

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-12608
Exam Date: 07/18/2024

1. Current Owner:
LUKE MC DANIEL 246 NORSE AVE COSTA MESA CA 92627-1369
2. Accompanied by: SCOTT GENTLEMEN
Phone No: 208-263-6598
Address: 2760 FLUME CREEK RD, SANDPOINT ID 83864
Relationship to permit Holder: PERMIT HOLDER'S REPRESENTATIVE

3. **SOURCE:**
FLUME CREEK

Tributary
RAPID LIGHTNING CREEK

Method of Determination: ArcMap and DRG layer.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-8278	Flume Creek	Stockwater, Domestic, Recreation Storage	License with Notice of Claim filed in the CFPRBA
96-13307	Groundwater	Domestic	Notice of Claim filed in CFPRBA
96-13308	Groundwater	Domestic	Notice of Claim filed in CFPRBA

Comments:

- 96-8278 – Licensed right 96-8278 has a generic 40-acre tract assigned as the POU which uses Flume Creek water; the POU overlaps this rights irrigation POU. A Notice of Claim has been filed by Lewis Trust in the Clark Fork Pend Oreille River Basin Adjudication (CFPRBA) which identifies the neighbor to the west of the applicant's property is appurtenant to 96-8278's beneficial use of water. There is no concern for overlap between the two Rights.
- 96-13307 & 96-13308 – The applicant has filed Notice of Claim(s) in the CFPRBA process for a groundwater well, which is used for domestic purposes on the applicant's parcel with overlap between domestic (x2) and irrigation POU. The groundwater system is separate from this surface water source system and for beneficial uses that are different from each other. There are two homes with historic use on the property which are associated with each claim as filed. There is no concern for overlap between the two WRs.

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

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

FLUME CREEK SE¼ NW¼, Sec. 13, Twp 58N, Rge 01E, B.M. BONNER County

Method of Determination: GPS; POD is located at -116°16.5842, 48°22.6971.

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	01E	13								1.3									1.3

Total Acres: 1.3

Method of Determination: In-office exam with drive by to validate irrigation acreage and GPS locate the POD.

- 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
Creek diversion gravity flow to centrifugal pump	PENTEK	¾	C48J2EC11C3	STA-RITE	MFG # SND-L; 1-INCH DISCHARGE

D. FLOW MEASUREMENTS

1.

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

2. Measurements: No measurement required for an in-office exam. The Sta-Rite centrifugal pump has a maximum capacity of 15 gpm as annotated by pump specifications.

E. FLOW CALCULATIONS

Flow measurement not required as per IDAPA RULE 37.03.02.035.01.r.iii.

F. DIVERSION RATES

The diversion rate for this irrigation right is limited to **0.04 cfs** or 18.0 gpm considering department rounding standards.

G. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.3 \text{ ac} \times 3.0 \text{ afa} = 3.9 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.04 \text{ cfs} \times 200 \text{ days} \times 1.9835 = 15.9 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{3.9 \text{ af}}$$

2. Volume Calculations for Other Uses:

- The irrigation beneficial use from the Flume Creek water source is exempt from the volume reporting requirements in accordance with IDAPA 37.03.02, Section 035.

H. NARRATIVE/REMARKS/COMMENTS

Permit 96-12608 qualifies for an in-office exam, but I wasn't able to validate irrigation acreage using aerial imagery and a site visit was conducted on 7/18/2024 to collect irrigation acreage information and photographic evidence of water usage at the irrigation POU. Mr. Scott Gentlemen, the Permit Holder's representative, accompanied me during my site visit where I observed the POD in Flume Creek and the applicant's water system. At the POD, a wooden cistern is installed in a small pooling from the creek which captures creek water in a pipeline routing to the irrigation system. The wooden cistern is old, was present when Mr. Mc Daniel purchased the property, is deep and the pipeline is buried and there is no known information about the pipe size diverting water via gravity flow. The POD is located on Mr. Gentlemen's parcel but there is an active easement in place authorizing access to the POD.

