

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-11702
Exam Date: 08/14/2023

1. Current Owner:
LEONARD K THACKER LIVING TRUST C/O THOMAS THACKER, TRUSTEE
3075 E CALABRIA DR MERIDIAN ID 83642-3080
2. Accompanied by: Unaccompanied, authorization from Danielle Pickett via phone conversation.
Phone No: 208-704-2659
Address: 261 Colburn Culver Rd Sandpoint ID 83864
Relationship to permit Holder: Representative

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

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

GROUND WATER SW¼ NW¼, Sec. 4, Twp 58N, Rge 01W, B.M. BONNER County
GROUND WATER SW¼ NW¼, Sec. 4, Twp 58N, Rge 01W, B.M. BONNER County

Method of Determination: PODs are two ponds with IN-POND Groundwater sources located at approximately:
-116° 28.904, 48° 24.523 (Northern Pond) and -116° 28.868, 48° 24.473(Southern Pond).

PLACE OF USE: WILDLIFE STORAGE, RECREATION STORAGE, & AESTHETIC 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	
58N	01W	4							X										

Method of Determination: Beneficial use field examination, ArcMap software, & Google Map software

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.
N/A 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
Y 1:24,000 or greater.

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

Photo of Diversion and System Attached
Y

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
N/A					

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Not applicable

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: See 2ea attached pond analysis worksheets.

G. NARRATIVE/REMARKS/COMMENTS

I performed a field exam on 8/14/2023 unaccompanied, with the applicants representative Danielle Pickett authorizing property access prior to the exam, which showed two co-located groundwater filled ponds excavated to impound water for Wildlife Storage, Recreation Storage, & Aesthetic Storage uses. Each pond has fills from within by shallow groundwater and 2ea POD centroids have been designated as the PODs for licensing purposes within each pond's surface area. There is no diversion rate associated with licensing this permit. I walked around each pond, and no outlet channels were observed, indicating the ponds water levels are directly linked to the shallow water source that appears to be hydraulically connected to both ponds.

The storage pond(s) serve as the POU for multiple storage beneficial uses detailed above, and no water is actively pumped from either pond for use by the applicant. During licensing review, ArcMap aerial imagery coupled with field exam notes were used to trace out the POU shape for each pond's surface area, with size/volume factors detailed below:

- Northern Pond – has a maximum depth of 12 feet, an average depth of 4.8 ft, surface area of 0.6 acres, a pond capacity of 2.9 af, and an estimated evaporation loss of 0.6 af. Based on pond development and current pond analysis worksheet calculations, each beneficial use annual volume equals 3.5 af from this pond.
- Southern Pond – has a maximum depth of 15 feet, an average depth of 6 ft, surface area of 0.4 acres, a pond capacity of 2.4 af, and an estimated evaporation loss of 0.4 af. Based on pond development and current pond analysis worksheet calculations, each beneficial use annual volume equals 2.8 af from this pond.

Considering both ponds collectively, the annual diversion volume for each beneficial use equals **6.3 af**, which is the sum of both ponds annual volume values. The three beneficial uses are not additive toward the maximum diversion volume of **6.3 af** that is recommended to license this right. The northern pond was a natural pond upon review of the DRG layer, but the pond has been enlarged through excavation which required a recorded water right filing; the southern pond was excavated from a small depression to impound water according to application form remarks reviewed at time of licensing.

