

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-17025
Exam Date: 08/11/2020

1. Current Owner:
QUAKING ASPEN ESTATES OWNERS ASSN INC 5489 W QUAKING ASPEN DR COEUR D ALENE ID
83814

2. Accompanied by: Dennis Garret
Phone No: 208-810-8095
Address: Same as above
Relationship to permit Holder: President, Quaking Aspen Estates Owners Assn Inc

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

GROUND WATER L2 (NW¼ NE¼), Sec. 4, Twp 49N, Rge 04W, B.M. KOOTENAI County
GROUND WATER L2 (NW¼ NE¼), Sec. 4, Twp 49N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS. PODs are two wells located at -116°51.530, 47°37.740, D0053663 and -116°51.523, 47°37.751, D0051750.

PLACE OF USE: DOMESTIC, DOMESTIC STORAGE, DOMESTIC FROM STORAGE, FIRE PROTECTION, FIRE PROTECTION STORAGE, and FIRE PROTECTION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
49N	04W	4		X L2															

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
D0053663		1.5			
D0051750		0.75			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
2EA FLOWMETER						

2. Measurements: applicant's system had a flowmeter installed on each well prior to filling storage tank and/or distributing water to the ten homes. Each well pump was cycled on, and a one minute time period was used to determine the volume in gallons per minute.

E. FLOW CALCULATIONS

Measured Method: two flowmeter measurements were taken for the following wells:

- Well D0053663; 1.5hp pump diversion rate = 26 gpm
- Well D0051750; 0.75hp pump diversion rate = 19.5 gpm
- Cumulative diversion rate = 45.5 gpm = **0.1 cfs**

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

2. Volume Calculations for Other Uses:

Domestic, domestic storage, and domestic from storage annual volume = (9 homes + 1 stub-in lot) x 1.2 af = **12.0 af**

Fire protection storage and fire protection from storage annual volume = **0.2 af**

Maximum diversion volume = 12.0 af (Domestic components) + 0.2 af (Fire protection components) = **12.2 af**

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 8/11/2020 with the president of Quaking Aspen Estates Owners Assn Inc., Dennis Garret, showed two wells using groundwater for domestic and fire protection uses for a 10 home subdivision. Each well piped water direct to a 72,145 gallon concrete reservoir prior to distributing to pressure tanks and services for the 10 lots. A flowmeter was installed on each well's piping prior to the storage reservoir, allowing for direct flow measurements to be taken at time of field exam as follows:

- Well D0053663; 1.5hp pump diversion rate = 26 gpm
- Well D0051750; 0.75hp pump diversion rate = 19.5 gpm
- Cumulative diversion rate = 45.5 gpm = **0.1 cfs**, which will be applied as the beneficial use diversion rate and maximum diversion rate for licensing purposes.

The permit was approved with a diversion rate of 0.20 cfs, but the applicant is limited to the cumulative pumping performance installed in applicant's water system equaling 0.1 cfs. From the storage reservoir, the applicant's water system used 3 large pressure tanks and 4 each distribution pumps to pull water from the reservoir and service the 10 lots.

During the field exam, Mr. Garret explained that none of the stockwater beneficial uses had been developed by the subdivision parcel owners in the permit's development period. During licensing review the stockwater, stockwater storage, and stockwater from storage beneficial uses were removed from the permit.

At time of field exam, 10 lots located within the Quaking Aspen Subdivision were being serviced from the two wells for domestic use. 9 homes were constructed and one home was validated being stubbed in. The 10 lots qualify for domestic with up to ½ acre of irrigation department volume standards equaling (9 homes + 1 stub-in lot) x 1.2 af = **12.0 af**, which will be applied as the annual diversion volume for the domestic, domestic storage, and domestic from storage beneficial uses. Mr. Garret provided volume data for the storage reservoir used with the applicant's water system equaling 72,145 gallons, or 0.2 af. The applicant's distribute water from the storage reservoir to satisfy peak water use periods for domestic purposes, then allow the two wells to recharge the reservoir as needed to maintain a full level. The permit was approved for 12.4 af for domestic storage, but as the annual volume associated with the domestic components equates to 1.2 af per home not to exceed the 12.0 af allowance. The 0.2 af storage volume for the reservoir will be accounted for on the fire protection storage beneficial use component for licensing purposes.

The applicant was permit approved for fire protection, fire protection storage, and fire protection from storage beneficial uses. At time of field exam, fire hydrants were observed at intervals along the road throughout the subdivision. Fire protection as a direct flow component will be carried forward to license, and does not receive an annual volume due to water use to fight an active fire being an exempt use. The annual volume for fire protection storage and from storage beneficial use components is equal to the maximum volume of the storage reservoir equaling **0.2 af** (non-additive), which will be carried forward to licensing. The maximum diversion volume for licensing purposes equals 12.0 af (domestic components) + 0.2 af (fire protection components) = **12.2 af**.

Arcmap aerial imagery layers have a noticeable shift when compared to the DRG layer imagery. Based on this, the portion of the fire protection beneficial use components and domestic storage components that extend into section 32 on the northern portion of the subdivision POU is not recommended for amendment. The two parcels on the northern portion of the subdivision have not developed their homes and ½ acre irrigation in the shifted area, but the storage reservoir with related storage components and fire protection components do encompass the shifted portion of the POU.

