

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-17602
Exam Date: 07/20/2021

1. Current Owner:
SETH ESTATES WATER ASSOCIATION PO BOX 217 ATHOL ID 83801-0217
2. Accompanied by: Francis Pigott
Phone No: 208-755-5332
Address: 2960 E Obadiah CT, Athol ID 83801
Relationship to permit Holder: Permit holder's representative & home owner in subdivision.

3. **SOURCE:**
GROUND WATER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap
2. Other water rights with the same point-of-diversion: NO Overlap

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER NE¼ NE¼, Sec. 30, Twp 53N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS; POD located at -116°44.663, 47°55.046 well D-Tag D0040166

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
53N	03W	30	X	X															0.0

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
53N	03W	30	X																0.0

Method of Determination: Field Exam and Arcmap aerial 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

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0040166		5			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: Unable to perform a flow measurement due to inadequate pipe requirements. A flowmeter is installed on the system, but the storage containers were full, and the pump cycled off during the examination. A Theoretic Pump Equation derived a flow rate of 29.3 gpm or **0.07 cfs** considering department rounding standards, which is relatively close to the well drillers reported yield in gpm.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation = 5 hp pump installed at depth of 425 with operating pressure of 50 PSI equates to 29.3 gpm or 0.07 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses:

- Stockwater annual volume = 2 horses x 12 gpd x 365-days = 8,760 gal per year / 325,850 gal per af = 0.027 af which rounds to **0.1 af** considering department rounding standards.
- Domestic annual volume = 7 homes x 1.2 af per home = **8.4 af**.
- Maximum diversion volume = 0.1 af (stockwater) + 8.4 af (domestic) = **8.5 af**.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 7/20/2021 with an applicant's representative, Francis Pigott, showed a groundwater well providing water for domestic and stockwater uses. At the POD, well D0040166 with 5 HP pump has a main service line that routes directly to two 2,500-gallon storage tanks using a 2 HP transfer pump and subsequent pressure tank(s) before distribution to uses. The diverting works has a Master Meter flowmeter installed on the system, but the pump was cycled off with storage tanks full at time of examination. A Theoretic Pump Equation derived a flow rate with 5 HP pump installed at 425 ft and a 50 PSI operating pressure equating to 29.3 gpm or **0.07 cfs** considering department rounding standards, which is relatively close to the well drillers reported yield in gpm. The permit was approved for a maximum diversion volume of 0.15 cfs, but the applicant is limited by pump performance as installed at time of field exam & 0.07 cfs is recommended for both the domestic beneficial use diversion rate and maximum diversion rate for licensing purposes. The stockwater beneficial use maintains the diversion rate of 0.02 cfs as permit approved for licensing purposes.

The stockwater POU was designated as a generic block shape consisting of the 1st Addition Seth Estates Subdivision using Arcmap aerial imagery during licensing review. Mr. Pigott stated each home can have a couple stock animals based on their HOA guidelines. At time of exam, only LT 2, BLK 1 parcel located at 2936 E Seasons RD had stock animals on the property. Horse pens with stock tanks and 2 horses were observed during the exam. The stockwater annual volume recommended for licensing equals 2 horses x 12 gpd x 365-days = 8,760 gal per year / 325,850 gal per af = 0.027 af which

rounds to **0.1 af** considering department rounding standards. This value is generously rounded up to the minimal volume value the department can recommend licensing a water right and will enable future homeowner to use on their respective parcels while still not enlarging the 0.1 af volume.

During the exam, the domestic POU was walked with Mr. Pigott and photographs taken to illustrate each home and irrigation occurring up to ½ acre. Water main lines route along the roadside of E Obadiah CT road cutting the subdivision in half, with service stub lines branching off to each home. The subdivision is completely built out, and during licensing review Arcmap aerial imagery was used to designate domestic POU shapes for each of the 7 parcels that incorporate a home, shop, and approximately ½ acre irrigation. The annual volume recommended for domestic use equals 7 homes x 1.2 af = **8.4 af**. The maximum diversion volume equals **8.5 af** for licensing purposes.