Two text conditions describing recreation storage & wildlife storage uses were removed from the permit during licensing review, as the description isn't required to be carried on the license approval. Condition 220 was removed based on licensing guidance from Shelley Keen – IDWR Deputy Director. Condition 219 was revised to reflect accurate pond(s) size & volume values determined post-field exam using current pond analysis worksheets. All other conditions on the permit shall be carried to licensing. There are no 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>Annual Volume</u>
WILDLIFE STORAGE	01/01 to 12/31	6.3 AF
RECREATION STORAGE	01/01 to 12/31	6.3 AF
AESTHETIC STORAGE	01/01 to 12/31	6.3 AF

Totals: 6.3 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 -

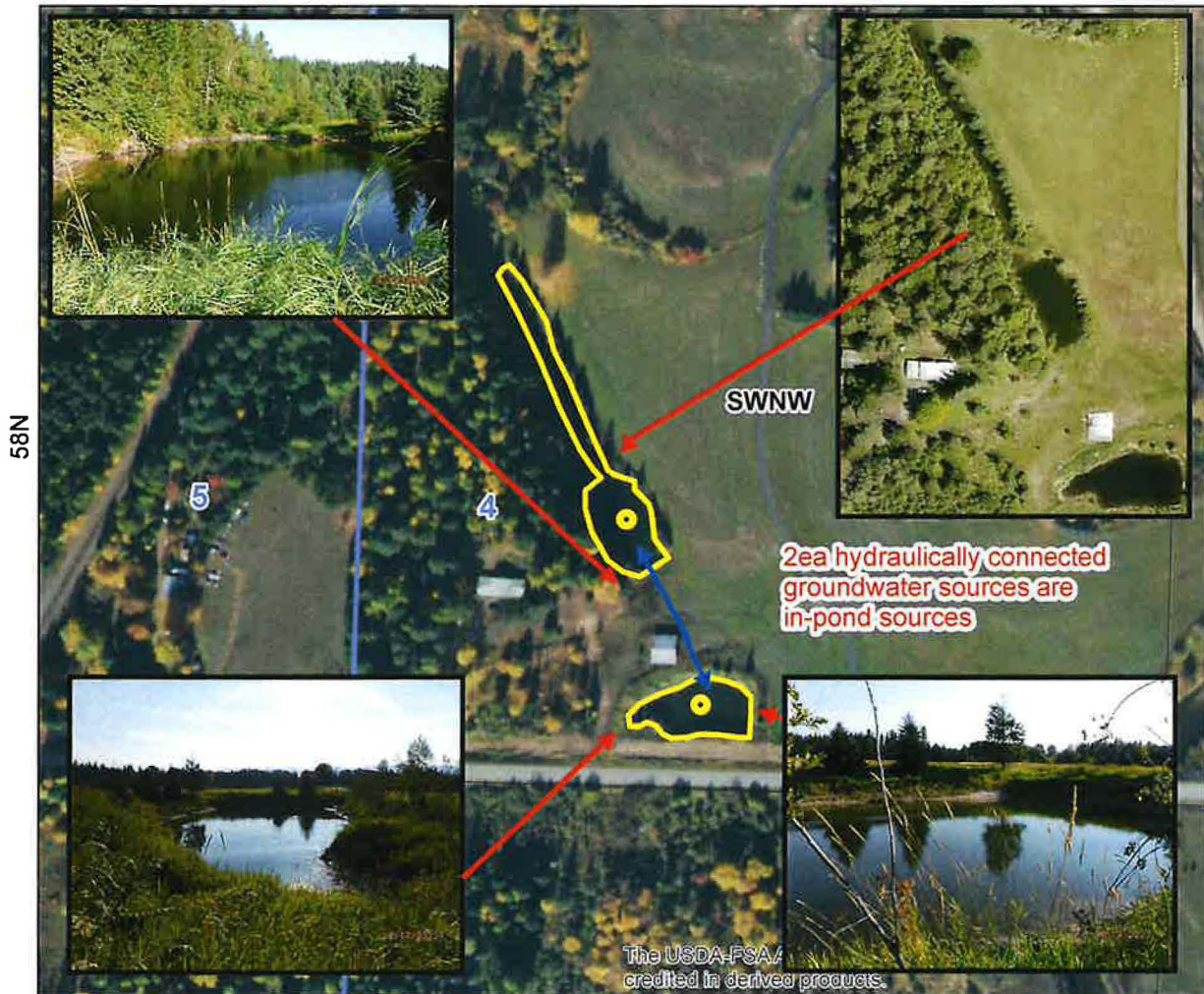
Field Examiner's Name *J. Bates* Date *12/29/2023*

Reviewer *Chen Biel* Date *6/6/2024*

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-11702

This map depicts the WILDLIFE STORAGE, RECREATION STORAGE,
& AESTHETIC STORAGE system diagram.

