

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-35340
Exam Date: 04/18/2025

1. Current Owner:
ROBERT JENKINS AND KELLI JENKINS 16091 ORCHARD AVE CALDWELL ID 83607-9655
2. Accompanied by: Robert (Bob) Jenkins
Phone No: 208-602-4212 (Bob's Cell)
Address: same as mailing above
Relationship to permit Holder: self

3. SOURCE:
GROUND WATER

Method of Determination: Garmin GPS and GIS imagery.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
Multiple Boise Board of Control- Service Area	Boise River, Indian Cr, Ten Mile Cr, 5Mile Cr.	IRRIGATION	DECREED

Comments: The only irrigation rights overlapping the permitted place of use (POU) are due to the service area for an irrigation entity. No protests or comments were received regarding the application at advertisement and the permit holder stated that they are set up to use surface water but none has been delivered through the adjacent ditch in many years.

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

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: No rights share the permitted points of diversion (POD).

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

GROUND WATER L3 (NE¼ SE¼), Sec. 17, Twp 03N, Rge 03W, B.M. CANYON County

GPS COORDS: W116.71484° N 43.59462° (Domestic Well)

GROUND WATER L3 (NE¼ SE¼), Sec. 17, Twp 03N, Rge 03W, B.M. CANYON County

GPS COORDS: W116.71469° N 43.59481° (Irrigation Well)

Method of Determination: Garmin GPS and GIS Imagery

PLACE OF USE: IRRIGATION (WR 63-35340)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N	03W	17													5.5 L3				5.5
03N	03W	17													1.1 L4				1.1

Total Acres: 6.6

PLACE OF USE: DOMESTIC & STOCKWATER (WR 63-35695)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N	03W	17													X L3				
03N	03W	17													X L4				

Method of Determination: Field photos, GIS imagery and Google Earth Pro.

3.

X Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

X 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 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 Model No.	Pump Make	Discharge Size
Domestic (separate system)	Franklin	1 ½	5870203384	Franklin	Unknown
Irrigation	Unknkown	7 ½	Unknown	Unknown	Unknown

Comments: The permit holder was only able to provide the set depth of 90 ft and horsepower of the submersible pump installed. The domestic well and system are separate from the irrigation use well and system, so right 63-35340 was split into 63-35695 for domestic and stockwater uses, and 63-35340 for system used solely for irrigation.

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	State ID No.	Size	Calib. Date
Panametric	Acoustic Flowmeter	GE	PT878	305120		04/03/2025

2. Measurements: The transducers (#402) were installed on the 3 ½-inch steel main line to record ten 1-minute measurements.

Table 1- PT878 Irrigation Measurement Log

Table 2- Sprinkler Head Specifications

Time 25/04/18	Velocity ft / sec	Vol ft^3 / Sec	FWD Totalizer (GAL)	3/4" Senninger Part Circle Impact Sprinkler 23° - #13-18	
15:53:50 PM	2.98	0.07	517,413.65	Base	3/4" MNPT
15:54:50 PM	2.98	0.07	517,445.29	Flow	6.5-16.1 GPM
15:55:50 PM	2.98	0.07	517,476.70	Throw Radius	45-57 ft.
15:56:50 PM	2.98	0.07	517,508.11	Operating Pressure	30-55 PSI
15:57:50 PM	2.98	0.07	517,540.82	Trajectory Angle	23°
15:58:50 PM	2.98	0.07	517,571.47	Operation	Part Circle
15:59:50 PM	2.98	0.07	517,603.65	Drive Mechanism	Spring Arm Impact
16:00:50 PM	2.98	0.07	517,635.04	Nozzle Range	#13-#18
16:01:50 PM	2.98	0.07	517,667.82		
16:02:50 PM	2.98	0.07	517,698.45		
16:03:50 PM	2.98	0.07	517,729.86		

