

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 98-8035
Exam Date: 06/15/2026

1. Current Owner:
PHILIP LATENSER PO BOX 1931 BONNERS FERRY ID 83805-1931 AND/OR
DAVENE KING PO BOX 1931 BONNERS FERRY ID 83805-1931
2. Accompanied by:
Phone No:
Address:
Relationship to permit Holder:

3. **SOURCE:**
MEADOW CREEK
GROUND WATER

Tributary
MOYIE RIVER

Method of Determination: Arc Pro GIS and DRG Layer.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Comments: Licensed Right 98-7908 authorizes diversion from Meadow Creek for Domestic 1 home with 2 RV sites with a generic POU which overlaps this rights storage POU, but there is no concern for overlap between rights.

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

Comments: 98-7908 was developed with a separate POD from this permit, no overlap by POD/diversion rate evaluated.

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

MEADOW CREEK SE¼ SE¼, Sec. 1, Twp 63N, Rge 01E, B.M. BOUNDARY County
GROUND WATER SE¼ SE¼, Sec. 1, Twp 63N, Rge 01E, B.M. BOUNDARY County

Method of Determination: GPS. The POD diverting pipes are located at -116° 16.1427, 48° 50.1584.

PLACE OF USE: WILDLIFE STORAGE, RECREATION STORAGE, FIRE PROTECTION STORAGE, and RECREATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
63N	01E	1																X	

Method of Determination: Beneficial use field examination, Google Earth aerial imagery, and Arc Pro GIS software.

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components.
X 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 Serial No.	Pump Make	Pump Serial No. or Discharge Size
2ea 4-INCH DIVERTING PIPES	N/A	N/A	GRAVITY FLOW	N/A	4-INCH CORRUGATED SCREENED PIPES

D. FLOW MEASUREMENTS

1.

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

2. Measurements: I was unable to perform flow measurements due to inadequate pipe requirements. The diverting works and conveyance system incorporates buried 2ea 4-inch corrugated poly-pipe that daylights into an 8-inch poly-pipe culvert flowing into storage pond on a rock channel. I couldn't evaluate flow using a 5-gal bucket or flowmeter and have evaluated diversion rates using a theoretical Manning Equation.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method: Manning Equation.

- Permit authorized diversion rate(s): 0.35 cfs for Diversion to Storage and 0.35 cfs for Recreation (flow-through water).
- Beneficial use exam evaluated flow rate: Manning Equation derived a maximum rate of 0.28 cfs considering 200 ft of buried 2ea 4-inch poly pipe with a 0.5 ft change in elevation over distance (see attached computation sheet).
- License recommendation: 0.28 cfs per beneficial use for Recreation & Diversion to Storage which also serves as the Maximum Diversion Rate.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses:

- Wildlife Storage, Recreation Storage, Fire Protection Storage – reference attached Pond Analysis Worksheet.
- Recreation (flow-through water) annual volume = (0.28 cfs total diversion rate / 2 – two 4-inch pipes with average ½ full flow parameter) = 0.14 cfs x 365 days x 1.9835 = **101 af** considering Department rounding standards. The Recreation volume is non-consumptive as designated by conditions of approval.

G. NARRATIVE/REMARKS/COMMENTS

I performed the beneficial use (BU) field exam on 6/15/2026 with the right holder, Philip Latenser, which showed Meadow Creek water being diverted for multiple storage related BUs, Diversion to Storage use, and Recreation (flow-through water) use. At the POD, two screened 4-inch flexible diverting pipes are submerged in the creek and route buried 200-ft toward the a nearby storage pond. The two pipes daylight in a small 4ft x 4ft exposed graveled flow channel (wishing well) before flowing into an 8-inch drainpipe that infills to the storage pond. The wishing well is used to allow sediment to drop out prior to inflow with the storage pond.

Based on project development the two 4-inch pipeline diverting system and conveyance system to inflow at pond I was not able to perform flow measurements and I'm reliant on theoretical computations to determine a flow rate. During the exam Mr. Latenser asserted the grade was nearly level or flat for the conveyance pipeline; during exam the two pipes were approximately ½ full flow state which was noted by the right holder is consistent throughout the year except for early spring

when high flows in the creek allow increased diversion by gravity flow. I've evaluated maximum flow capacity for the system using a Manning Equation (see attached) which resulted in a flow rate of **0.28 cfs** recommended for licensing purposes. This rate is designated for the Diversion to Storage, Recreation (direct flow BU), and Maximum Diversion Rate.