Condition 046 & X02 were removed from the permit and 070 was updated to reflect irrigation occurring under domestic use for the fully built out subdivision. All other conditions on the permit shall be carried forward to the license. There are no overlap concerns for this water right.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.07 CFS	8.4 AF

Totals: 0.07 CFS 8.5 AF

2. Recommended Amendments

 Change P.D. as reflected above Add P.D. as reflected above X None

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

Luke Bates -

Field Examiner's Name

Date

Reviewer

Date

11/16/2021

11/16/2021

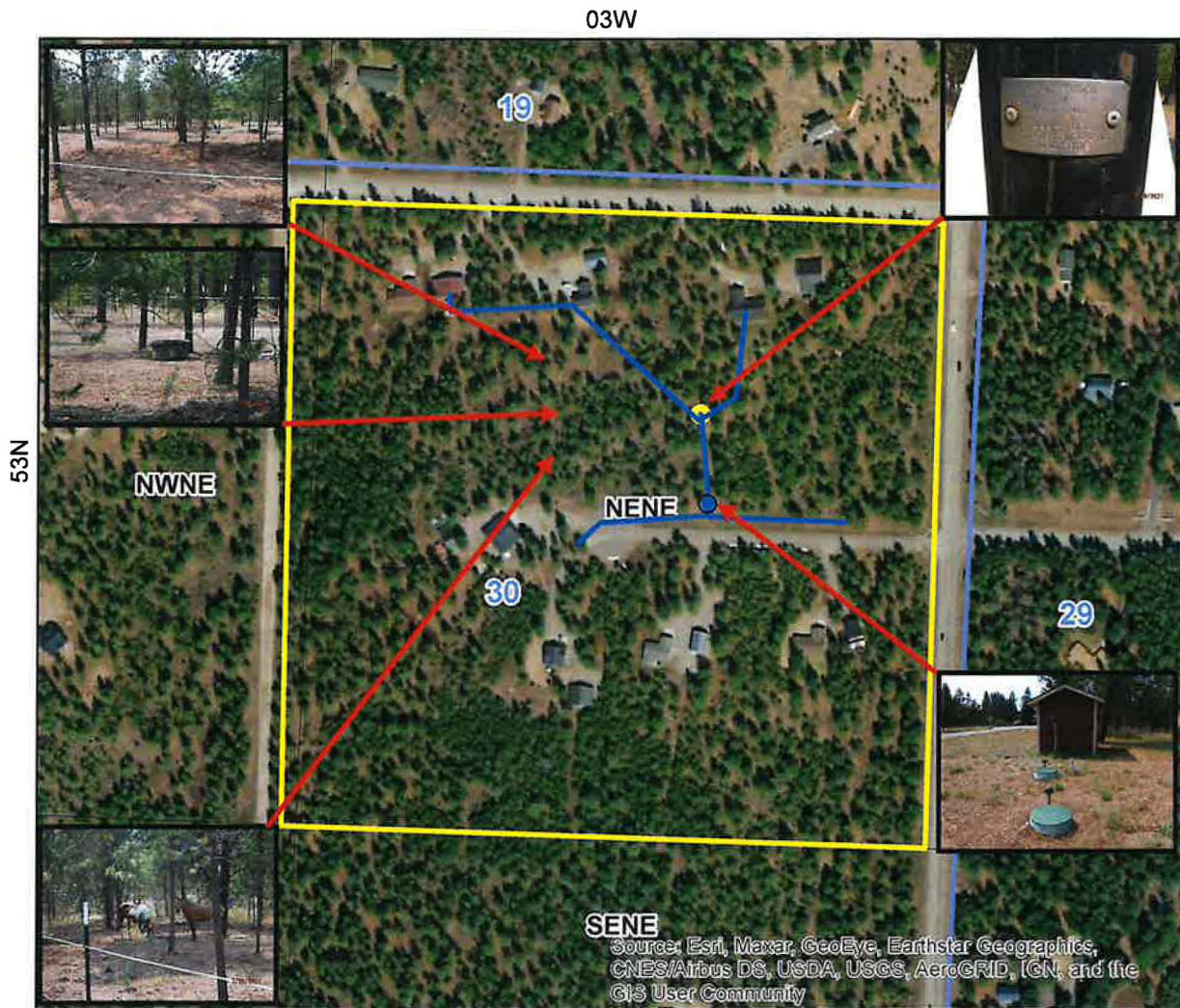
State of Idaho
Department of Water Resources
Attachment to Field Exam
95-17602

DOMESTIC system diagram.