Comments: The PT878 measurements recorded were 10 x 1-min readings taken on the 3 ½" steel irrigation mainline.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: The permit holder explained that the irrigation system is only able to run 1 zone of 8 sprinkler heads at a time. However, the VFD controller for the irrigation pump is set to a 60psi limit and permit holder provided the horsepower and set depth for the irrigation pump which made a theoretical calculation possible to determine a reasonable peak discharge. There was no pressure gauge or exposed length of pipe to accommodate an acoustic flowmeter measurement for the domestic system, but the standard domestic pressure for Idaho is 45-60psi. A median pressure of 53psi and the static water depth of the domestic well were used in a conservative peak instantaneous rate theoretical calculation for the domestic system.

Irrigation Pump (set depth 90', 7 ½ -Hp, @60psi)

$$Q = (7.5 \text{ Hp})(8.8)(.80 \text{ eff})/(90 \text{ lift in ft}) + (2.31)*(60\text{psi}) = 0.23\text{cfs}$$

Domestic Pump (static depth 43', 1 ½ -Hp, @53psi)

$$Q = (1.5 \text{ Hp})(8.8)(.80 \text{ eff})/(43 \text{ lift in ft}) + (2.31)*(53\text{psi}) = 0.06\text{cfs}$$

IRR Measured Rate= 0.07cfs (@28psi)

IRR Theoretical Rate= 0.23cfs (@60psi)

IRR BU limited Rate= 0.13cfs (@0.02cfs/acre)

IRR Recommendation= 0.07cfs

DOM/SW Theoretical Rate= 0.06cfs

Domestic Recommendation = 0.04cfs

Stockwater Recommendation= 0.02cfs

Comments/recommendations: Although the Irrigation well and system for WR 63-35340 seems capable of the full standard rate of 0.13cfs for the irrigation of 6.6 acres the system in place only uses 0.07cfs on the largest zones and 2 zones cannot run simultaneously on the single timer system, so the system limited rate (the measured rate) of 0.07cfs is the recommended rate for irrigation use on the license. The irrigation system has several feet of the main line exposed making it impractical for year-round use such as livestock watering.

The domestic well with separate system is used for water in the structures as well as stockwater year-round, and additional watering of lawn around hardscape near the home. Administrative Memo #3 states a maximum rate of 0.02cfs is standard for stockwater servicing up to 50 head of range cattle, and Administrative Memo #22 states that 0.04cfs is the standard maximum rate for domestic use for 1 home. Several horses are boarded at the stables on site and a permanent trough as well as frost-free hydrants for stockwater are located within the POU. I recommend

the domestic/stockwater license WR 63-35695 is issued with a maximum combined rate of 0.06cfs for domestic (0.04cfs) use & stockwater(0.02cfs) for up to 50 head of livestock.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: **(63-35340)**

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 6.6 \text{ acres} \times 4.5 \text{ AF/acre} = 29.7 \text{ AF annually}$

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.07 \times 260 \text{ Days} \times 1.9835 = 36.1 \text{ AF}$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{29.7 \text{ AF annually}}$

2. Volume Calculations for Other Uses:

(63-35695) STOCKWATER:

During the field examination photos were taken of the stock tanks and frost-free spigots near the home and throughout the fenced areas. The permit holder explained that during development they kept up to 50 head of range cattle in the enclosure, but the proved too destructive to the irrigation system so now they strictly keep horses within the POU.

Administrative Memo #3 states that 0.7AF annually is a reasonable volume for the watering of up to 50 head of range cattle. I recommend that domestic/stockwater right 63-35695 is issued with an annual volume of **0.7AF** for stockwater.

(63-35695) DOMESTIC:

During the field examination frost free spigots around the home were being used to water small patches of lawn on the east and south of the home.

Administrative Memo #22 allows up to 1.2 AF annually for domestic use in 1 home including up to ½-acre of irrigation. I recommend that domestic/stockwater right 63-35695 is issued with an annual volume of **1.2AF** for domestic use for 1 home.