01W



0 0.035 0.07 0.14 Miles

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



Total Storage Calculations

FILE NUMBER	96-11702
REVIEWER	Luke Bates
DATE	12/29/2023

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

NORTHERN POND

Surface Area (AC.)	0.6	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4.8	"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)	2.9	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)	0.6	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	3.5	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.

Total Storage Calculations

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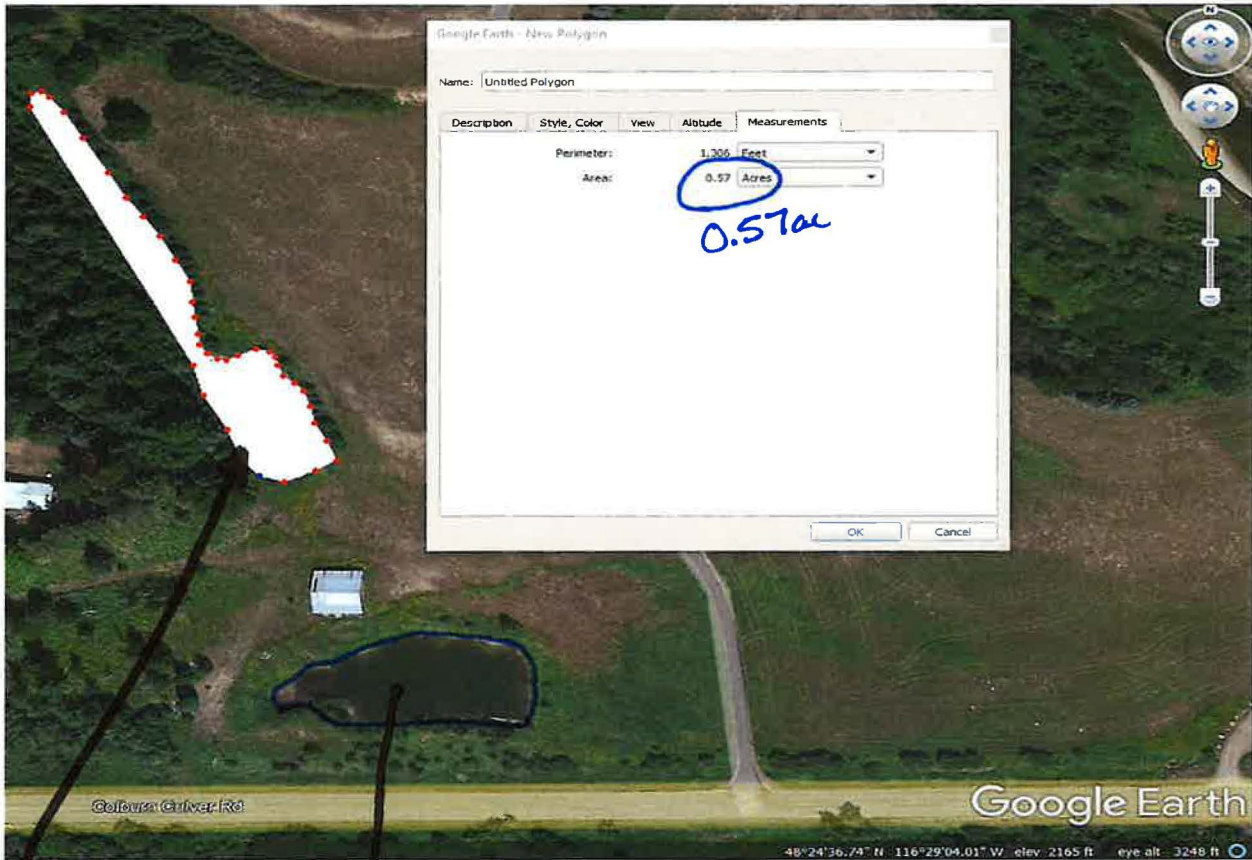
This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

