

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9587
Exam Date: 05/25/2021

1. Current Owner:
MARK WATSON 105 VERMEER DR UNIT 2 STE 170 PONDERAY ID 83852-9802 AND/OR
REBECCA REVAK 105 VERMEER DR UNIT 2 STE 170 PONDERAY ID 83852-9802
2. Accompanied by: Mark Watson
Phone No: 208-597-0627
Address: Same as above
Relationship to permit Holder: Permit holder

3. SOURCE:
SPRING

Tributary
SINKS

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
96-4095	SPRING(S)	DOMESTIC, STOCKWATER	STATUTORY CLAIM

Comments: 96-4095 is a statutory claim, active status, which uses 2 ea springs for domestic and stockwater uses that overlap this right's POU. As the claim has not been validated by the Department by adjudication processes, it is uncertain to what extent if any overlap occurs. It is recommended that the near future adjudication for basin 96 serve as the mechanism to verify overlap between rights.

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

Comments: statutory claim 96-4095 has 2ea spring PODs associated with it that may be the same as this permit's POD(s) but are designated in a different ¼¼ of Section 26 than this permit. It is recommended adjudication of Basin 96 serve as the mechanism to validate the statutory claim and complete an accomplished transfer if required for these PODs. Neither spring source is being considered as the same between rights for licensing purposes of this permit.

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

SPRING SW¼ NE¼ SW¼, Sec. 26, Twp 58N, Rge 02W, B.M. BONNER County
SPRING SE¼ NE¼ SW¼, Sec. 26, Twp 58N, Rge 02W, B.M. BONNER County

Method of Determination: GPS; POD(s) are 2ea Spring sources located at -116°33.7013, 48°20.8351 (SWNESW), and -116°33.5689, 48°20.7848 (SENESW).

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
58N	02W	26															1.8		1.8

Total Acres: 1.8

PLACE OF USE: STOCKWATER and 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	
58N	02W	26															X		

Method of Determination: Field exam and Arcmap aerial imagery.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X 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.

X

X Aerial Photo Attached (required for irrigation of 10+ acres).

X 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
SPRING CONCRETE CISTERN (SWNESW)	GRAVITY FLOW				
SPRING BURIED SPRINGBOX (SENESEW)	GRAVITY FLOW				

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET TEST						

2. Measurements: Three 5-gallon bucket tests were completed from a hose bib first in-line from the spring sources, with average of three resulting in a diversion rate of 5 gal / 37.18 sec x 60 sec/min = 8.07 gpm = **0.02 cfs**, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5-GAL Bucket Test = (5 gal / 37.35 sec) x 60 sec/min = 8.0 gpm
 = (5 gal / 37.13 sec) x 60 sec/min = 8.0 gpm
 = (5 gal / 37.05 sec) x 60 sec/min = 8.1 gpm

Average of 3ea 5-GAL Bucket Tests = (8.0 gpm + 8.0 gpm + 8.1 gpm) / 3 = 8.0 gpm = 0.02 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.8 \text{ ac} \times 3.0 \text{ afa} = 5.4 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 214\text{-days} \times 1.9835 = 8.5$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{5.4 \text{ af}}$$

2. Volume Calculations for Other Uses:

$$\text{Domestic annual volume} = 2 \text{ homes} \times 0.6 \text{ af} = \mathbf{1.2 \text{ af}}$$

$$\text{Stockwater annual volume} = 4 \text{ horses} \times 12 \text{ GPD} \times 365 \text{ DPY} = 17,520 \text{ gal} / 325,850 \text{ gal per af} = \mathbf{0.1 \text{ af}}$$
 considering department rounding standards.

$$\text{Maximum diversion volume} = 5.4 \text{ af} + 1.2 \text{ af} + 0.1 \text{ af} = \mathbf{6.7 \text{ af}}$$

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 5/25/2021 with the applicant, Mark Watson, showed 2ea spring source's water being used for Domestic, Irrigation, and Stockwater beneficial uses. At the westernmost POD, a metal roofed cistern captures spring flow prior to routing downgrade to the applicant's POU via 1 1/4-inch poly pipe. There is a large culvert/overflow pipe that routes beneath the road co-located with the cistern, but spring overflow is intermixed with additional surface runoff at this location, negating a flow measurement from this point. At the easternmost POD, a buried spring box captures spring flow and ties into the 1 1/4-inch poly line routing downgrade to the applicant's POU. A blue PVC pipe is located near the property line for that identifies where the water line crosses over and allows access to a manual shutoff valve to facilitate maintenance of the system as required.