Creek water is conveyed by gravity flow down grade from the POD and then up slope to a small pump house which contains a ¾ hp Sta-Rite Pentek centrifugal pump and pressure pot which distribute water to the irrigation POU. I was unable to evaluate the flow rate from the unknown pipe as gravity flow as it is buried until it enters the pump station. The conveyance pipeline is a 1 – ¼ inch connection to the pump and has a 1-inch discharge pipe to pressure tank prior to distribution at the irrigation POU. I'm recommending department standard diversion rates toward licensing this permit, which results in 1.3 acres x 0.03 cfs per acre = **0.04 cfs** considering department rounding standards or 18 gpm. The pump indicates 15 gpm max capacity, but it's unclear how the gravity water flow interacts with the pump as installed and I'm recommending the 15 gpm be evaluated as rounded up to 0.04 cfs for licensing purposes, which is the most I can recommend based on acreage irrigated.

I walked the irrigation POU with Mr. Gentleman and used field maps to help sketch the POU as observed. Several areas within the POU are tree canopied, but active irrigation does take place which are not easily observed from aerial imagery. During licensing review, I used Bonner County tax parcel maps and ArcMap GIS to trace out the irrigation POU which equals 1.3 acres. This is less than the 2.0 acres permit approved, but cutting out multiple structures, homes, and driveways reduced the footprint of the active irrigation area. This Permit's surface water source is exempt from volume reporting for the irrigation beneficial use, but 1.3 acres is authorized 3.9 af (3.0 afa) for licensing purposes. Condition R66 provides volumetric limits for licensing purposes but no annual or maximum diversion volumes are applied to the face of the license.

The small pump station contains both the Flume Creek surface water irrigation system and a groundwater well conveyance system components, but they are separate systems. There are several frost-free hydrants associated with the applicant's groundwater system throughout the property; there are additional irrigation riser hydrants from the surface water system that are used throughout the property which appear to be older construction than the groundwater well system components. Irrigation is by hose and sprinklers to lawn, landscape, and garden around two homes and other structures.

I removed condition 029 from the Permit during licensing review. All other conditions on the Permit are carried forward to licensing. Overlapping water right concerns have been analyzed on PG1 of this report, and there aren't any direct overlapping concerns toward licensing this right.

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

I. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>
IRRIGATION	04/15 to 10/31	0.04 CFS