The Recreation POU was permitted as a small channel that enabled gravity flow to divert from creek and continuously pass through the storage pond to return to the creek; this use benefits storage water circulation in the pond throughout the year and is accounted as non-consumptive water use. During licensing review, I assigned the POU shape to be the same as the storage pond itself with understanding the conveyance system connects flow-through from creek and back to creek uninterrupted. The average flow rate of 0.14 cfs was used to evaluate the non-consumptive annual volume of **101.0 af** for the Recreation BU. The average rate blends the high spring flows with reduced summer flows in Meadow Creek, which influence pipe-full status at various times of the year. Considering the non-consumptive nature of this BU the volume serves as an accounting value only as the creek gains the flow back in a short reach of the natural creek channel all located within the right holder's parcel(s).

The Wildlife Storage, Fire Protection Storage, and Recreation Storage POU consists of a storage pond that intercepts shallow groundwater table source water at time of excavation. Based on this information, the Ground Water source POD was designated within the high-water line of the pond. Mr. Latenser provided information about the ground water source during the exam, asserting that when diversion from the creek are turned off, the pond drops in level to the approximate creek elevation and then maintains that level; this indicates the shallow ground water table is sufficient to maintain approximately half the pond's volume without adding diversion from Meadow Creek. Generally, diversion from the creek is not interrupted except to evaluate that element of the water system during development. The storage ponds size and depth were discussed during the exam and during licensing review I developed a post-exam pond analysis worksheet as described below:

- The pond is 0.1 acres in surface area, has a maximum depth of 10 ft, average depth of 4 ft, pond capacity of 0.4 af, no seepage loss due to ground water source infilling from within, 0.2 af seepage loss, and total volume required to maintain pond full levels equal to 0.6 af.

I've designated the **0.6 af** per 3ea storage related BUs for licensing purposes, which are not additive toward the maximum diversion volume recommended, or 101.0 af (Recreation volume) + 0.6 af (Wildlife, Recreation, Fire Protection Storage volume(s)) = 101.6 af or **102.0 af** considering Department rounding standards.

An 8-inch culvert set at same elevation as inflow pipe serves as the overflow discharge pipe, which allows flow-through water to return to the creek via short 30-40 ft natural earthen channel just below the pond dike/dam. I collected photographs which I've added to this report to represent the diversion to storage and return flow to creek system developed by the right holder.

During licensing review, I removed condition 029 based on screening compliance by the right holder. I have revised wording for condition 227 to more accurately describe that Diversion to Storage water use shall not be diverted when down reach Minimum Stream Flow Right 98-7704 (Moyie River MSF) is not satisfied. All other conditions on the permit are being carried forward to licensing.

The concept of curtailment based on MSF Right 98-7704 for the Diversion to Storage BU seems unnecessary at face value due to the flow through Recreation component holding the same rate, but it follows that during times of year where ground

water tables may drop the reasoning becomes clear. The Department is unable to guarantee ground water source water tables as they fluctuate (condition 123 on license); if water tables reduce to the point inflow to pond from the diverting works don't equal outflow from pond (flow-through component), the right holder is no longer bypassing water (non-consumptive use) and has begun using Diversion to Storage diversion to maintain a pond levels below the overflow discharge elevation. If the senior MSF Right 98-7704 is not being satisfied and water is not spilling at the same rate as inflow, then the impoundment and flow through system is not keeping up and diversions should be turned off until the MSF is once again satisfied. This scenario would likely take place in late summer & fall months.

There are no overlapping water right concerns toward licensing Permit 98-8035.

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>
WILDLIFE STORAGE	01/01 to 12/31		0.6 AF
RECREATION	01/01 to 12/31	0.28 CFS	101.0 AF
RECREATION STORAGE	01/01 to 12/31		0.6 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		0.6 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.28 CFS	

Totals: 0.28 CFS *102.0 AF

- * the total 102.0 af diversion volume is based on Department rounding standards which require three significant figures for volume related values. 101.0 af + 0.6 af = 101.6 af but with four significant figures = 102.0 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 – Sr Water Resource Agent

Field Examiner's Name  Date 6/14/2026
 Reviewer Michelle Richman Date 7/23/2026

State of Idaho
Department of Water Resources
Attachment to Field Exam
98-8035

This map depicts the DIVERSION TO STORAGE and RECREATION (non-consumptive flow-through water) system diagram.