Conditions 046, 26A, and X02 were removed from permit at time of licensing. Condition 219 was replaced with condition 259 to reflect multiple fill requirements for domestic and fire protection purposes. Condition X59 and X60 were added to describe the two PODs and POU being located within the Quaking Aspen Subdivision. All other conditions on permit will remain on 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>
DOMESTIC	01/01 to 12/31	0.10 CFS	12.0 AF
DOMESTIC STORAGE	01/01 to 12/31		12.0 AF
DOMESTIC FROM STORAGE	01/01 to 12/31		12.0 AF
FIRE PROTECTION	01/01 to 12/31	0.10 CFS	
FIRE PROTECTION STORAGE	01/01 to 12/31		0.2 AF
FIRE PROTECTION FROM STORAGE	01/01 to 12/31		0.2 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.10 CFS	
<u>Totals:</u>		0.10 CFS	12.2 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

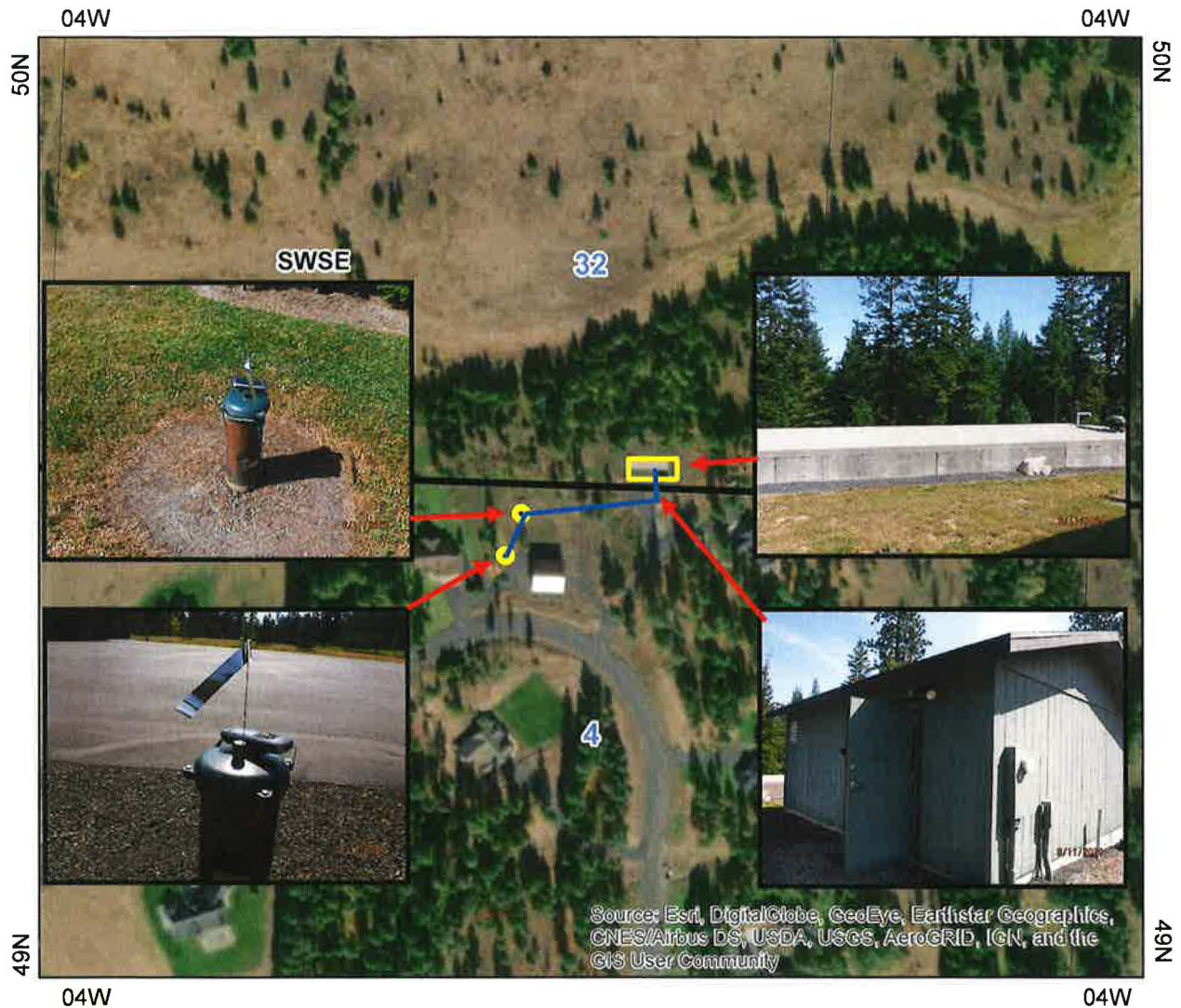
I. AUTHENTICATION Luke Bates - Water Resource Agent

Field Examiner's Name [Signature] Date 10/13/2020

Reviewer [Signature] Date 11/27/2020

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Attachment to Field Exam
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DOMESTIC STORAGE and FIRE PROTECTION STORAGE system diagram.



04W

04W

● 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 and DOMESTIC FROM STORAGE system diagram.