Totals: 0.04 CFS

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

J. AUTHENTICATION Luke Bates – Sr Water Resource Agent

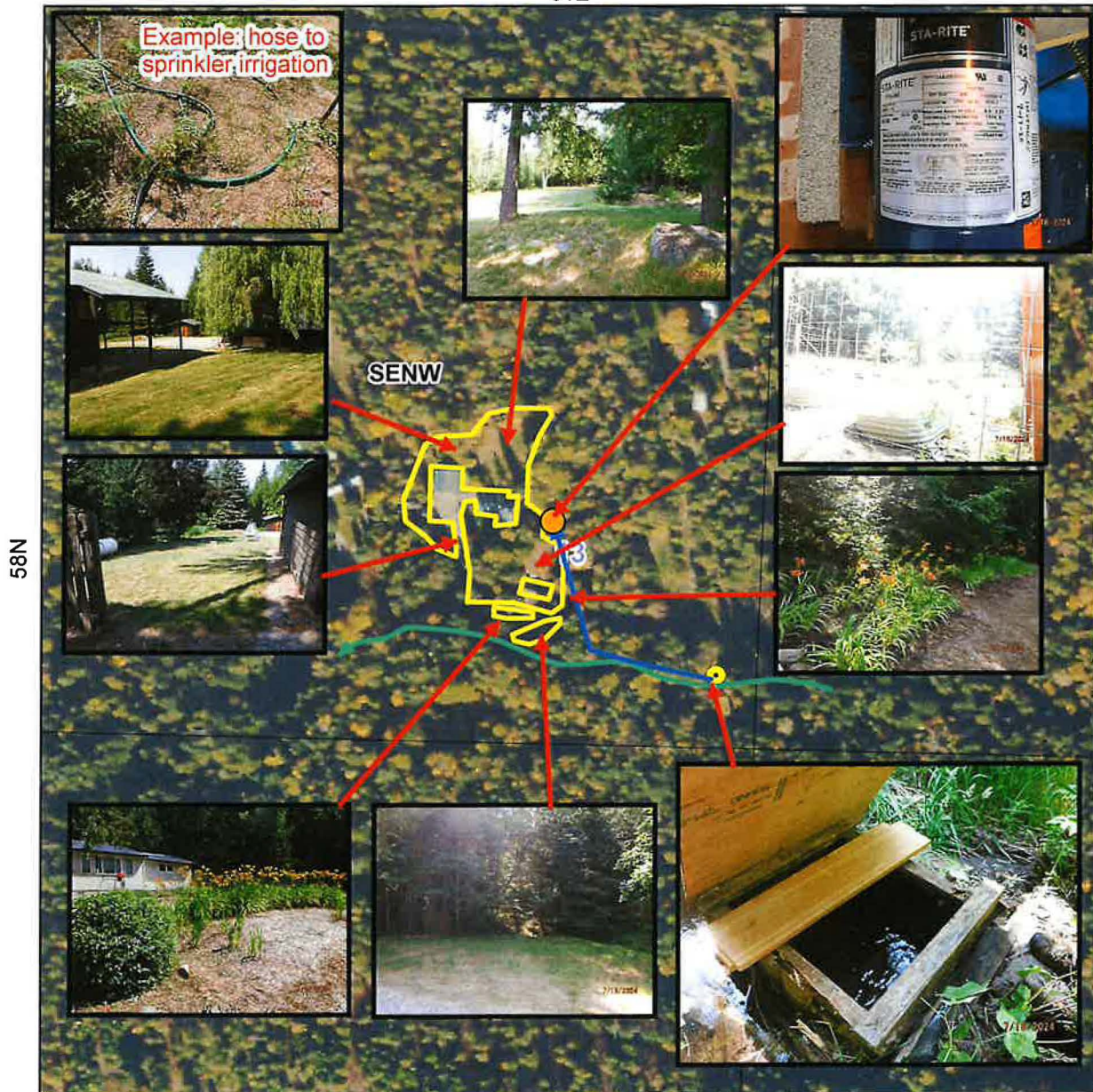
Field Examiner's Name *L. Bates* Date *7/29/2024*

Reviewer *Chris Bell* Date *1/13/2025*

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-12608

This map depicts the IRRIGATION system diagram.