G. NARRATIVE/REMARKS/COMMENTS

On November 4, 2024, the Department received the Statement of Completion for permit 63-35340, stating in section 5 that the use was developed for 1 home, 15 acres of irrigation, and stockwater for 50 cows. On April 18, 2025, a field examination was conducted with the permit holder, Robert (Bob) Jenkins as an escort. The permit describes the use as two wells with one system for all three permitted uses. However, the use was developed as one well and system for domestic and stockwater use, and a separate well and system for irrigation use only. Therefore, **the license was split into parent right 67-35340 for the irrigation of 6.6 acres and right 67-35695 for stockwater and domestic use in 1 home with up to ½ acre of irrigation** for watering observed for some small areas between hardscape on the east and south of the home. The permit holder noted that the irrigation only system is designed for seasonal use and is drained in the offseason, so it is not used for stockwater uses which are year-round.

The irrigation system is delivered through a buried 3 ½ " steel mainline which splits three times to deliver water to the rotary and umbrella sprinklers around the home and the 3 fields in the northwest, southwest, and southeast of the POU. Each field has 4 zones with 8 sprinkler heads each (see system diagram, Figure 1). During the field examination I asked the permit holder to run the maximum irrigation the system was capable of at one time. Mr. Jenkins explained that the system is set up to run one zone at a time to prevent burning up the pump. For the measurements Mr. Jenkins ran one of the zones in the southwest field, which he stated covered the largest areas of the 24 zones in the system. When asked if he could or has ever ran 2 zones simultaneously Mr. Jenkins stated that he has not and would not run multiple zones. The peak rate measured for the irrigation system was 0.07cfs as described in sections D & E of this report. Although the system is theoretically capable of the full standard rate for the GIS measured 6.6 acres of irrigation (0.13cfs) the rate recommended for the license is based on the historic use and maximum rate measured during the field examination.

The domestic system delivers water from the well head through a buried pipe to the home, stockwater tanks, and frost-free hydrants used for stockwater within the fenced POU. The buried irrigation sprinkler system waters the lawn and landscaped beds around the home. However, some small areas in the lawn were being watered using portable sprinklers connected to the frost-free hydrants and spigots supplied by the domestic system. The combined areas that are watered in this manner

are significantly less than ½-acre.

I recommend that separate licenses be issued for the irrigation of 6.6 acres (63-35340) and domestic use in 1 home with up to ½ acre of irrigation and stockwater (63-35695) for up to 50 head of livestock, as outlined in sections E & F of this report. Finally, I recommend that the license for irrigation WR 63-35340 is issued with conditions R65, 01M, & 103, and the license for domestic and stockwater uses WR 63-35695 is issued with conditions X01, 187, & 103. Conditions 046 and 26A were removed and condition 121 was replaced with 103, per current guidance. Condition 132 should be removed for licensing since it was only on the permit under the assumption that the intended uses were proposed to be diverted using one system.

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>
WR 63-35340			
IRRIGATION	03/01 to 11/15	0.07 CFS	29.7 AF
WR 63-35695			
STOCKWATER	01/01 to 12/31	0.02 CFS	0.7 AF
DOMESTIC	01/01 to 12/31	0.04 CFS	1.2 AF

WR 63-35340 Totals: 0.07 CFS 29.7 AF

WR 63-35695 Totals: 0.06 CFS 1.9 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

Bob Howe - Water Resource Agent, Sr.