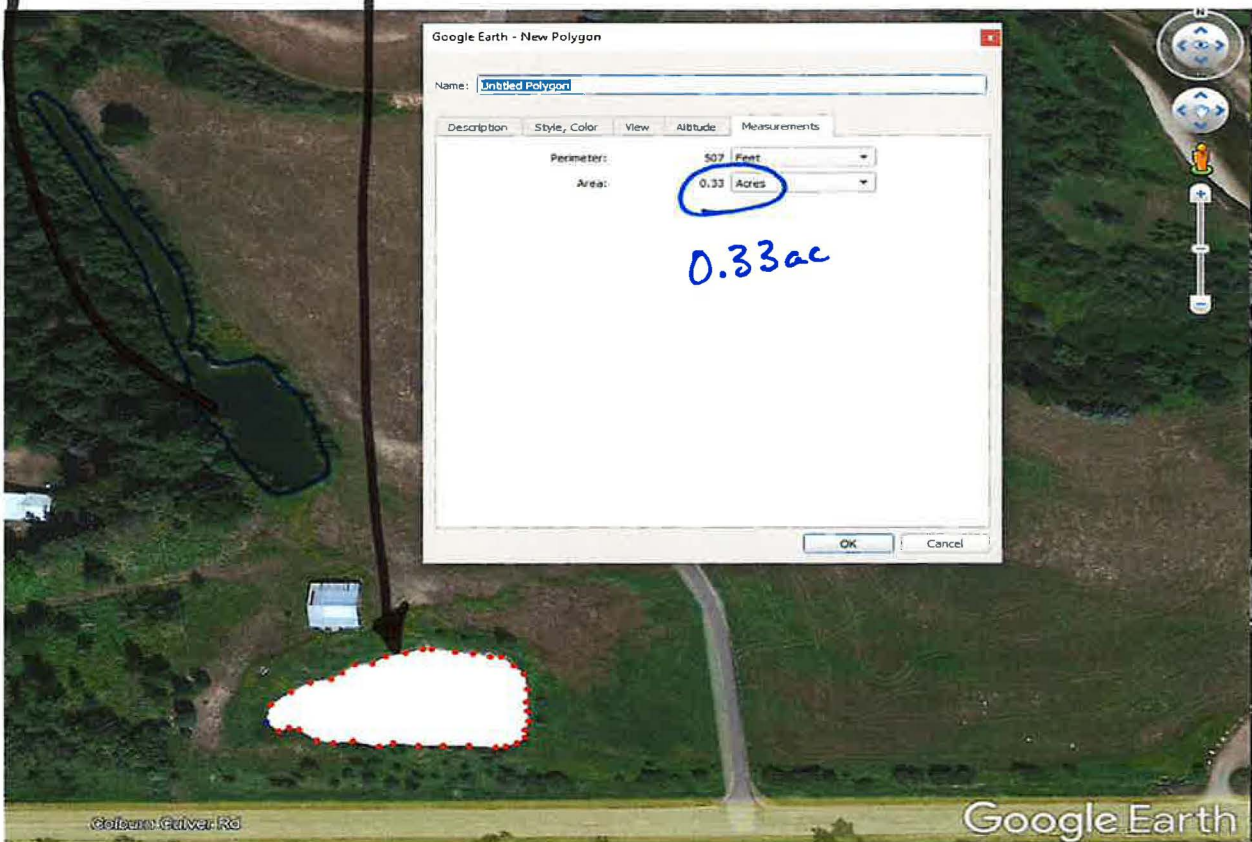
SOUTHERN POND

Surface Area (AC.)	0.4	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	6	"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)	2.4	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)	0.4	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	2.8	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.