01E



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

0 0.035 0.07 0.14 Miles



LICENSING REVIEW DIVERTING PUMP SPECIFICATIONS

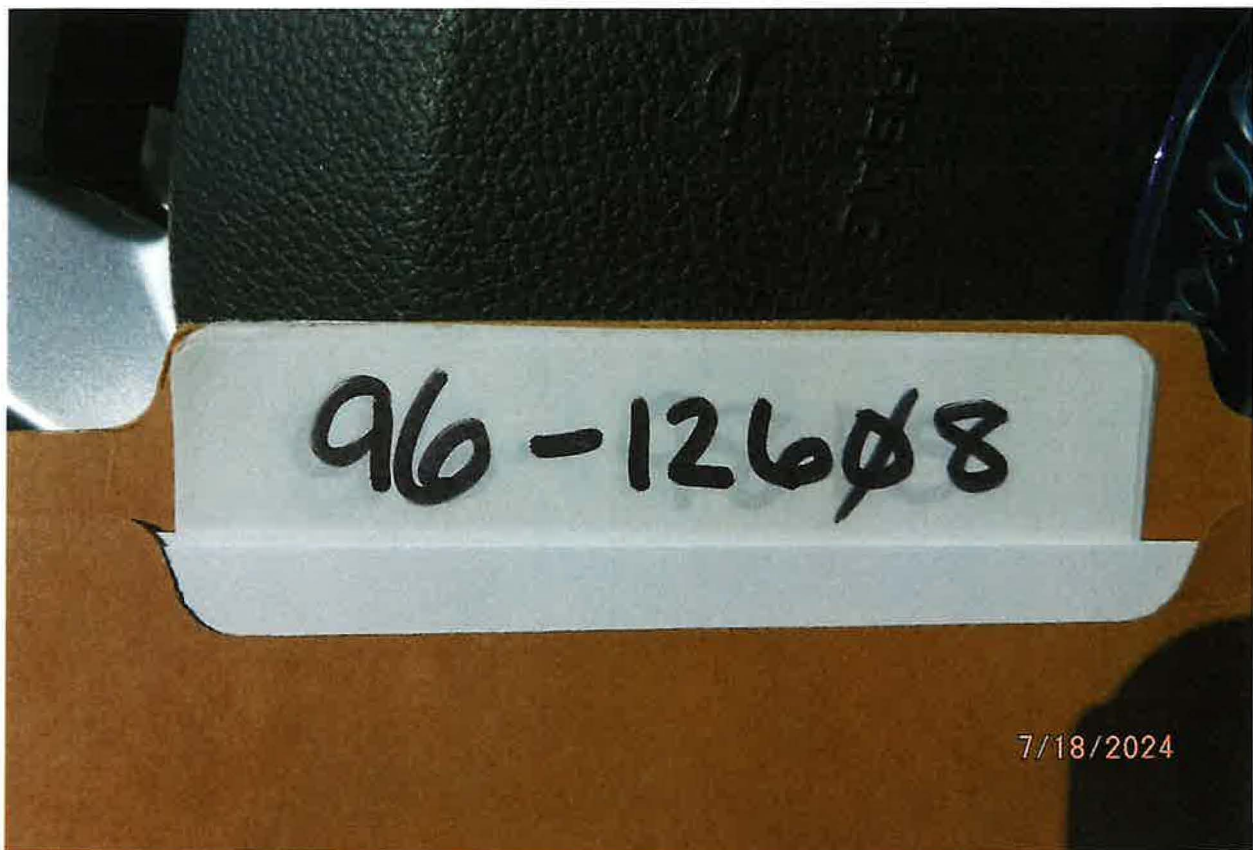
STA-RITE ¾ HP CENTRIFUGAL PUMP INSTALLED AT TIME OF BENEFICIAL USE FIELD EXAMINATION ON
7/18/2024 – LUKE BATES – SR. WATER RESOURCE AGENT