Field Examiner's Name Cody [Signature] Date

Reviewer [Signature] Date 08/12-10-25

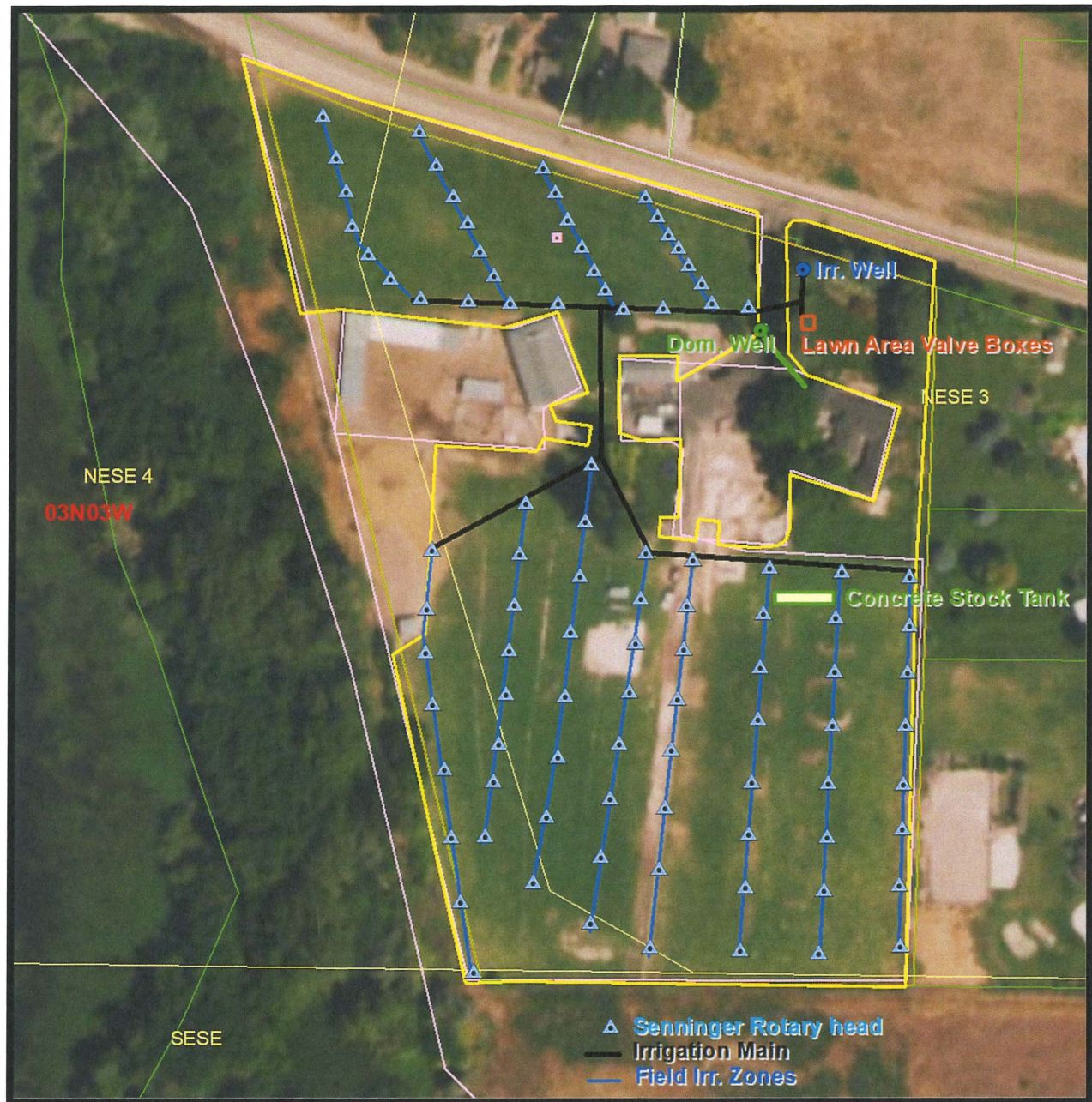
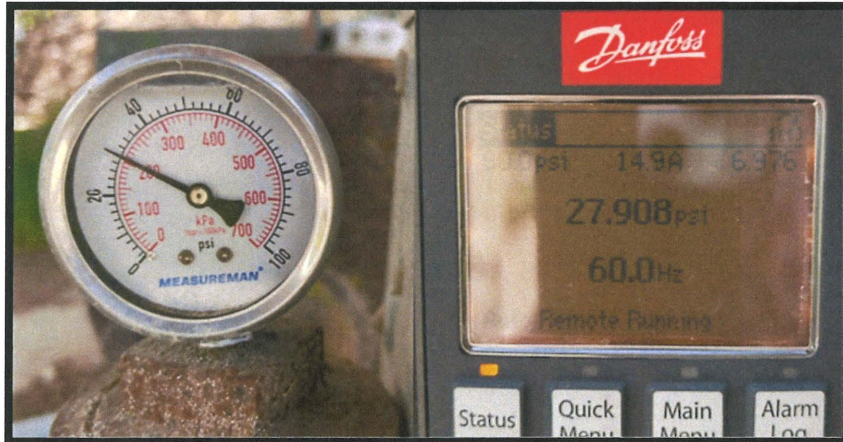