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



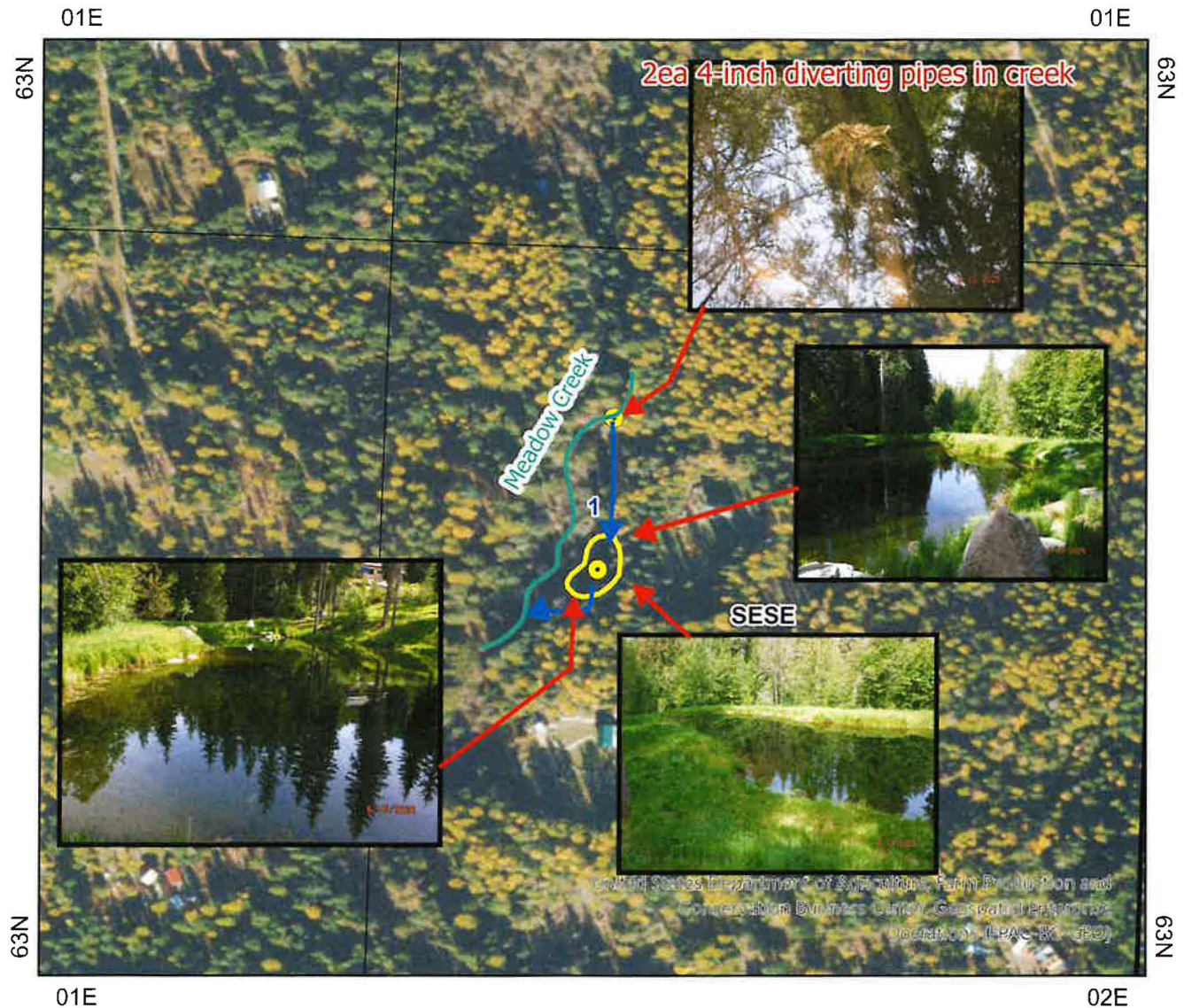
0 0.04 0.09 0.14 0.18 Miles



Imagery: 2023 Aerial Photography
Prepared By Bates, Luke

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Department of Water Resources
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This map depicts the WILDLIFE STORAGE , FIRE PROTECTION STORAGE, and RECREATION STORAGE system diagram.