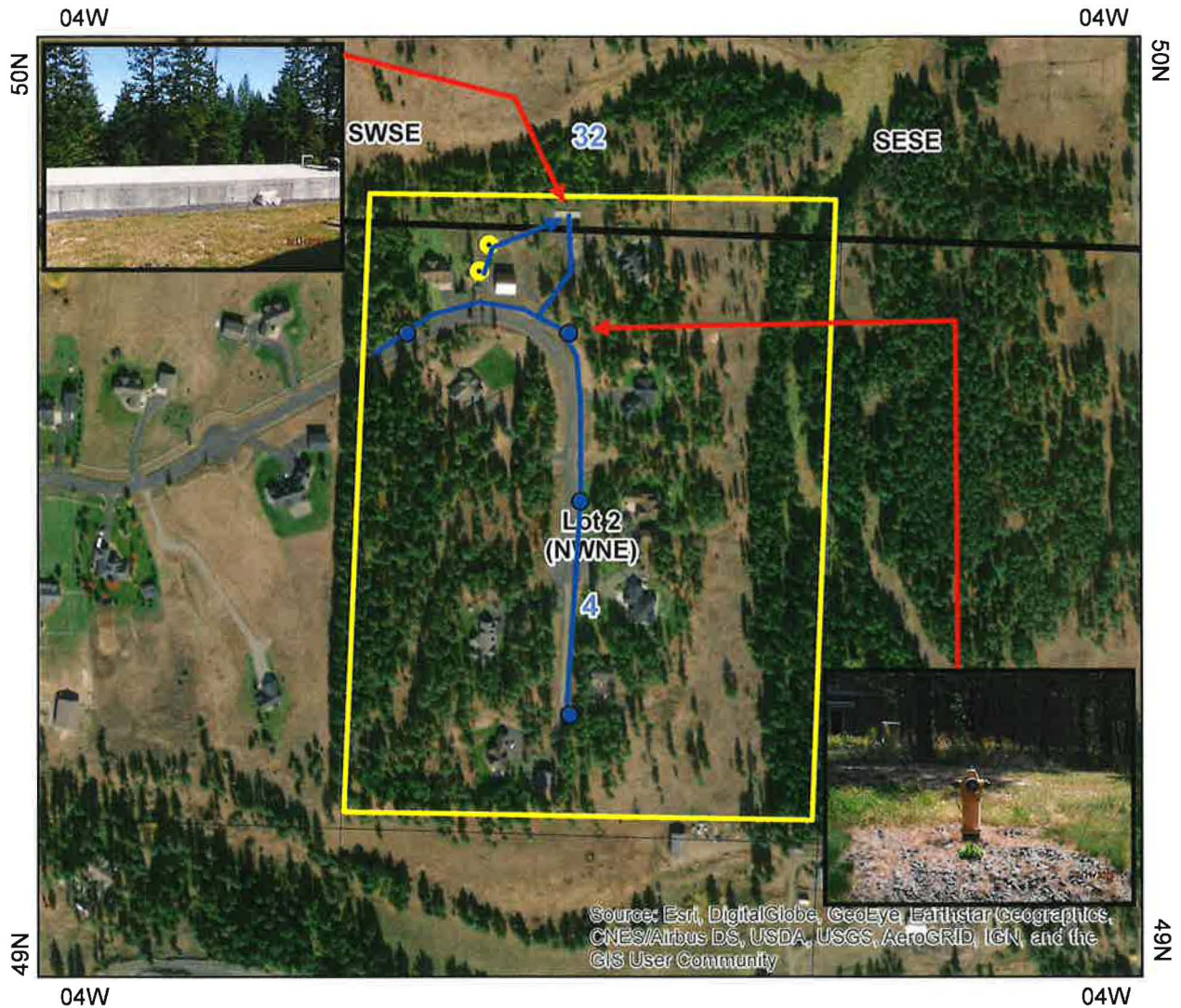
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.05 0.1 0.2 Miles