Figure 1- System Diagram- Buried lines inferred. Domestic well main goes to home then is distributed for domestic and stockwater.



Photo 1- Irrigation system well head and VFD control panel located at the north end of the driveway to the home.



Photos 2 & 3- Irrigation system pressure gauge and VFD controller operational during field examination.

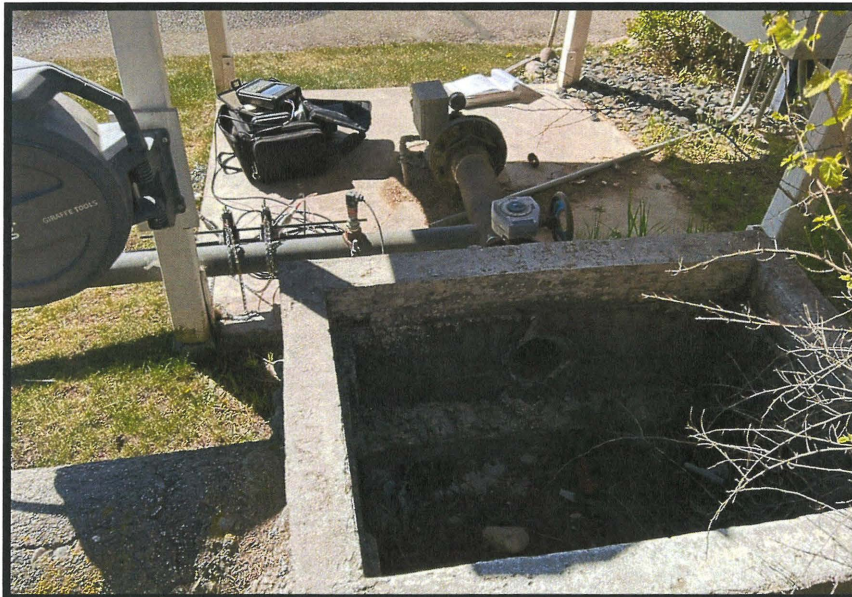
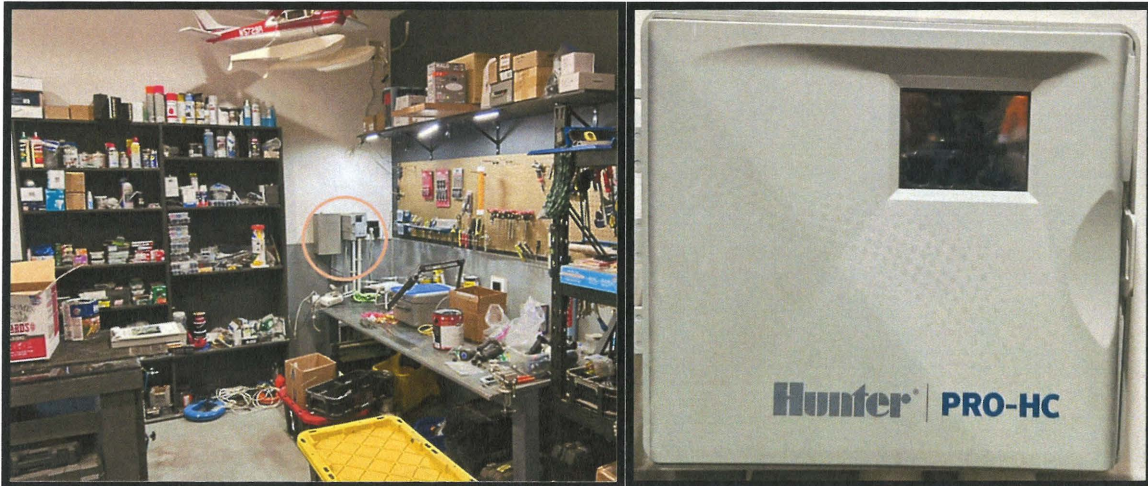