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



Imagery: 2023 Aerial Photography
Prepared By Bates, Luke

98-8035

BENEFICIAL USE FIELD EXAM DATE 6/15/2026
MANNING'S EQUATION FOR LICENSING PURPOSES

Manning's Equation Calculator for Flow Rate in a Circular Conduit Flowing Full

S = 0.0025 ft/ft

n = 0.009 manning's coefficient

d = 4.0 pipe diameter (inches)

D = 0.33 pipe diameter (feet)

r = 0.17 pipe radius (feet)

A = 0.09 area (ft²)

WP = 1.05 wetted perimeter (ft)

R = 0.08 hydraulic radius (ft)

Q = 0.14 flow rate (CFS)

Channel Slope

Slope Options
☐ Manual Entry ☒ Slope Calculator

Slope Calculator

Rise = 0.5 feet

Run = 200 feet

Slope, S = 0.0025 ft/ft

Pipe Material, (n): plastic (pvc, abs)

Pipe Diameter (inches) 4.0 inches

MANNING'S EQUATION ACCOUNTS FOR A SINGLE CONVEYANCE PIPE; TWO (2) 4-INCH CONVEYANCE PIPES WERE DEVELOPED AND ROUTED ALONGSIDE EACH OTHER FROM POINT OF DIVERSION TO STORAGE POND.

