculation

Date: December 20, 2012
Prepared by: Sandy Hemenway
Water Right No: 85-7603

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

P_d

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

P_d = convert to AFA: (mm/yr) / (convert to feet) x # acres =
-3 / 304.8 x 0.05
(From ET Idaho)

$P_d = 0.0$ AFA

* Use the Precipitation Deficit for 'P' value

ET_{Idaho} 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2012, University of Idaho.

Orofino (NWS -- 106681)

Statistics based on thirty year normal spans 1938 to 1980 years

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Alfalfa - peak (no cutting effects) Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean^j	mm/day												mm		
Monthly ^c	1.56	0.45	0.19	2.11	2.54	1.08	0.69	-0.06	0.28	0.84	1.57	1.94	88	-97	-3
15-Day Moving Average ^d	1.71	0.63	0.22	2.13	2.69	0.90	0.70	-0.11	0.42	0.83	1.64	1.96			
7-Day Moving Average ^e	1.66	0.52	0.22	2.10	2.58	0.95	0.69	-0.09	0.34	0.87	1.65	1.96			
3-Day Moving Average ^f	1.59	0.47	0.19	2.12	2.56	1.03	0.68	-0.06	0.29	0.85	1.58	1.94			
Standard Deviation^k	mm/day												mm		
Monthly ^c	1.18	0.74	0.85	1.05	1.65	1.14	0.59	0.65	0.63	0.91	0.94	1.26	105	53	104
15-Day Moving Average ^d	1.31	1.03	0.89	1.56	1.70	1.35	0.65	0.72	1.02	1.06	1.19	1.33			
7-Day Moving Average ^e	1.74	1.62	1.44	2.09	2.43	2.31	1.01	1.01	1.48	1.67	1.69	1.78			
3-Day Moving Average ^f	2.34	2.22	2.26	2.93	3.39	3.33	1.66	1.51	2.12	2.40	2.30	2.37			
20% Exceedance^l	mm/day												mm		
Monthly ^c	0.83	0.26	0.60	2.81	3.38	1.74	1.02	0.19	0.23	0.33	0.59	1.20	197	-33	109
15-Day Moving Average ^d	0.15	0.67	1.50	4.39	5.64	3.24	1.85	0.62	0.81	0.59	0.00	0.00			
7-Day Moving Average ^e	0.63	1.64	2.79	5.54	6.58	4.86	2.55	1.18	1.53	1.33	0.71	0.50			
3-Day Moving	0.90	2.02	4.01	6.99	7.90	5.40	3.03	1.91	1.91	1.60	1.05	0.78			

Average ^f															
80% Exceedance^m	mm/day												mm		
Monthly ^c	2.35	1.17	-0.40	1.10	1.56	0.14	0.41	-0.48	0.88	1.54	2.40	2.52	-16	-137	-105
15-Day Moving Average ^d	3.90	2.72	-1.42	0.11	-0.16	-1.14	0.24	-1.66	2.41	3.08	3.69	3.96			
7-Day Moving Average ^e	5.72	3.91	-2.59	2.41	-3.30	-4.22	1.55	-3.29	3.49	4.72	6.20	6.14			
3-Day Moving Average ^f	8.62	6.78	-6.41	5.79	-8.46	10.98	4.21	-5.77	7.56	8.73	8.25	8.56			
Ave Highest P_{def}	mm/day												--		
15-Day Moving Average ^g	0.15	0.40	1.12	3.42	4.01	2.34	1.37	0.46	0.53	0.32	0.07	0.03			
7-Day Moving Average ^h	0.42	1.33	2.24	4.64	5.39	3.69	1.93	0.77	1.03	0.90	0.38	0.21			
3-Day Moving Average ⁱ	0.83	2.14	3.43	6.09	6.56	4.52	2.31	1.12	1.37	1.09	0.79	0.56			
Ave Lowest P_{def}	mm/day												--		
15-Day Moving Average ^g	2.76	1.32	-0.67	0.80	1.20	-0.21	0.03	-0.69	1.09	1.81	2.58	3.05			
7-Day Moving Average ^h	4.30	2.75	-2.02	0.93	-1.08	-2.42	0.84	-1.42	2.35	3.41	4.14	4.68			
3-Day Moving Average ⁱ	6.55	4.90	-4.62	3.93	-4.68	-6.23	2.95	-3.07	5.02	6.23	6.44	7.12			
Special normal distribution parameters for monthly, seasonal, and annual intervals															
Skew ^m	0.06	0.62	0.05	0.58	0.08	1.42	0.07	0.11	0.11	0.15	0.11	0.06	-0.02	-0.36	0.39
Kurtosis ^o	0.65	2.71	0.63	3.22	0.61	5.58	0.83	1.08	2.52	0.75	2.43	0.82	2.18	2.89	2.05

^a Growing Season: This is usually the time from green up or planting in the spring to a killing frost or harvest in the fall. It is not applicable for entries without a growing season and will be blank.

^b Nongrowing Season: This is usually the time from a killing frost or harvest in the fall to the of green up in the spring. It is not applicable for entries without a growing season.

^c Mean of the average daily value for month

^d Mean of the fourteen 15-day period averages contained in the month

^e Mean of the twenty three 7-day period averages contained in the month

^f Mean of the twenty seven 3-day period averages contained in the month

^g Mean of the highest/lowest 15-day period average in month

^h Mean of the highest/lowest 7-day period average in month

ⁱ Mean of the highest/lowest 3-day period average in month

^j This value represents the *mean value* for the parameter for the month over the 'normal' period of record. Generally, the 'normal' period is the last thirty years with data.

^k This value represents the *standard deviation* for the parameter for the month over the 'normal' period.

^l This value represents the *value* for the parameter that has a 20% chance of being exceeded that month during any particular year. Conversely, there is an 80% chance that the parameter value will be less than the *value* shown.

^m This value represents the *value* for the parameter that has a 80% chance of being exceeded that month during any particular year. Conversely, there is an 20% chance that the parameter value will be less than the *value* shown.

ⁿ This value represents the *skewness (asymmetry) of the distribution of the parameter values* for the month (year) over the 'normal' period. A value near zero indicates that the distribution approximates a normal (Gaussian) and symmetrical distribution. A negative skew indicates that the parameter distribution has relatively few low values compared to high values. A positive skew indicates that the distribution has relatively few high values compared to the number of low values. A skew value near 1 indicates that the underlying distribution approximates a lognormal distribution.

^o This value represents the *kurtosis* of the parameter value distribution for the month (year) over the 'normal' period. Kurtosis is a measurement of the height to width ratio of the probability distribution, or the *peakedness (slenderness)*. A normal (Gaussian) distribution has a kurtosis of 3. A high kurtosis distribution has a sharper peak and longer tails, while a low kurtosis distribution has a more rounded peak and shorter tails.

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The citation for the evapotranspiration data used from this site should be: Allen, Richard G. and Clarence W. Robison, 2012. *Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho: Supplement updating the Time Series through December 2008*, Research Technical Completion Report, Kimberly Research and Extension Center, University of Idaho, Moscow, ID.

Questions regarding the data should be addressed to [Clarence W. Robison](#) or [Richard G. Allen](#), University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610

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