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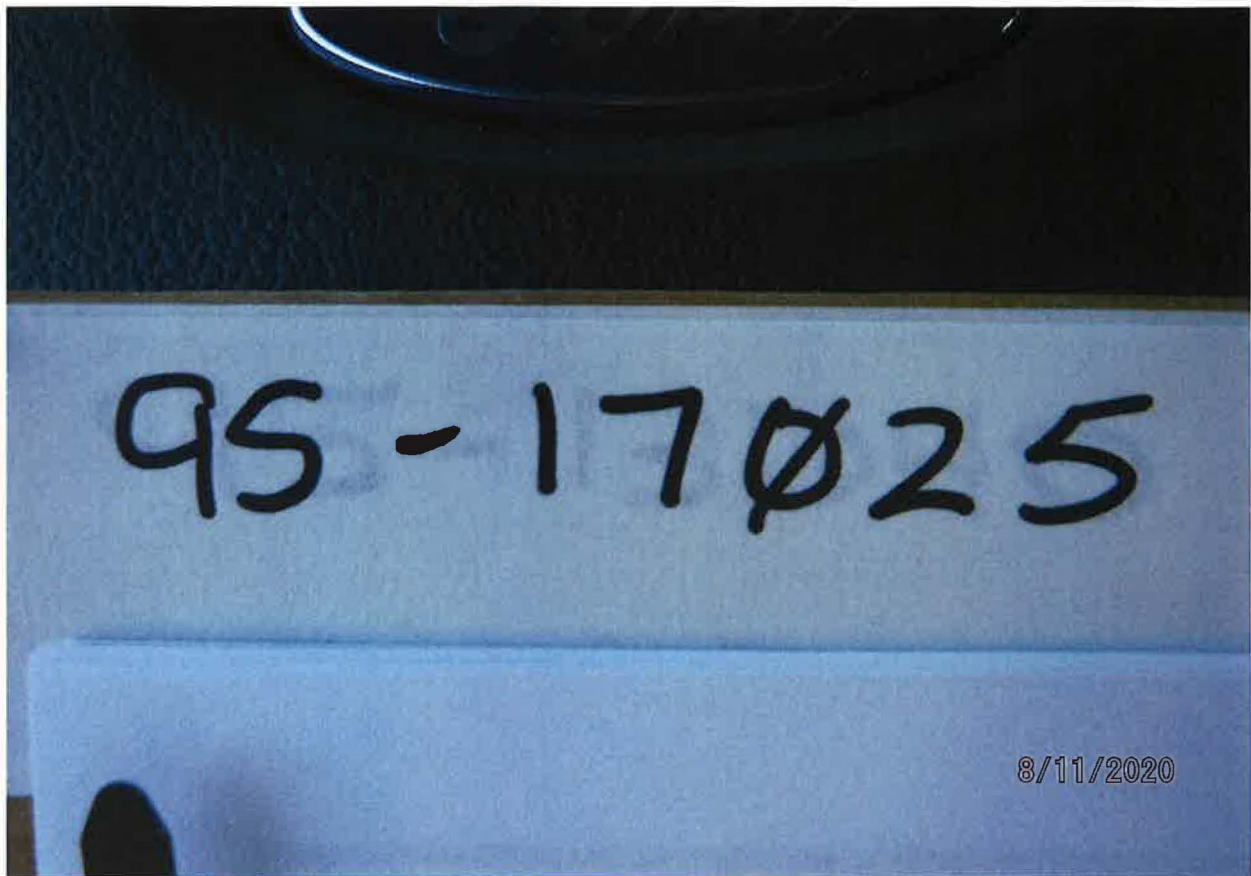
FIRE PROTECTION and FIRE PROTECTION FROM STORAGE system diagram.



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

0 0.05 0.1 0.2 Miles





POD – WELL No. 1 D0053663 & D0072338



POD WELL No. 1 D-TAG(S)