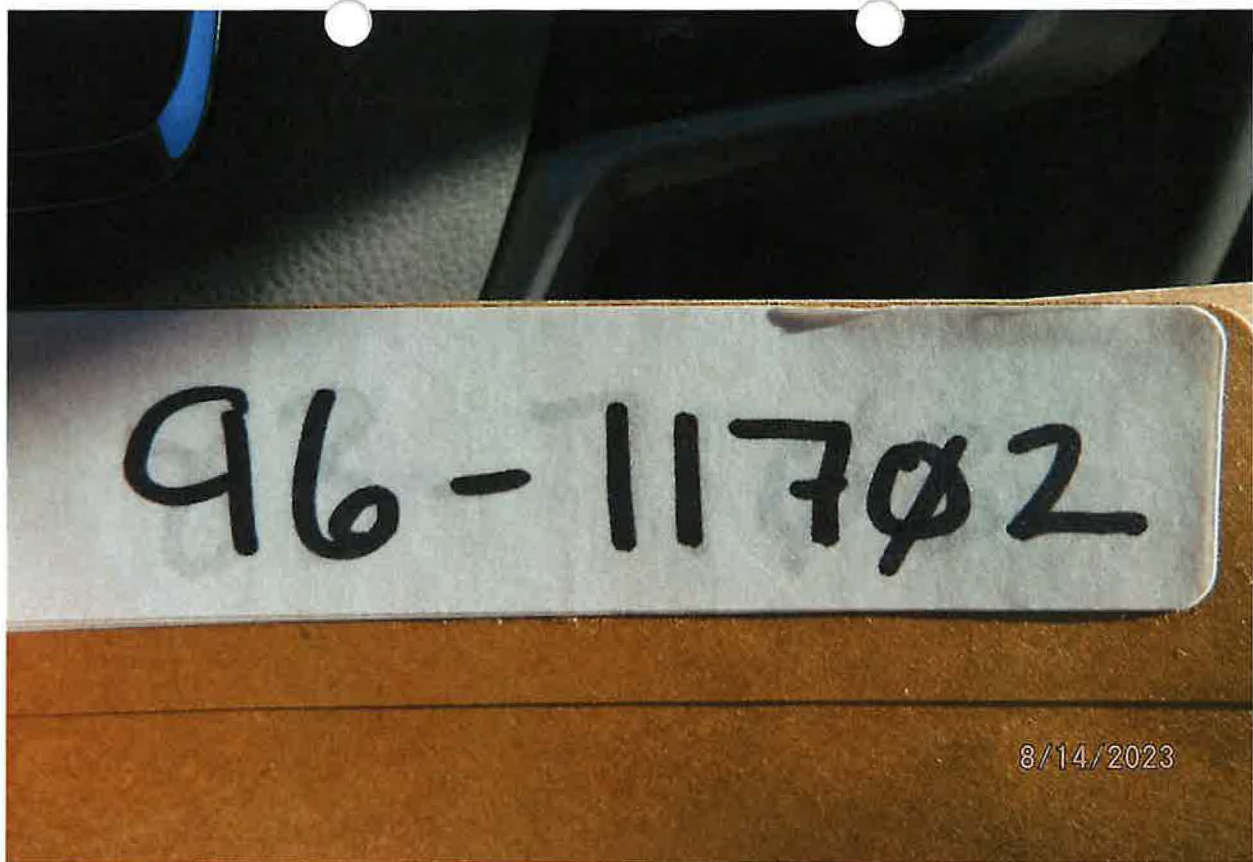
POND SURFACE AREA CALCULATION



Google Earth Aerial Imagery Image capture date 8/4/2019. Northern Pond surface area = 0.57 acres



Google Earth Aerial Imagery: Image capture date 8/4/2019. Southern Pond surface area = 0.33 acres