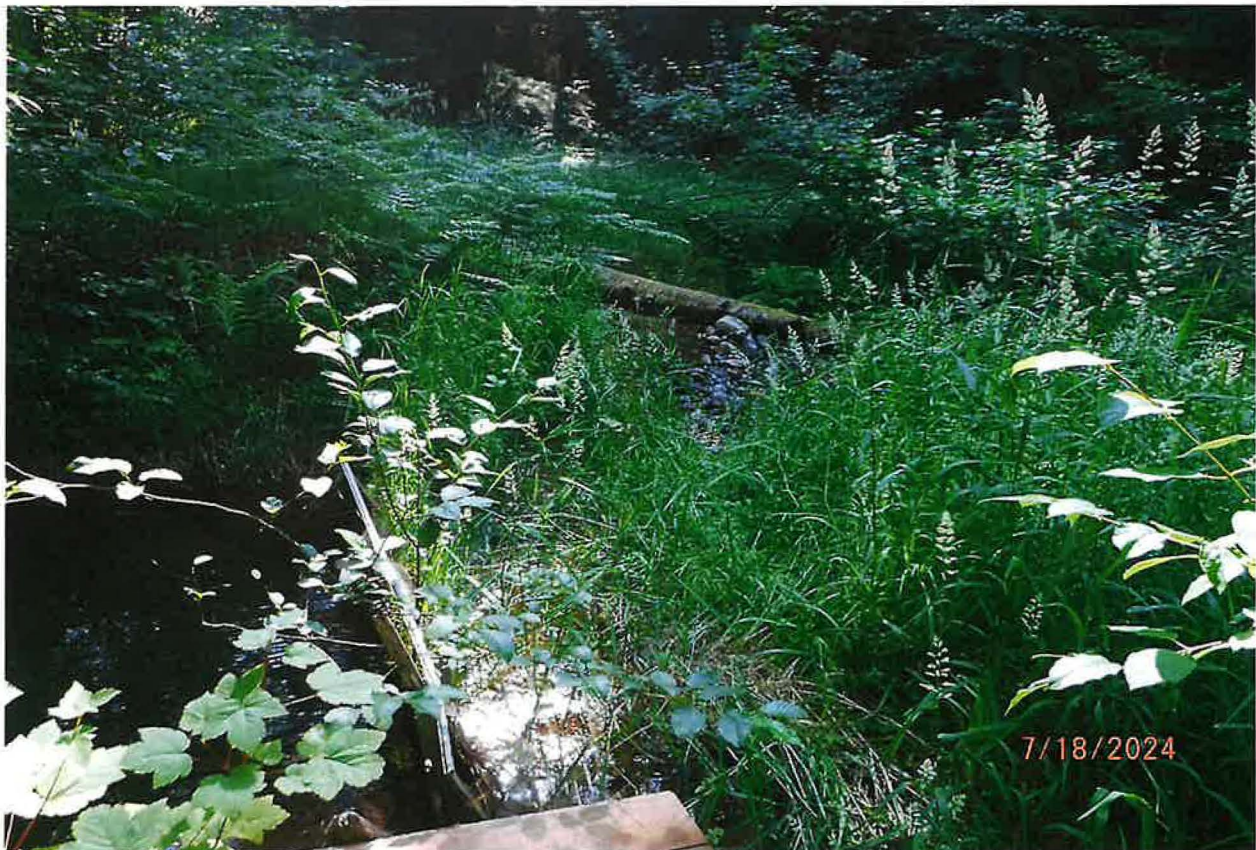
Brand: Sta-Rite



DESCRIPTION	MANUALS	SPECIFICATIONS	REPAIR PARTS	REPAIR DIAGRAM	BUYERS GUIDES	 ASK A QUESTION ?
Brand		Sta-Rite			Maximum Capacity	15 GPM Max.
Mfg. Number		SND-L			Maximum TDH	162 ft.
Series		SN Series			Shut-Off Pressure	70 PSI
Product Type		Shallow Well Jet Pump			Pressure Switch Setting	30-50 PSI
Application		Water Systems			Max. Inlet Pressure	50 PSI
Horsepower		3/4 HP			Impeller Material	Noryl
Voltage		115/230 volts			Pump Casing Material	Cast Iron
Phase		1			Motor Shaft Material	Stainless Steel
Frequency		60 Hz			Shaft Seal	Carbon-ceramic/stainless steel
Design		Self-priming			Max. Temperature	140°F
Suction Connection		1-1/4" NPT				
Discharge Connection		1" NPT				