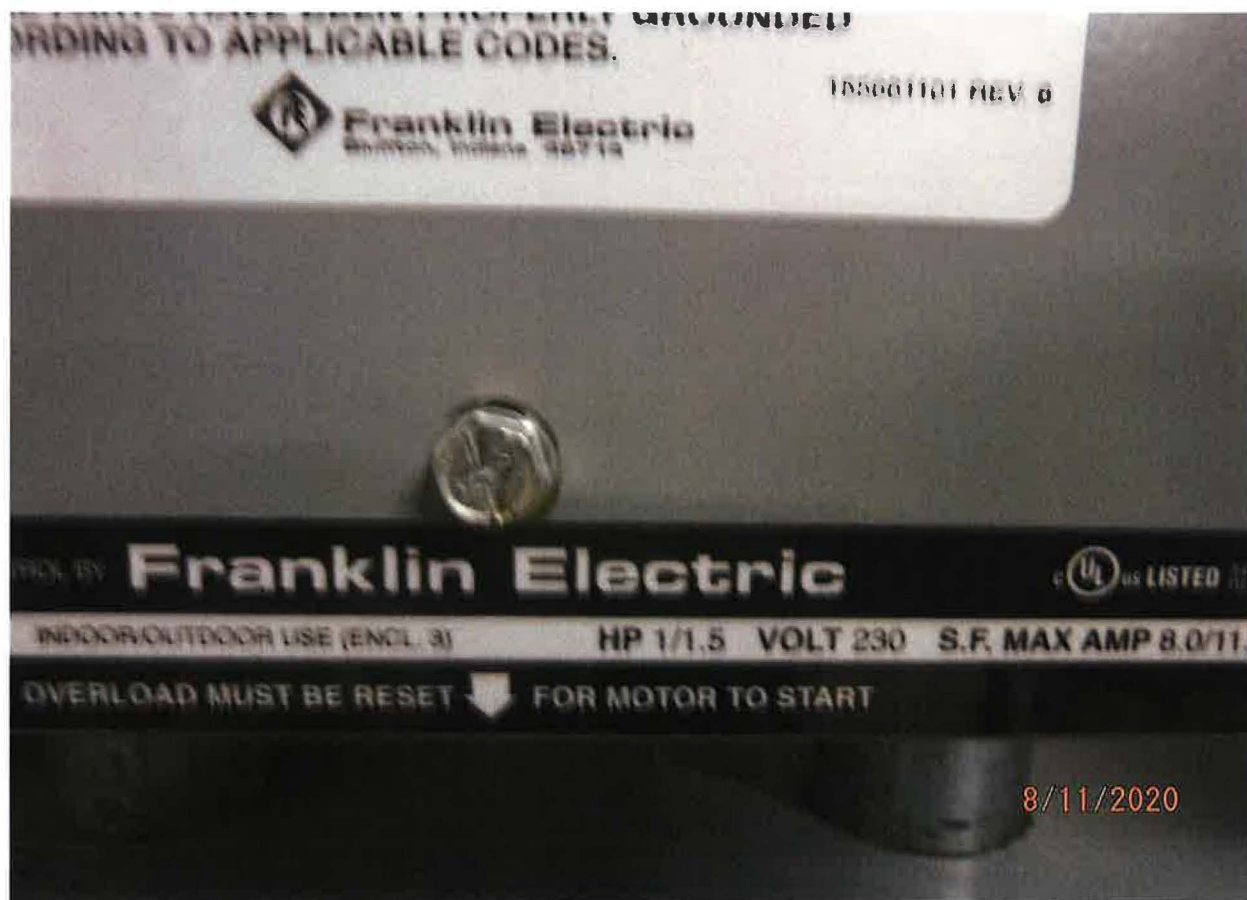
POD – WELL No. 2 D0051750



D-TAG WELL No. 2



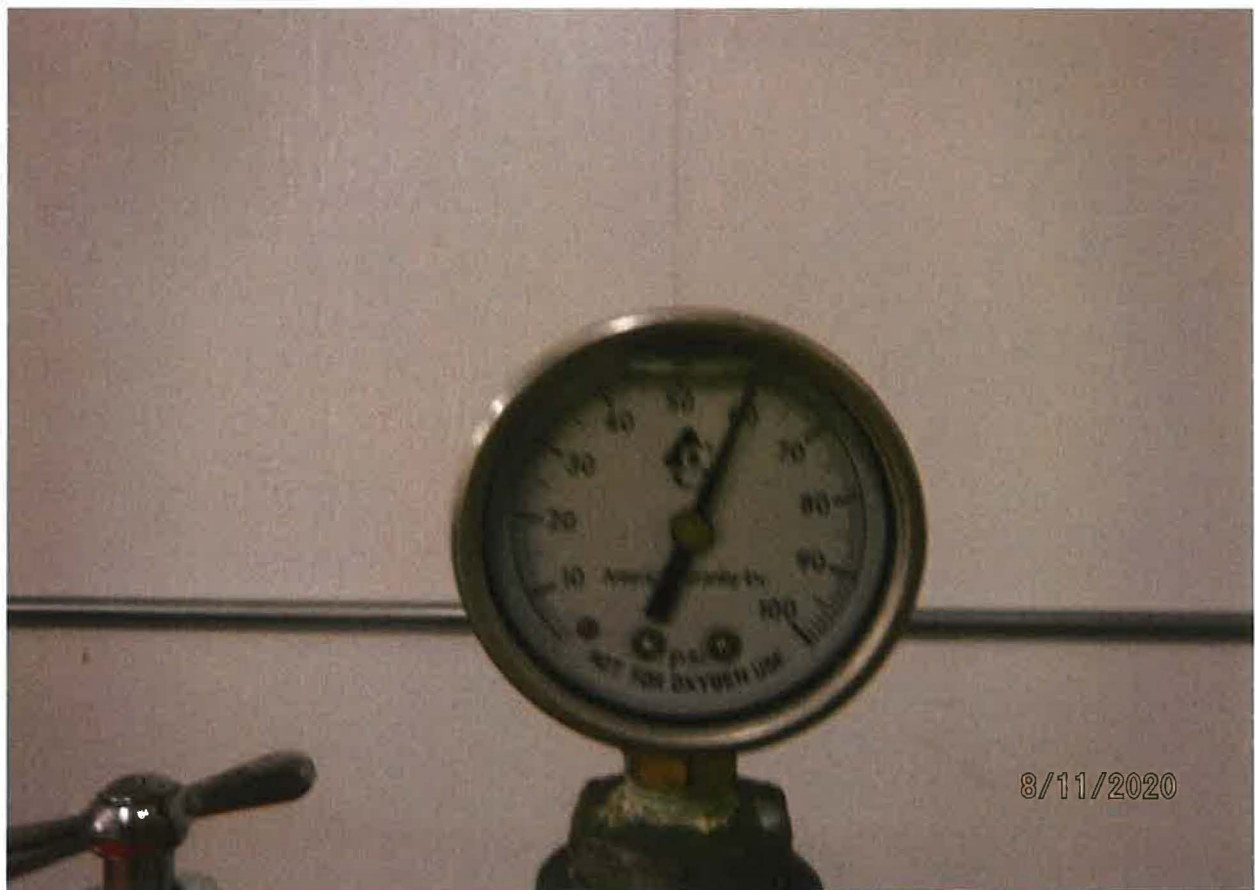
PUMP HOUSE



WELL No. 1 – 1 ½ HP PUMP



WELL No. 2 – ¾ HP PUMP