BENEFICIAL USE FIELD EXAMINATION DATE 8/14/2023



POD/POU – SOUTHERN POND WITH IN-POND GROUNDWATER SOURCE



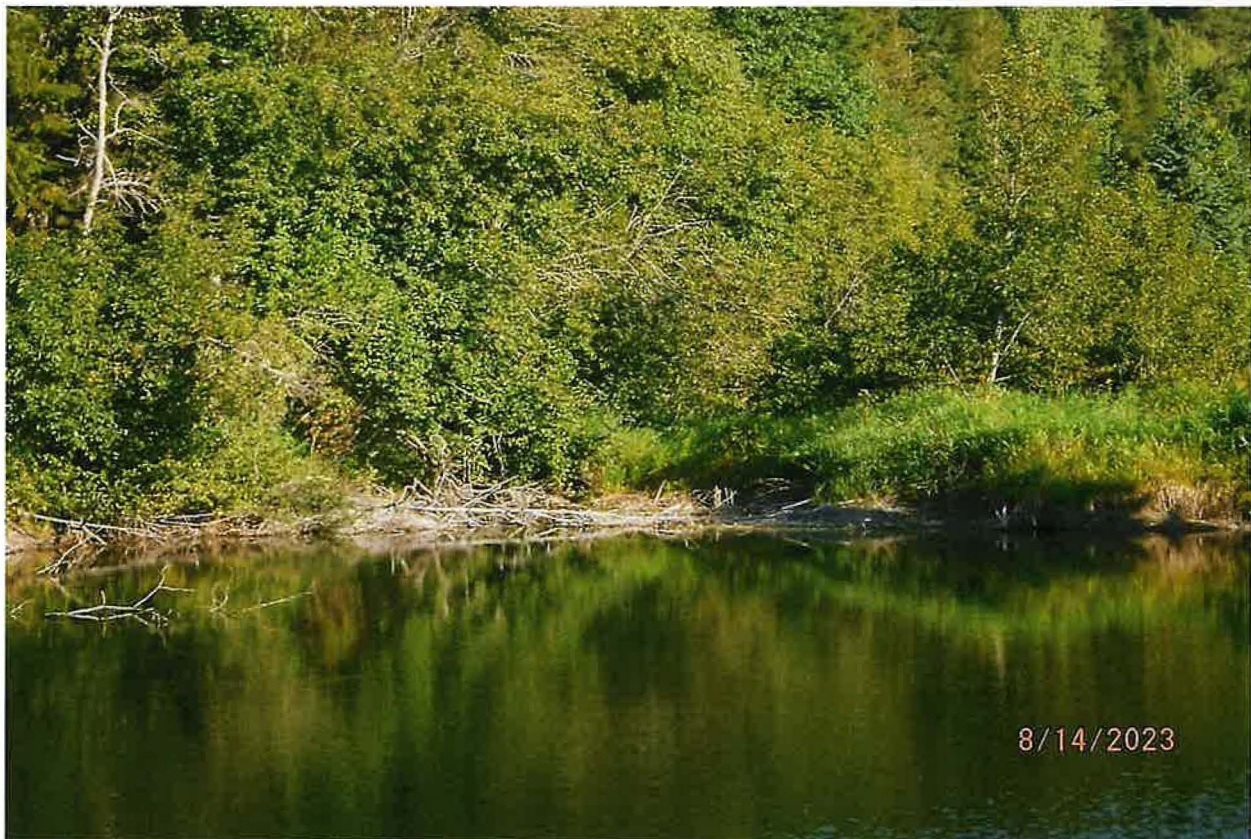
POU – SOUTHERN POND (LOOKING EAST FROM WESTERN BANK OF POND) – WILDLIFE STORAGE, RECREATION STORAGE, & AESTHETIC STORAGE