Photo 4- Transducers connected to 3 1/2" steel mainline for measurements. The cistern for gravity fed delivery system no longer used is in the foreground.



Photos 5 & 6- Steel Mainline diameter measurement and GPS coordinates for irrigation well head.



Photos 7 & 8- Irrigation system controller and power located in the shop west of the home.



Photos 9-11- Irrigation operating in the southwest field during examination (top and middle). Fenceline mounted rows of sprinklers on the east and west sides of the fields(bottom)



Photo 12- ¾" Senninger Impact Sprinklers found through out field sprinkler system with cup enclosed popups in the middle two rows.

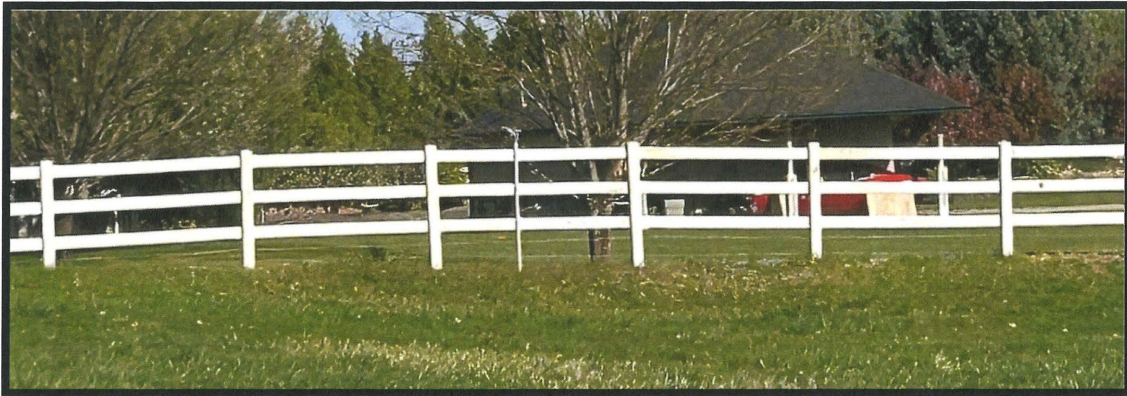


Photo 13- Sprinkler rows along the fenceline.



Photo 14- Large sprinkler guns found in the corners at the perimeter of the POU.



Photo 15- Concrete stockwater tank at the north end of the southeast field.



Photos 16 & 17- GPS Coordinates for the domestic/stockwater well head circled in blue.