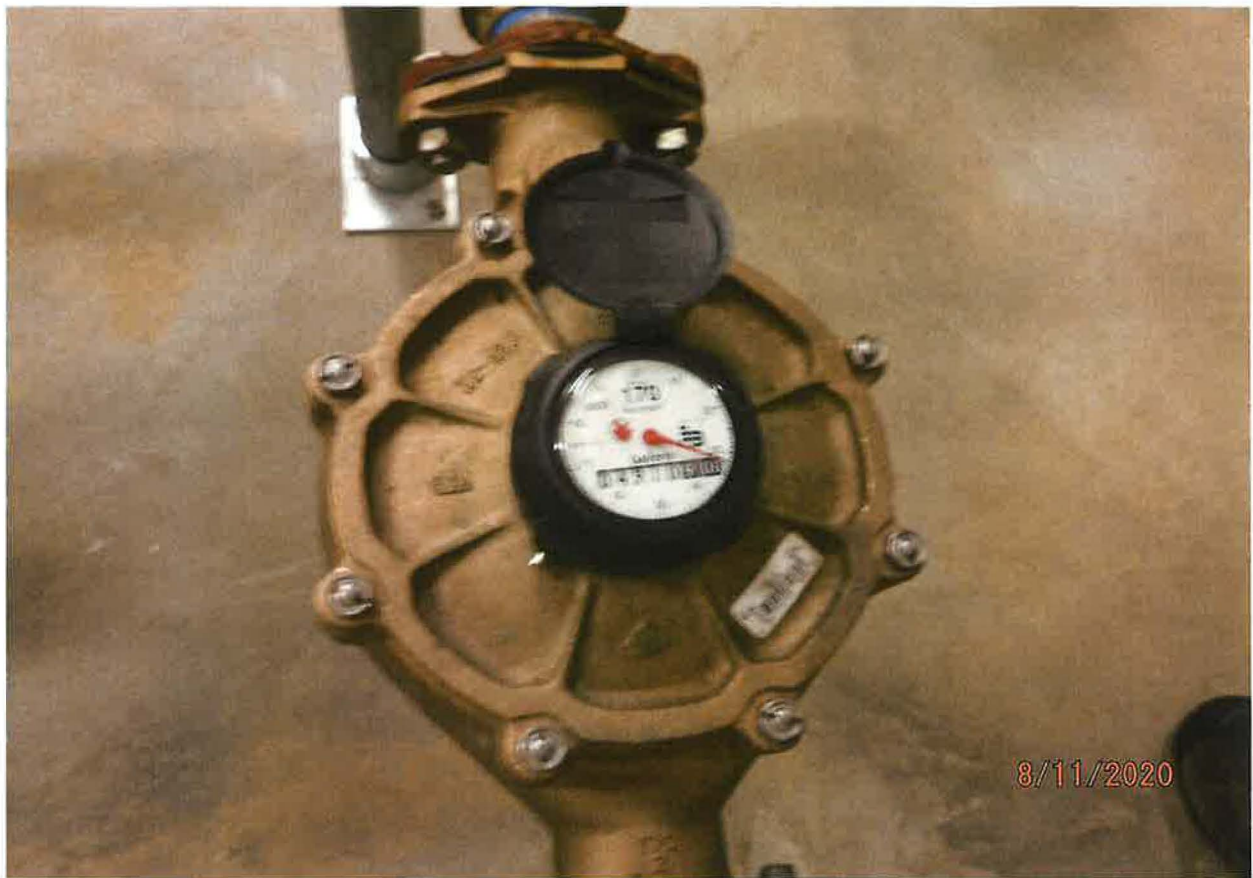
60 PSI OPERATING PRESSURE



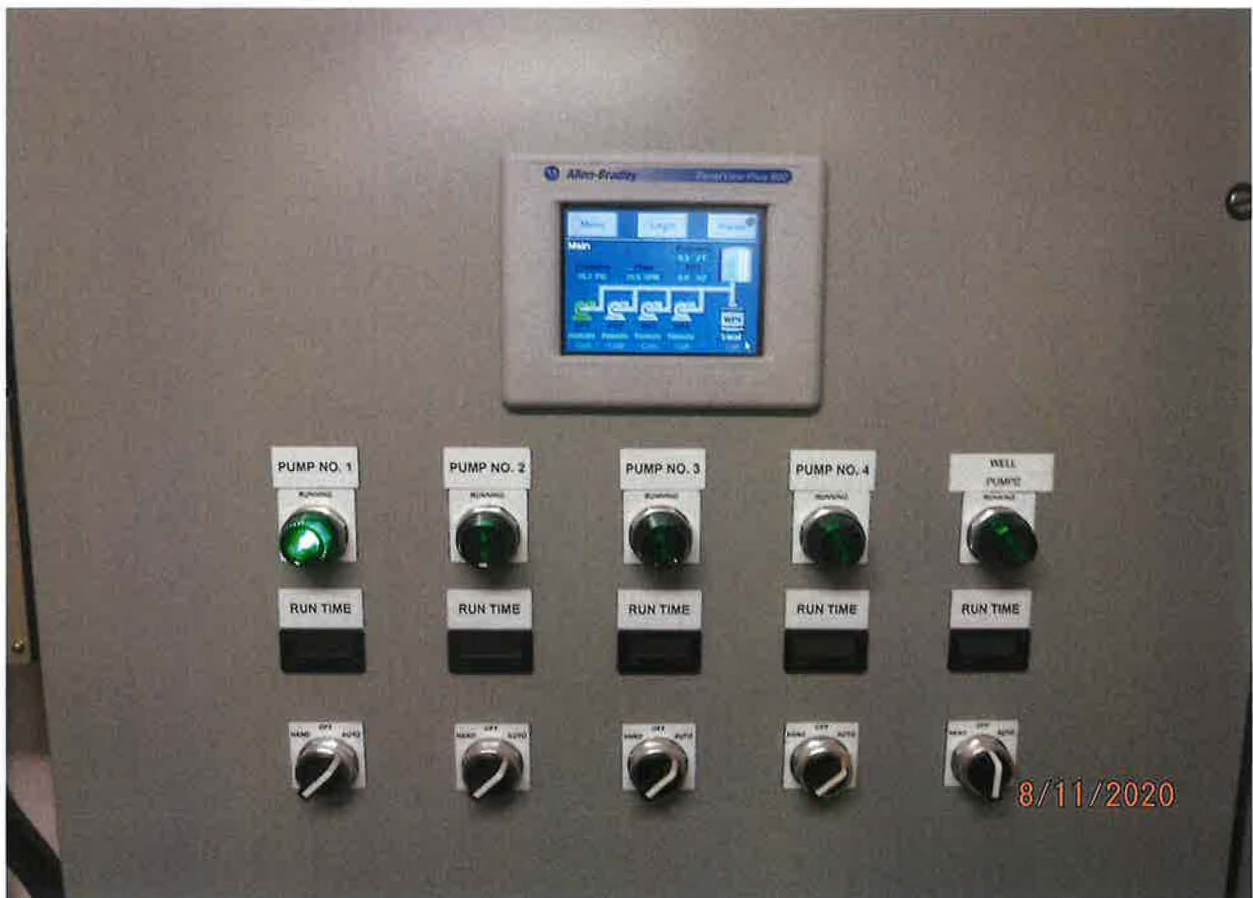
WATER CONVEYANCE SYSTEM



WELL No. 2 – MEASURING DEVICE



WELL No. 1 – MEASURING DEVICE