TOTAL DIVERSION TO STORAGE RATE RECOMMENDED = 0.14 CFS X 2 PIPES = 0.28 CFS

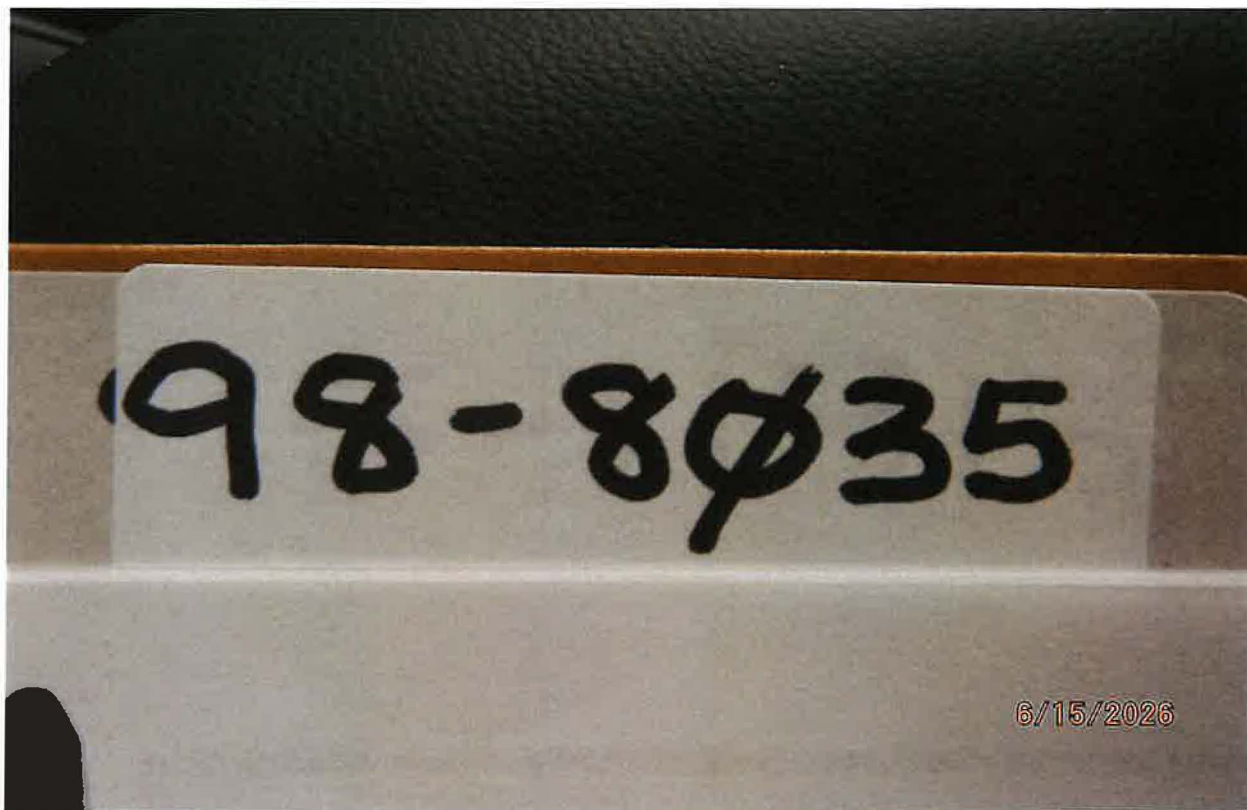
Total Storage Calculations

FILE NUMBER	98-8035
REVIEWER	L.Bates
DATE	6/16/2026

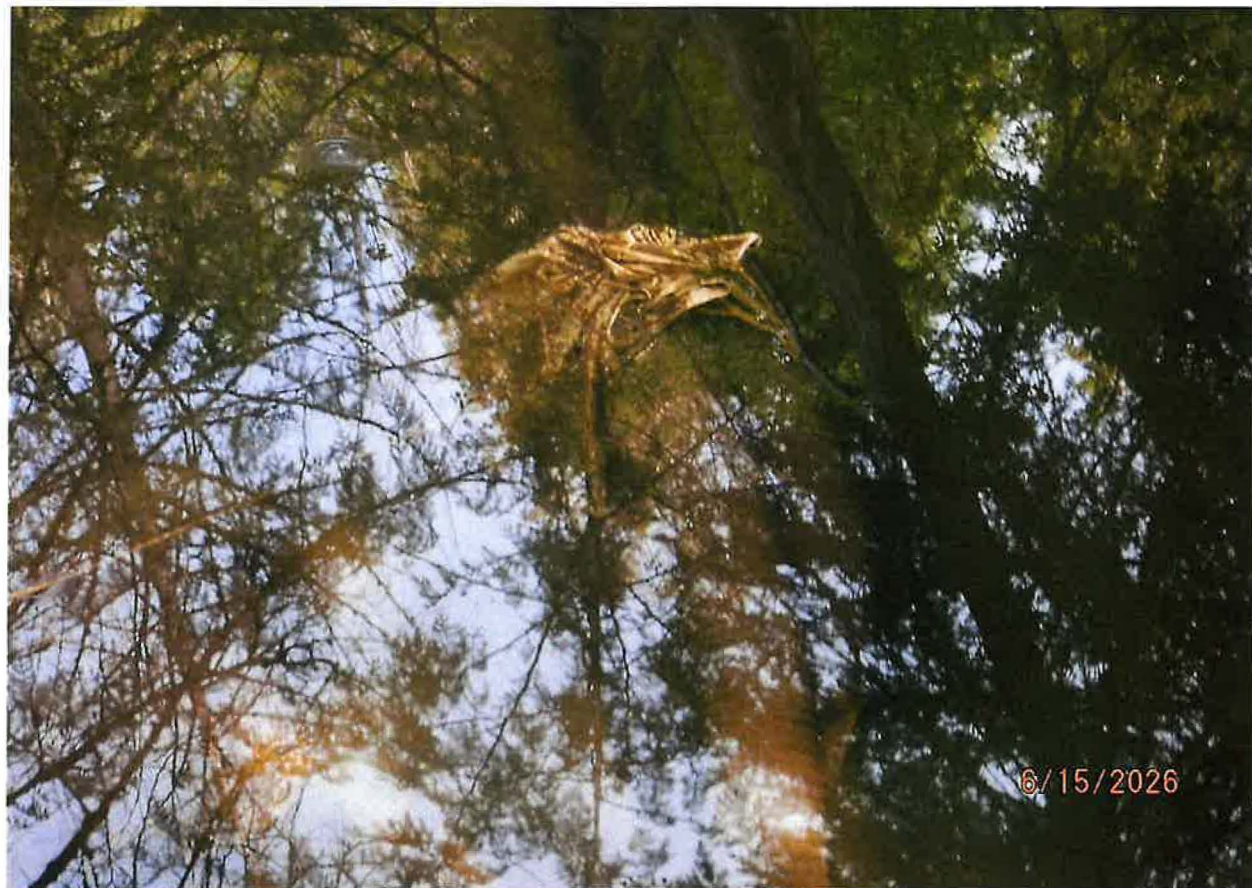
This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	0.4	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	0.6	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.