Three 5-gallon bucket test flow measurements were taken from a hose bib first in-line from the spring sources, with average of three resulting in a diversion rate of 5 gal / 37.18 sec x 60 sec/min = 8.07 gpm = **0.02 cfs**, considering department rounding standards which is recommended for licensing purposes. The applicant asserted that the water system is primarily all gravity fed, which means there is pressurized 1 1/4-inch poly line routed to the 2nd home on the applicant's property. Three tests were completed, and the flow on all three were consistent with one another indicating little variance in flow from the gravity feed. While the approved permit authorized development of larger diversion rate(s) for domestic and irrigation use, the applicant is limited to the diversion rate for each use respectively found for the water system at time of field exam which equals 0.02 cfs. An Application for Amendment of Permit (For Licensing Purposes) was required due to the POD(s) being GPS located in a different 1/4 1/4 location than permit approved to develop. The amendment was mailed to the applicant on 8/19/2021 and received back to the office with received date of 9/16/2021.

During the field exam, the irrigation POU was sketched out on field maps & during licensing review Arcmap aerial imagery was used to trace out the POU equaling 1.8 acres. The annual volume associated with irrigation equals 1.8 ac x 3.0 afa = **5.4 af** which is recommended for licensing purposes. Irrigation system uses hoses from frost free hydrants to portable sprinklers used to keep small lawn space green and pasture grass growing for stock animals. The applicant had a sprinkler set up and in use during the exam. During licensing review, it was found there is an evident shift in Arcmap imagery layer versus DRG layer, resulting in the irrigation POU extending into the SE 1/4 SW 1/4 of Section 26 accounting for 0.1 acres. The permit was not approved for development in this quarter-quarter but due to the shift in imagery layer no amendment for POU is recommended to license this permit.

The domestic POU was observed during the exam as a primary residence and separate trailer house on the property. Photographs were taken during the exam & Arcmap aerial imagery used to trace out the POU during licensing review. The annual volume recommended for licensing domestic use equals 2 homes x 0.6 af = **1.2 af**. The stockwater POU consists of pasture area on the applicant's property which is used to graze 4 horses during the development period. Arcmap aerial imagery was used to trace out the stockwater POU during licensing review. The annual volume recommended for licensing stockwater use equals 4 horses x 12 GPD x 365 DPY = 17,520 gals / 325,850 gal per af = **0.1 af** considering department rounding standards. The maximum diversion volume recommended for licensing this permit equals the sum of the three B.U. uses equaling **6.7 af**.

Conditions 26A and X02 were removed from the permit during licensing review. All other conditions on the permit shall be carried forward to the license. Overlap concerns: 96-4095 is a statutory claim, active status, which uses 2 ea springs for domestic and stockwater uses that overlap this right's POU. As the claim has not been validated by the Department by adjudication processes, it is uncertain to what extent if any overlap occurs. It is recommended that the near future adjudication for basin 96 serve as the mechanism to verify overlap between rights. 96-4095 has 2ea spring PODs associated with it that may be the same as this permit's POD(s) but are designated in a different ¼¼ of Section 26 than this permit. It is recommended adjudication of Basin 96 serve as the mechanism to validate the statutory claim and complete an accomplished transfer if required for these PODs. Neither spring source is being considered as the same between rights for licensing purposes of this permit, as they have not been verified through the adjudication process. There are no additional overlap concerns for this water right.