State of Idaho
Department of Water Resources
Attachment to Field Exam
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STOCKWATER system diagram.



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.0425 0.085 0.17 Miles



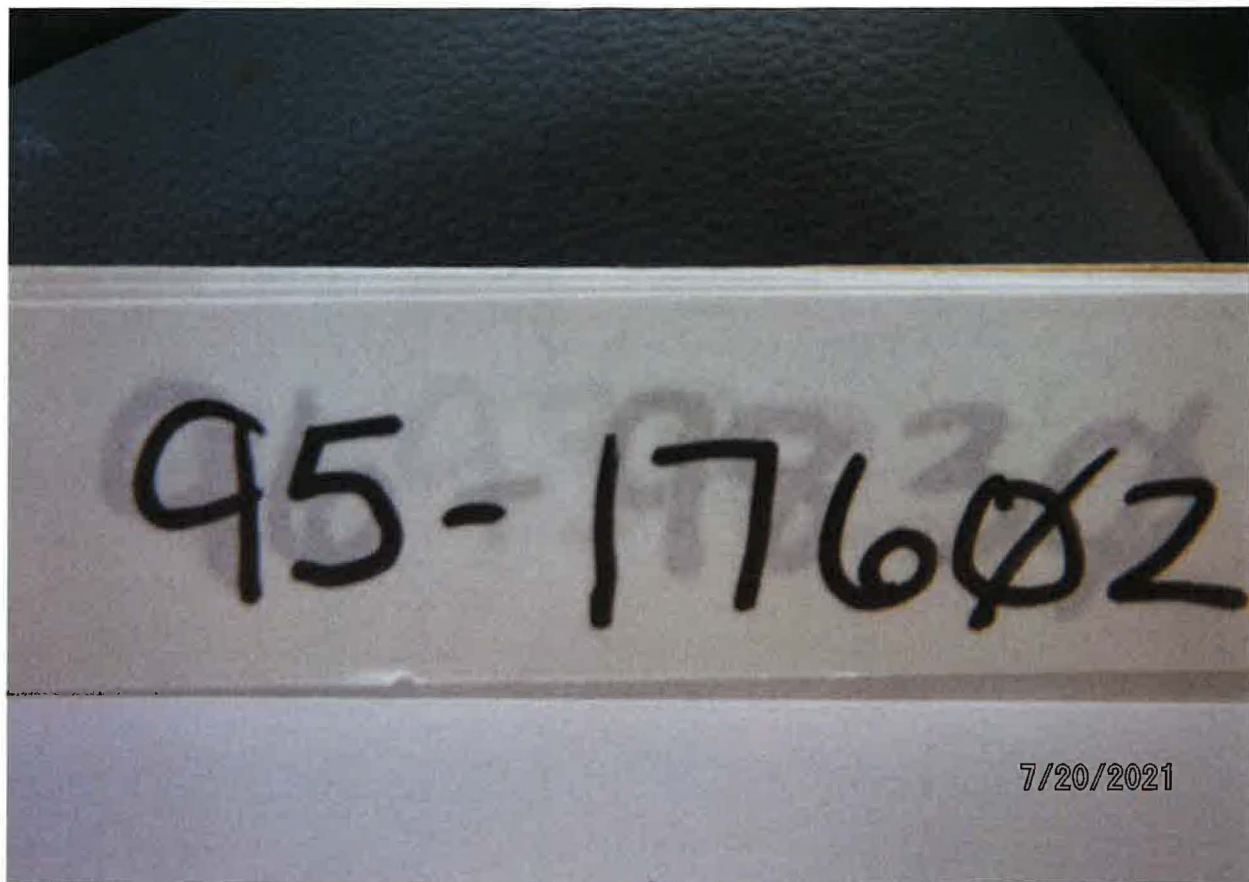
THEORETICAL PUMPING EQUATION(S) FOR WR# 95-17602

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 425 ft, and running at 45 psi.