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POD – TWO (2) 4-INCH SCREENED CORRUGATED PIPES DIVERTING MEADOW CREEK WATER



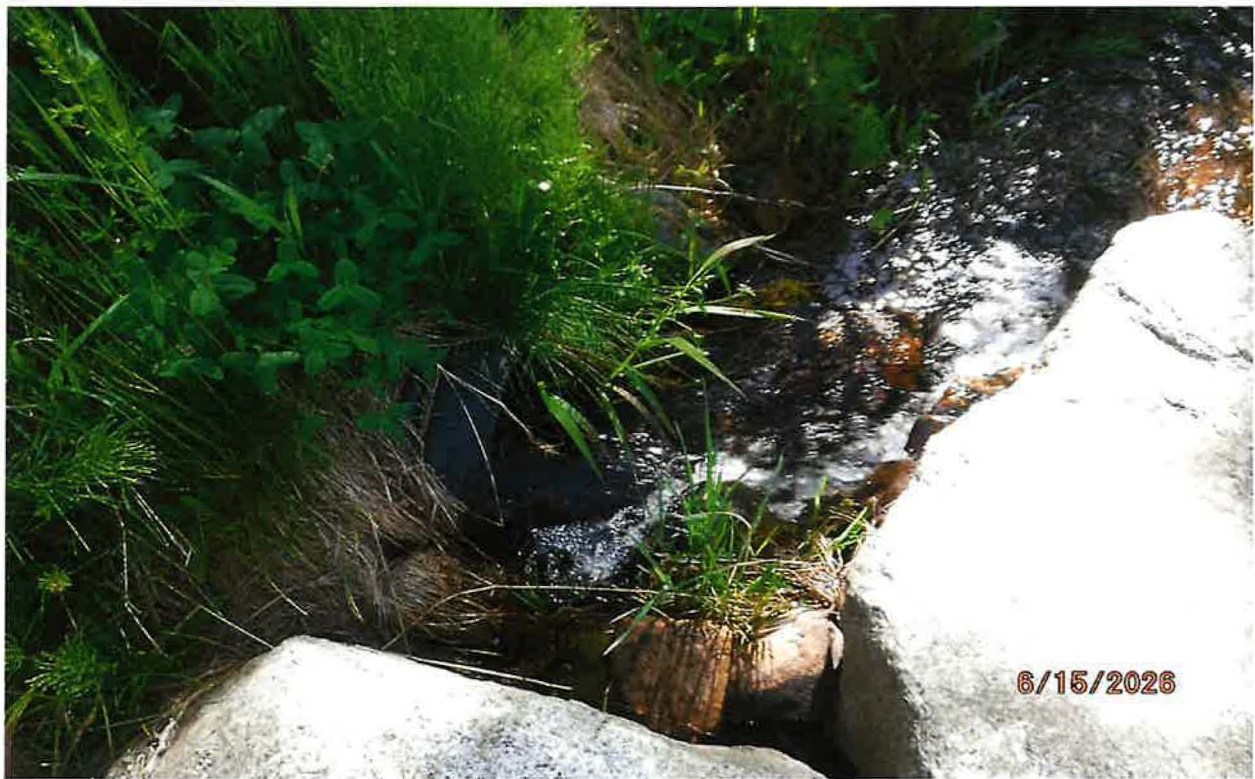
CONVEYANCE SYSTEM – 200 FT DUAL BURIED 4-INCH CORRUGATED PIPE ROUTE FROM STREAM TO WITHIN 10 FT OF STORAGE POND. SERVES AS DIVERSION TO STORAGE BENEFICIAL USE



SEDIMENT BASIN PRIOR TO STORAGE POND – TWO CONVEYANCE PIPES DAYLIGHT IN A SMALL POOL BEFORE TRANSITIONING TO A SINGLE 8-INCH CORRUGATED PIPE TO POND.