Have conditions of permit approval been met? ☒ 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>
IRRIGATION	04/01 to 10/31	0.02 CFS	5.4 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	1.2 AF
<u>Totals:</u>		0.02 CFS	6.7 AF

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 ☒ None

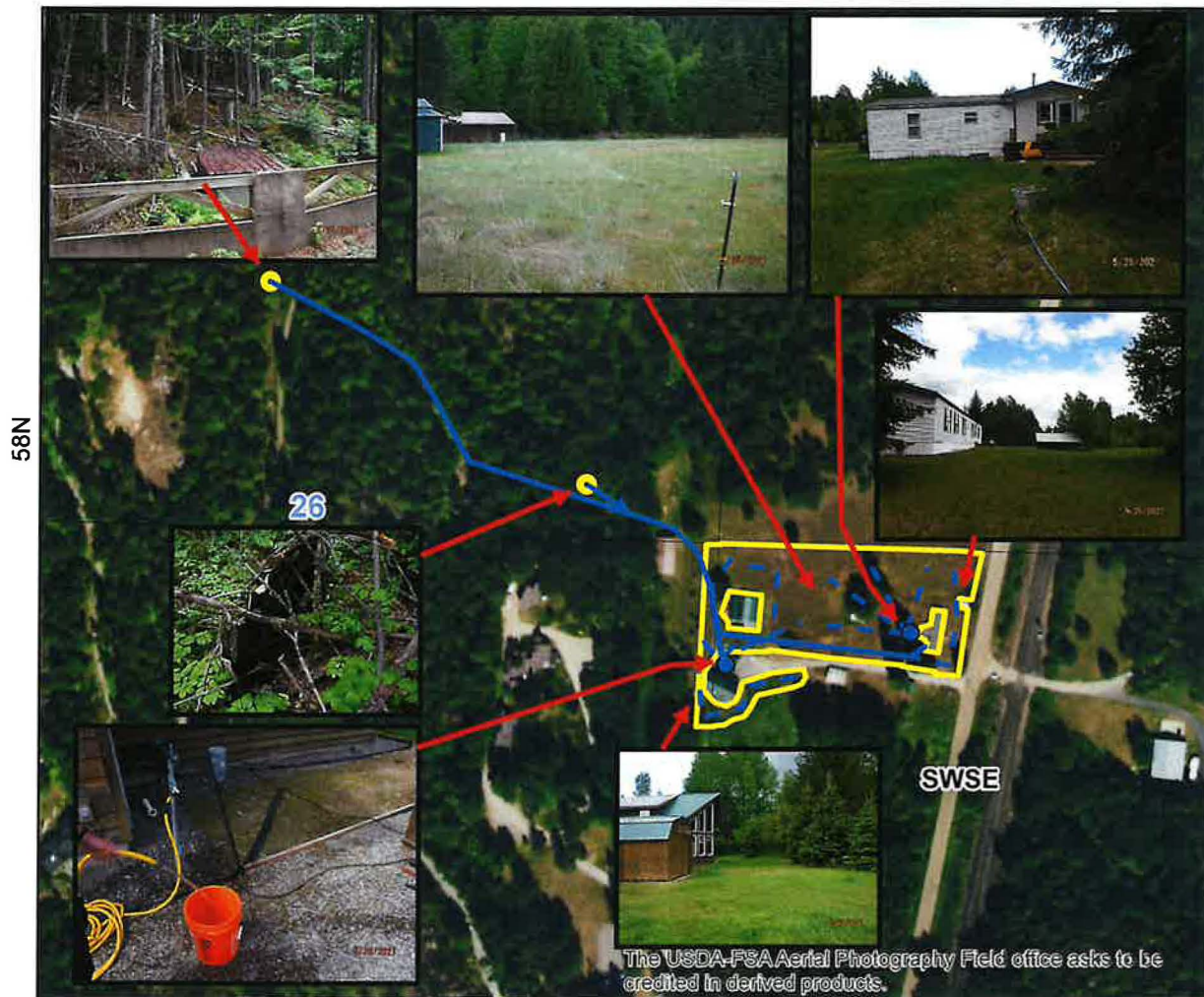
I. AUTHENTICATION Luke Bates - Water Resource Agent

Field Examiner's Name  Date 9/16/2021
 Reviewer  Date 10/21/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9587

IRRIGATION system diagram.