WELL SYSTEM CONTROL PANEL



DOMESTIC & FIRE PROTECTION STORAGE - 72,145 GALLON STORAGE TANK



FIRE PROTECTION POU



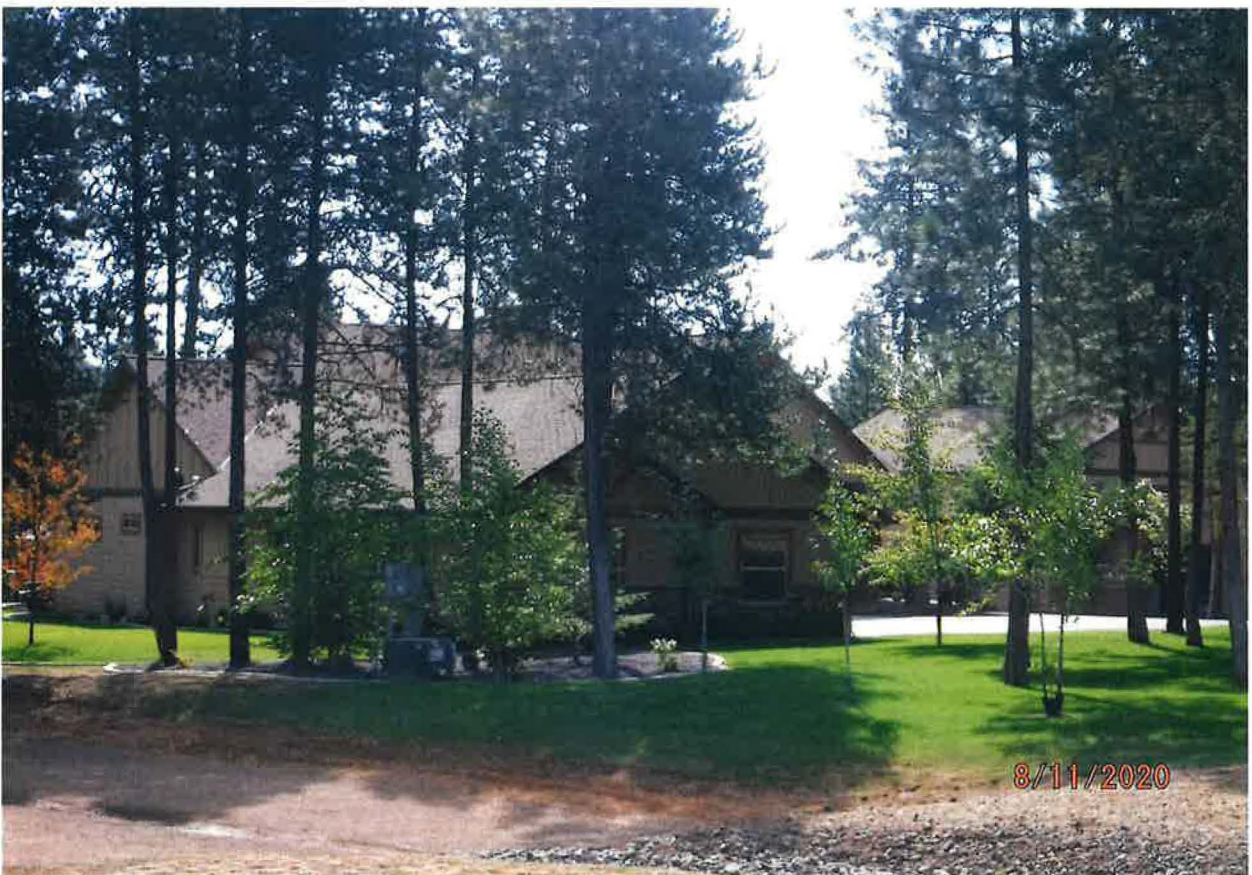
DOMESTIC POU – LT 1 BLK 1, 5489 W QUAKING ASPEN DR