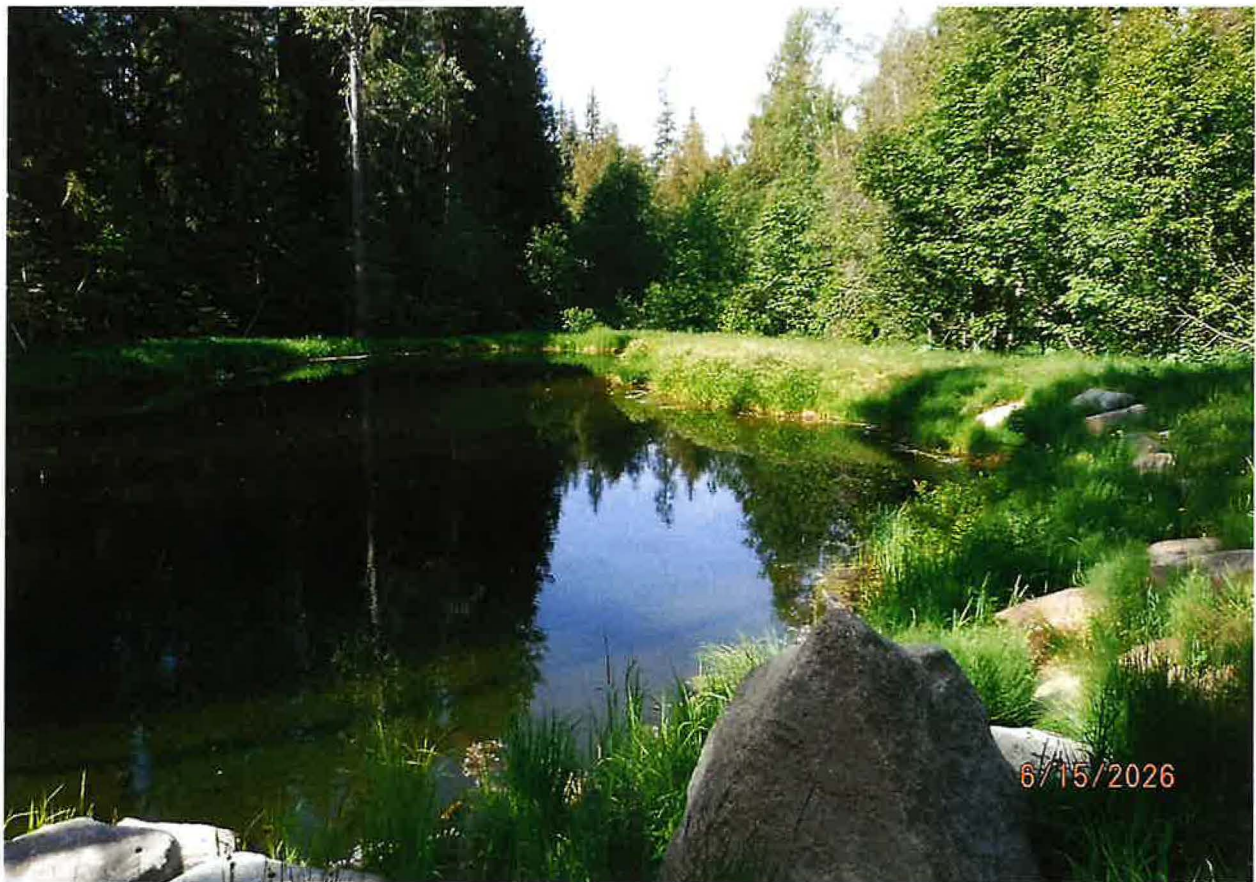
SEDIMENT BASIN – SHORT RUN OF 8-INCH CORRUGATED PIPE CONVEYS WATER TO STORAGE POND INFLOW



CONVEYANCE SYSTEM 8-INCH PIPE INFLOW TO STORAGE POND



WILDLIFE, FIRE PROTECTION, RECREATION STORAGE(S) POU, RECREATION (FLOW THROUGH) POU, & GROUND WATER POD – EXCAVATED POND IMPOUNDS MEADOW CREEK WATER AND IN-POND GROUNDWATER SOURCE





8-INCH CORRUGATED OVERFLOW DISCHARGE PIPE; SET AT ELEVATION TO ALLOWING INFLOWING WATER TO CONTINUE DOWNSTREAM ALL YEAR (RECREATION FLOW THROUGH)



LOW SIDE OF EARTHEN DAM – OVERFLOW DISCHARGE PIPE ROUTES BY SHORT CHANNEL BACK TO MEADOW CREEK



RECREATION POU – OVERFLOW DISCHARGE RETURNED TO MEADOW CREEK BY EARTHEN CHANNEL APPROX 30 FT DISTANCE



OVERFLOW DISCHARGE FROM POND (BOTTOM OF IMAGE) TO MEADOW CREEK (TOP OF IMAGE)