02W



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

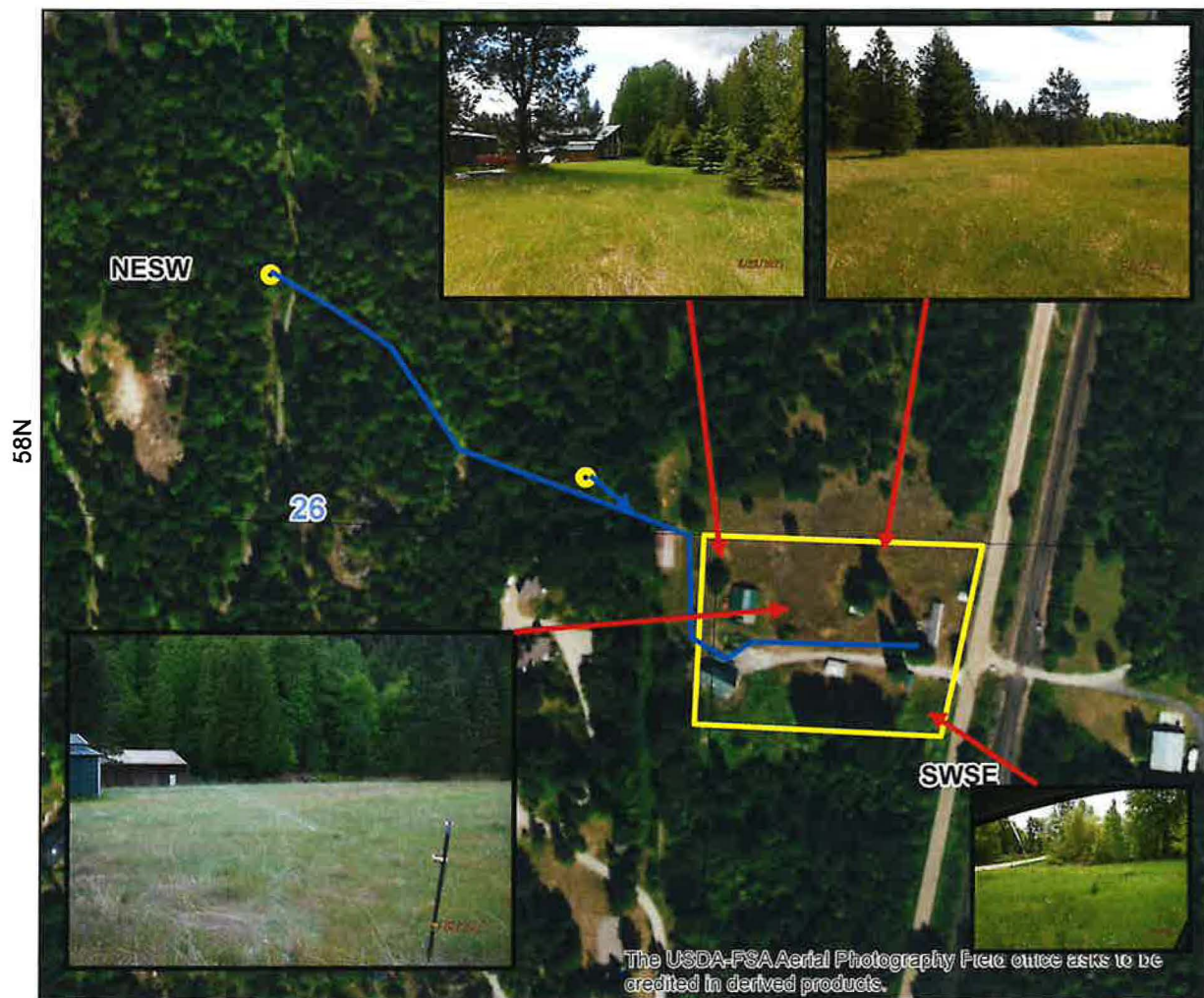
0 0.035 0.07 0.14 Miles



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STOCKWATER system diagram.