BENEFICIAL USE FIELD EXAM CONDUCTED ON 7/18/2024



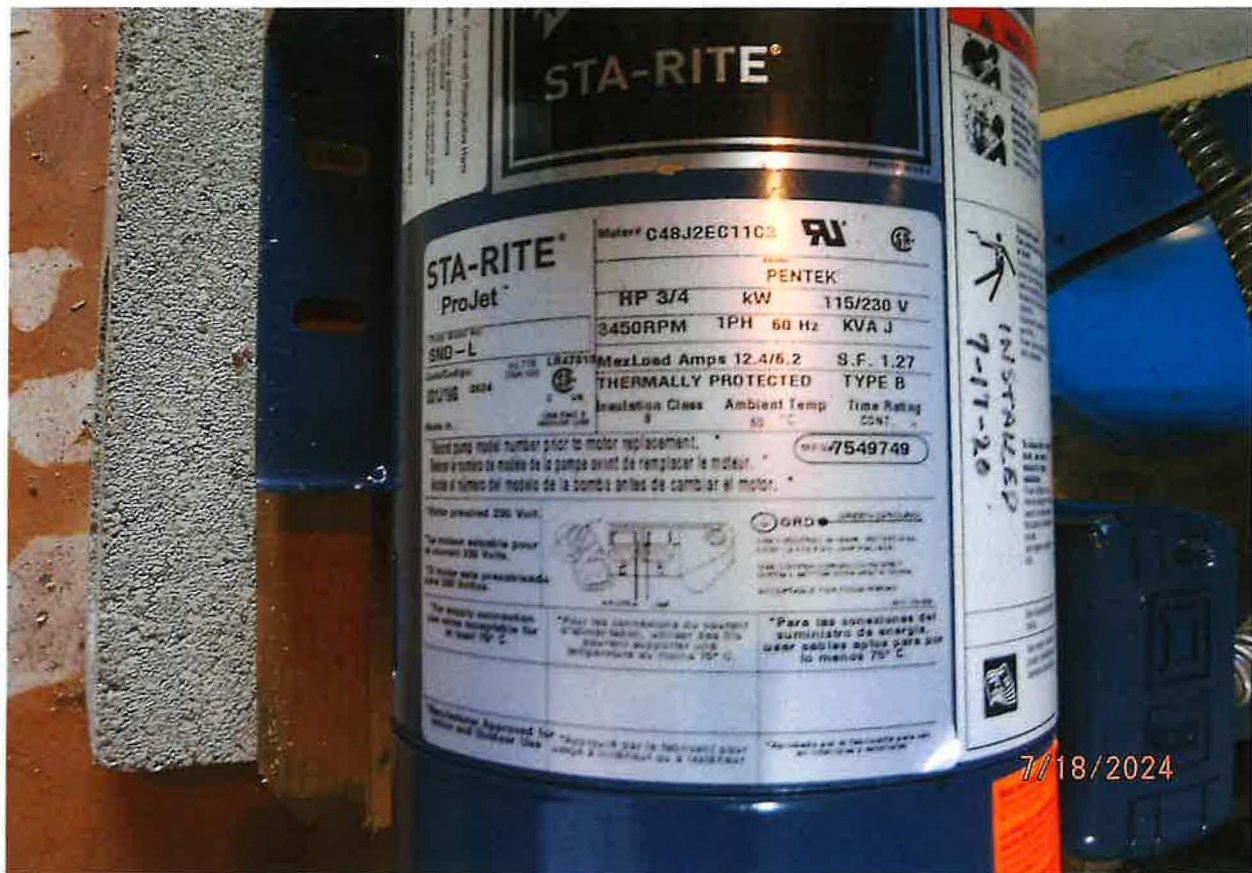
POD – POOLING WITH WOODEN DIVERTING BOX & PIPE FROM CREEK



POD – COLLECTION BOX WITH SCREENED PIPELINE FROM CREEK WHICH GRAVITY FLOWS IN
CONVEYANCE PIPELINE



PIPE BURIED WITHIN COLLECTION BOX UNABLE TO DETERMINE PIPE DIAMETER DURING EXAM



STA-RITE PROJET MOTOR C48J2EC11C3 ¾ HP PENTEK PUMP WORKS WITH GRAVITY FLOW PRESSURE TO DISTRIBUTE WATER TO THE IRRIGATION SYSTEM



SMALL PRESSURE POT IS PART OF SURFACE WATER SYSTEM; LARGE (L/H SIDE OF IMAGE) PRESSURE TANK PART OF SEPARATE DOMESTIC WATER SYSTEM FROM GROUNDWATER WELL