DOMESTIC POU – LT 2 BLK 1, 5427 W QUAKING ASPEN DR



DOMESTIC POU – LT 3 BLK 1, 5355 W QUAKING ASPEN DR



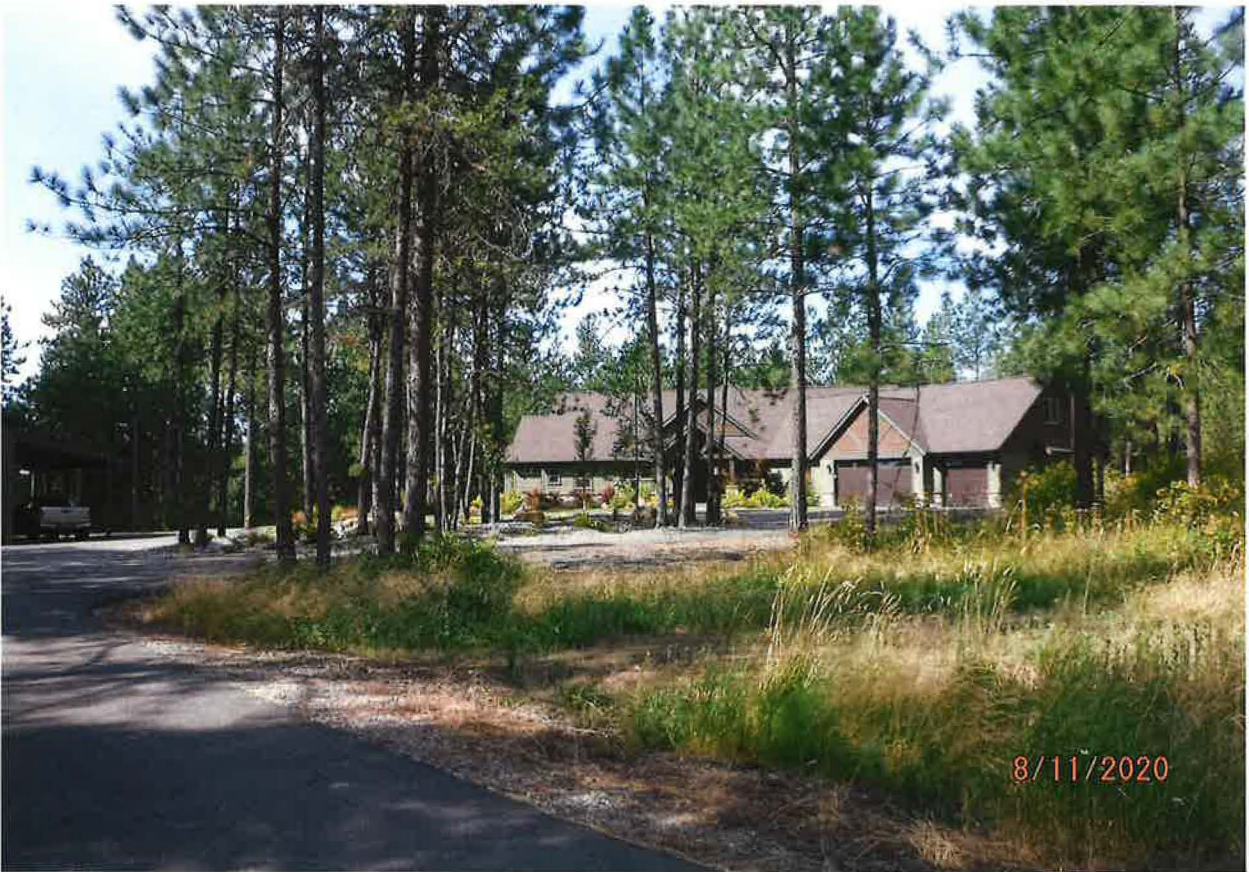
DOMESTIC POU – LT 4 BLK 1, 5231 W QUAKING ASPEN DR



DOMESTIC POU – LT 5 BLK 1, 5209 W QUAKING ASPEN DR



DOMESTIC POU – LT 6 BLK 1



DOMESTIC POU – LT 7 BLK 1, 5202 W QUAKING ASPEN DR



DOMESTIC POU – LT 8 BLK 1, 5206 W QUAKING ASPEN DR



DOMESTIC POU – LT 9 BLK 1, STUB-IN, PIN - OK2830010090



DOMESTIC POU – LT 10 BLK 1, 5292 W QUAKING ASPEN DR