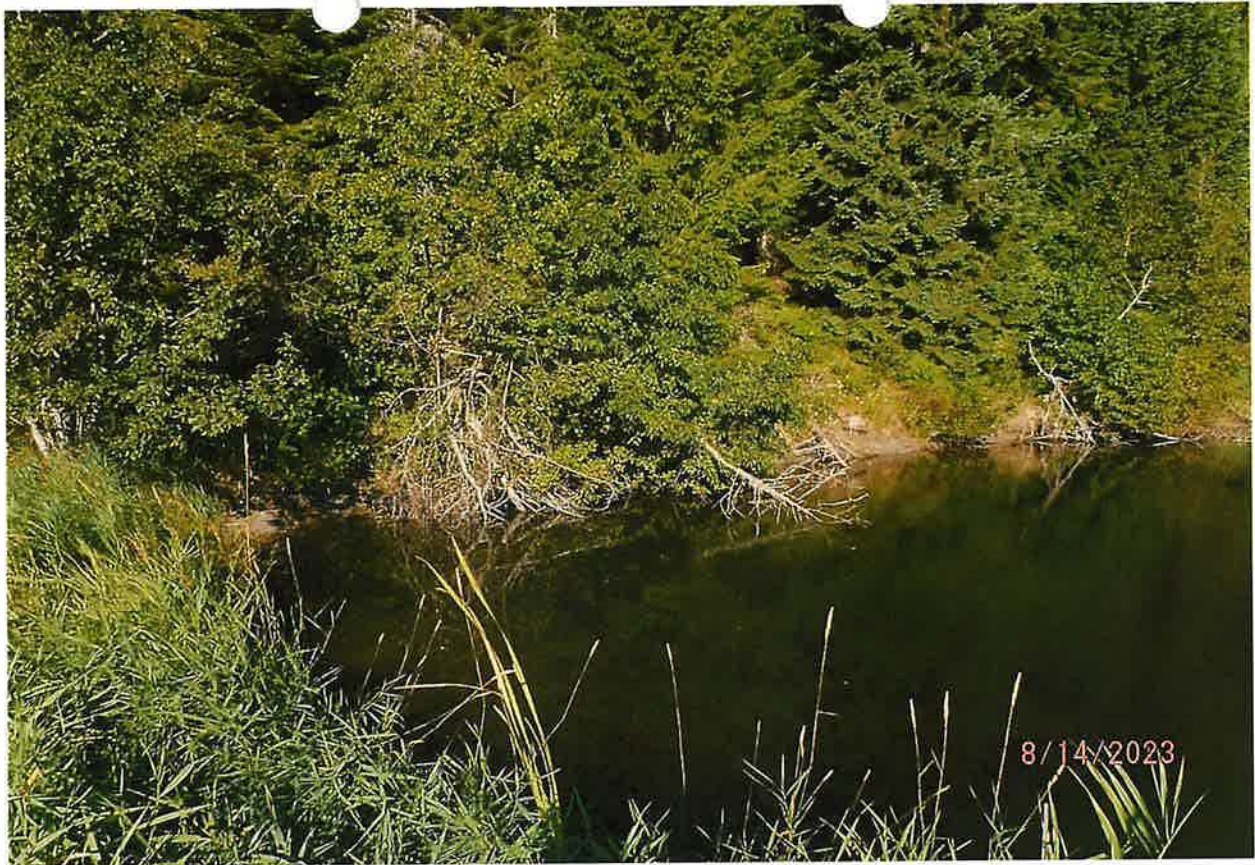
POU – SOUTHERN POND (LOOKING WEST FROM EASTERN BANK OF POND) – WILDLIFE STORAGE, RECREATION STORAGE, & AESTHETIC STORAGE



POD/POU – NORTHERN POND WITH IN-POND GROUNDWATER SOURCE



POU - NORTHERN POND, LOW POND LEVEL RESULTS IN DRY PONDING AREA OF NARROW PORTION OF POND



POU – WILDLIFE STORAGE, RECREATION STORAGE, & AESTHETIC STORAGE – NORTHERN POND