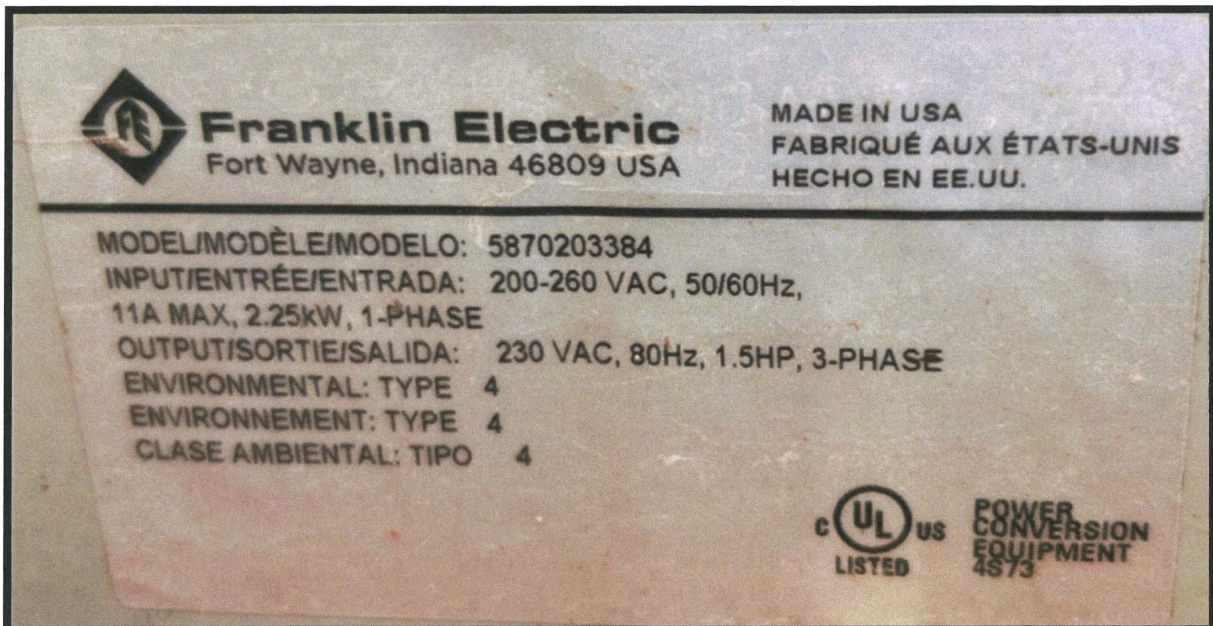


Photo 18- Domestic pump specifications tag. The tag is attached to the power panel adjacent to the domestic well head.



Photo 19- Irrigation valve box in the lawn north of the home.



Photos 20(above) & 21 (below)- Umbrella sprinklers found in landscaped bed north of the home.





Photo 22- Umbrella popup sprinklers in landscaped bedding around the home.

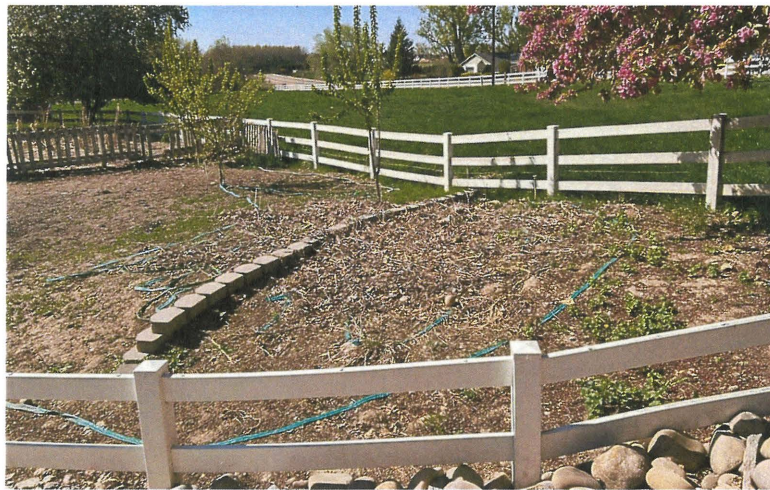


Photo 23- Soaker hoses attached to frost-free hydrants in landscaped areas west of the home and west of the driveway.



Photo 24- Portable sprinkler attached to hose bib on the home watering small areas between the hardscape on the east of the home.