02W



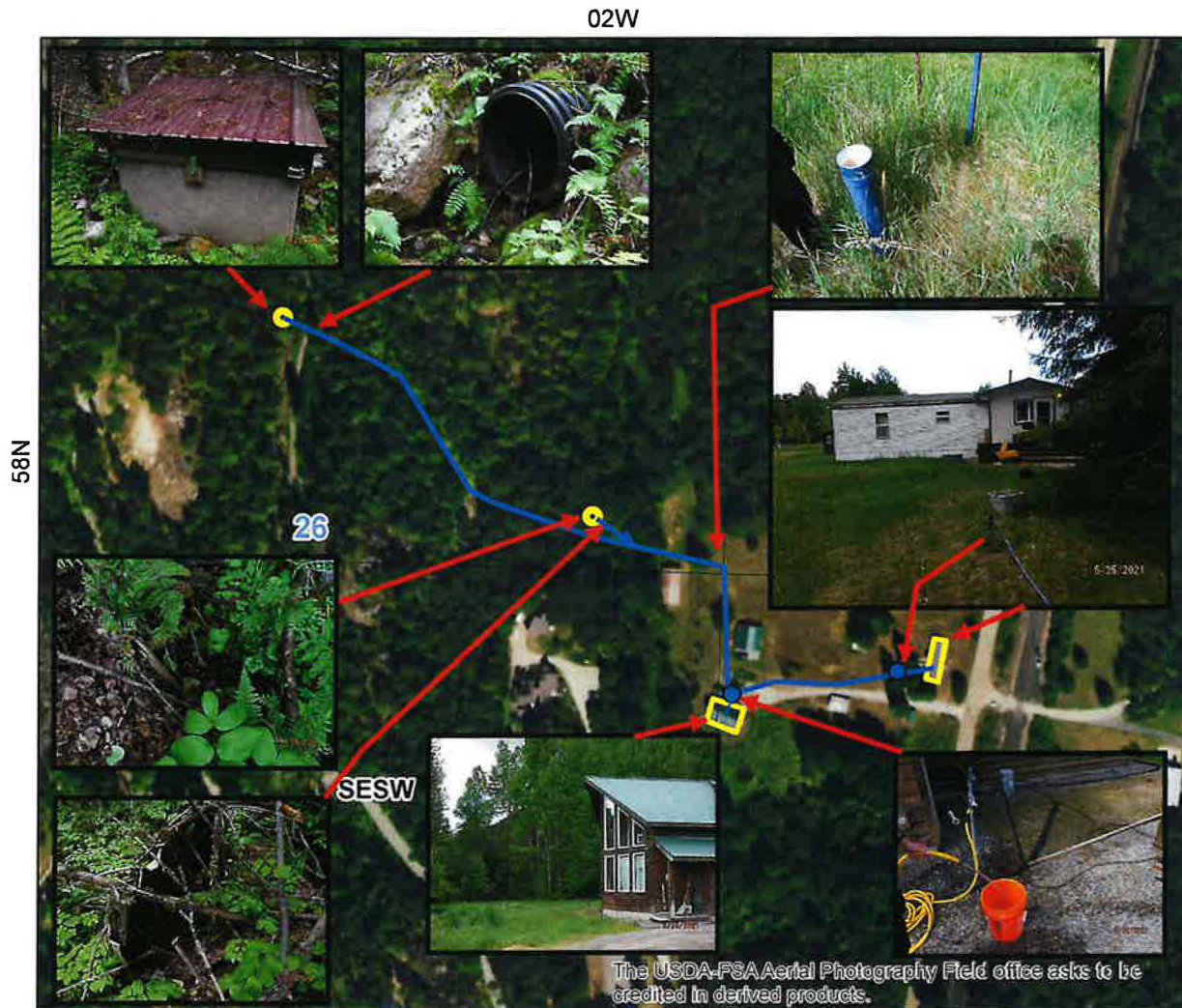
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