IRRIGATION POU – HOSE AND SPRINKLERS FROM IRRIGATION RISER PIPES





IRRIGATION POU

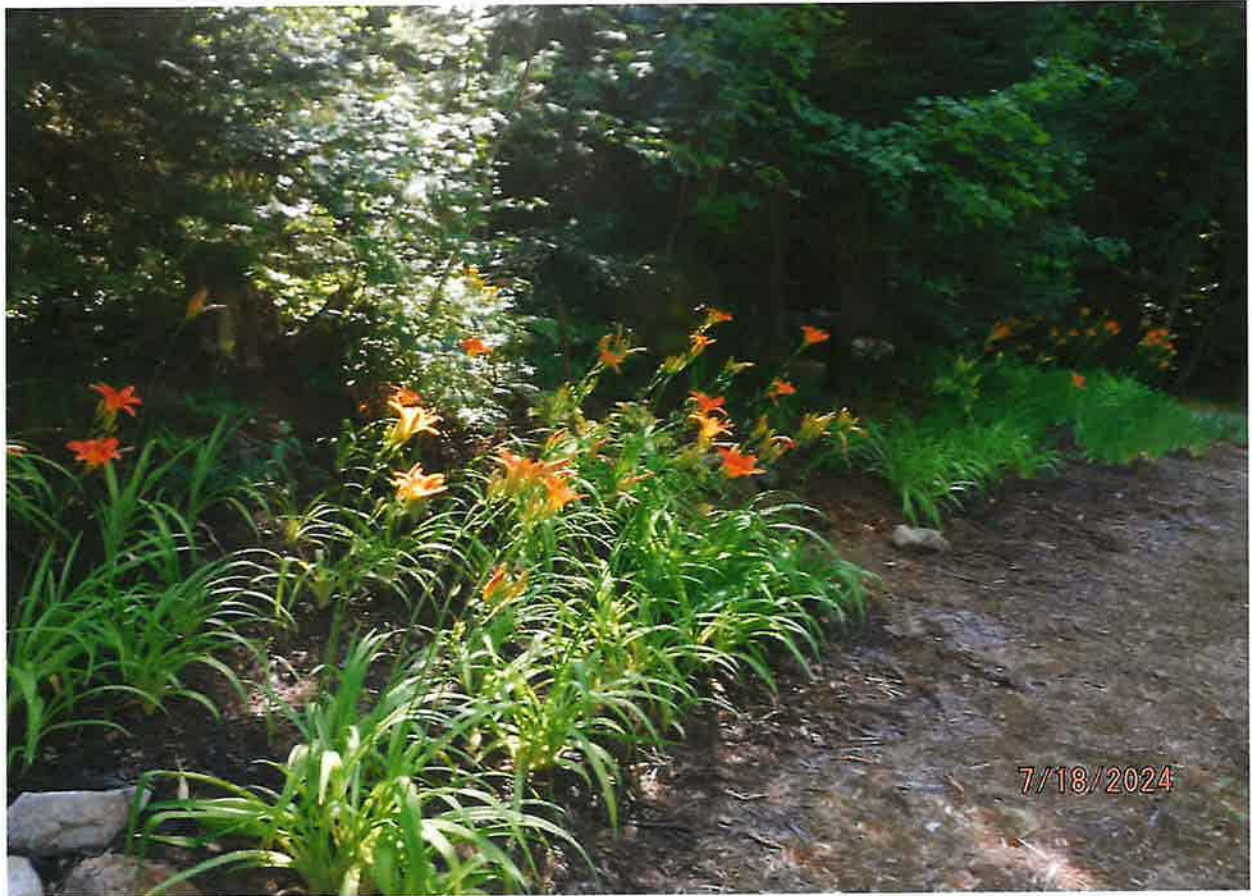




EXAMPLE – HOSE SPLITTERS ROUTING TO DIFFERENT IRRIGATION AREAS WITHIN THE POU



IRRIGATION POU – FENCED GARDEN PLOT



IRRIGATION POU – LANDSCAPE PLANTS AROUND LOWER HOME ON PROPERTY





IRRIGATION POU