PUMP EQUATIONS

WATER RIGHT No. 95-17602

D0040166	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	5	540.6463	0.8	425	50
Q = 0.065 cfs 29.3 gpm					



FIELD EXAM DATE 7/202/2021



POD - WELL D0040166



POD – WELL D-TAG D0040166



PUMP HOUSE WITH 2EA 2,500 GAL STORAGE TANKS



WATER CONVEYANCE SYSTEM



MASTER METER FLOWMETER INSTALLED ON SYSTEM

Uniledcrown.com

Seth Estates Water Assn.
C/O Briana Richardson
2954 E Obadiah Ct.
Athol, ID 83301
(406) 270-5421
(208) 755-3332

Tom Welser
Wesley Scott

Service Location
Address: 3018 E Obadiah Ct
City: Athol
Job/Well #: Seth Estates
Purchase Order

Page 1 of 2

Call Out: Trouble shoot water system
7/1/15: Pulled & replaced well pump with material listed below.

Quantity	Item	Unit Price	Extended Price
2.00	Elec- 1" sweep pvc Sch 40	\$1.55	\$3.10
8.50	Service Tech Patrick	\$55.00	\$467.50
32.00	Round Trip Mileage	\$1.00	\$32.00
1.00	20SDQP-5HP-N4	\$5,320.61	\$5,320.61
1.00	Motor Splice & Tape	\$50.00	\$50.00
2.00	1 1/4" Flomatic 8001 Ductile Check Valve	\$46.01	\$92.02
1.00	Elec- 1" unistrut clamp	\$1.81	\$1.81
10.00	1 1/4" Galvanized pipe	\$2.76	\$27.60
1.00	Brass 1/4 plug	\$3.34	\$3.34
4.00	Delta Surge Capacitor	\$97.93	\$97.93
2.00	Elec-3/4" x 1/2" reducing washer	\$0.20	\$0.40
2.00	Elec- 1" Carlon liquid bite box connector	\$9.02	\$18.04
0.50	Service Tech Gary	\$35.00	\$722.50
1.00	Elec-1" Conduit Female Adapter	\$0.74	\$0.74
4.50	Hoist Truck Time	\$60.00	\$270.00
4.00	Elec- 1" pvc conduit coupler	\$0.43	\$1.72
200.00	1" S40 PVC Conduit	\$0.56	\$116.00
10.00	1" S80 PVC Conduit	\$1.18	\$11.80
1.00	1" Norwesco bulkhead fitting	\$5.88	\$5.88
2.00	Elec- 1" Pvc Terminal Adapter	\$0.65	\$1.30
1.00	Elec- 1" L.B. PVC	\$6.59	\$6.59
2.00	Elec- 1" heavy wall straps	\$0.65	\$1.30
1.00	Elec- 1 1/4" heavy wall straps	\$0.99	\$0.99

Thank you for the opportunity to work for you.
This invoice due and payable upon receipt. Invoices not paid within 10 days will accrue interest at a rate of 1.5% per month.

Project Manager: Chris Agueres

7/20/2021

5 HP PUMP INSTALLED IN WELL



50 PSI SYSTEM OPERATING PRESSURE



STOCKWATER POU - USE BY STOCK TANK(S)





2EA OF 7 SERVICE LINE STUB-IN OFF MAIN WATER LINE W/SHUTOFF VALVE(S)



DOMESTIC POU – 2916 E SEASONS RD; LT 3, BLK 1; SETH ESTATES 1ST ADD SUBDIVISION



DOMESTIC POU – 2936 E SEASONS RD; LT 2, BLK 1; SETH ESTATES 1ST ADD SUBDIVISION



DOMESTIC POU – 3036 E SEASONS RD; LT 1, BLK 1; SETH ESTATES 1ST ADD SUBDIVISION



DOMESTIC POU – 3106 E OBADIAH CT; LT 1, BLK 1; PRAIRIE PINES SUBDIVISION



DOMESTIC POU – 3108 E OBADIAH CT; LT 2, BLK 1; PRAIRIE PINES SUBDIVISION



DOMESTIC POU – 2964 E OBADIAH CT; LT 3, BLK 1; PRAIRIE PINES SUBDIVISION



DOMESTIC POU – 2960 E OBADIAH CT; LT 4, BLK 1; PRAIRIE PINES SUBDIVISION