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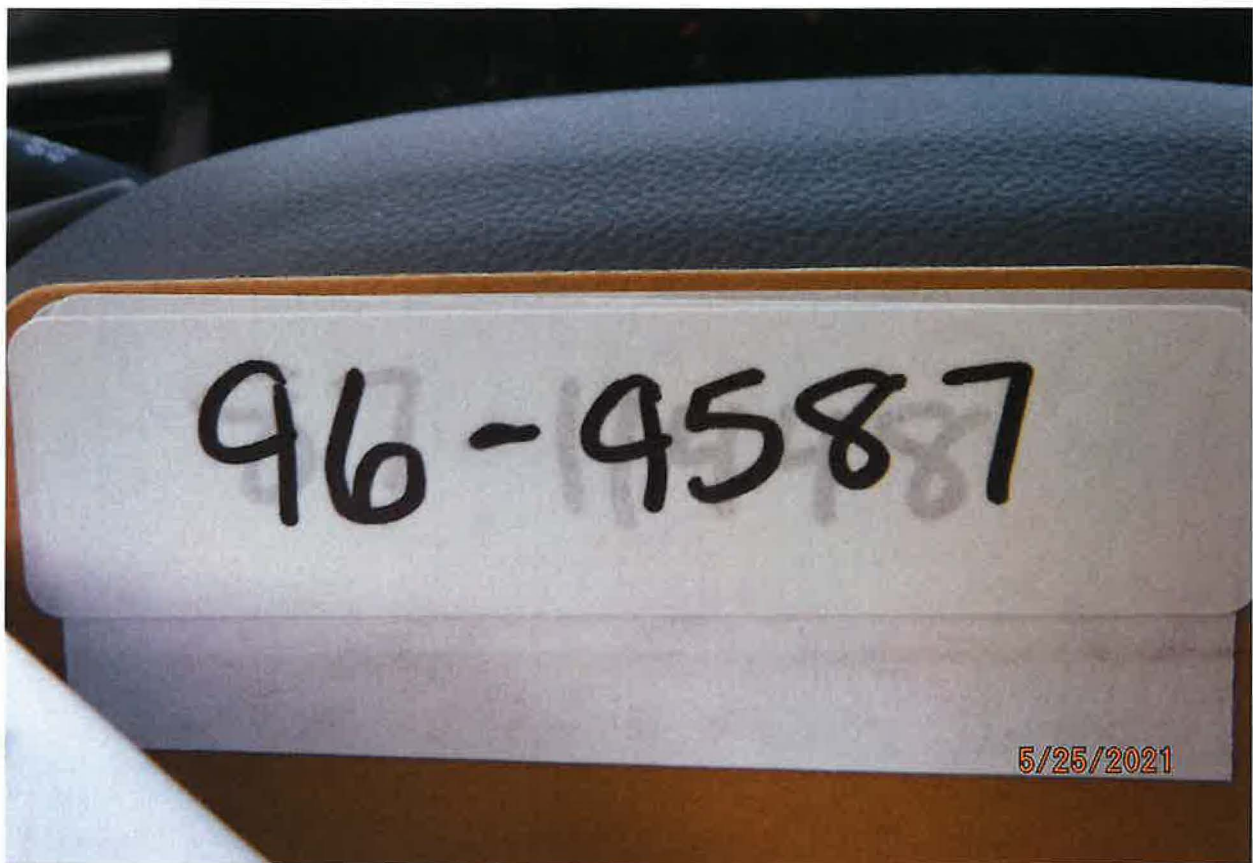
DOMESTIC system diagram.



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

0 0.035 0.07 0.14 Miles





FIELD EXAM DATE 5/25/2021



POD SPRING – 1ST SPRING LOCATED - NESESW, SEC. 26, TWP 58N, RGE 02W



RUN-DOWN STRUCTURE AT POD FOR 1ST SPRING SOURCE IN NESESW



POD SPRING – 2ND SPRING CISTERN - NWSESW, SEC. 26, TWP 58N, RGE 02W



2ND SPRING SOURCE WITH OVERFLOW PIPER ROUTING BENEATH ROAD



PARTIAL OVERFLOW DISCHARGE – ADDITIONAL ROUTES AROUND PIPE AND DOWNGRADE IN SAME CHANNEL



DOMESTIC POU – 1 OF 2 HOMES ON PROPERTY; IRRIGATION POU – FROST FREE HYDRANT TO HOSE & SPRINKLER





DOMESTIC POU – 1 OF 2 HOMES ON PROPERTY; IRRIGATION POU – FROST FREE HYDRANT TO HOSE & SPRINKLER





FLOW MEASUREMENT FROM FROST FREE HYDRANT – GRAVITY FLOW FED FROM 2EA SPRINGS



IRRIGATION & STOCKWATER POU



IRRIGATION & STOCKWATER POU





IRRIGATION FROM FROSTFREE-TO-HYDRANT-TO-SPRINKLER



SHUTOFF VALVE FOR COMMON SERVICE LINE FROM 2EA SPRING SOURCES AT EDGE OF APPLICANT'S
PROPERTY