STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-14541
Exam Date: 08/23/2016

1. Current Owner:
TWIN LAKES VILLAGE PROPERTY OWNERS ASSN 21228 N CIRCLE RD RATHDRUM ID 83858

2. Accompanied by: Gordon Stephenson
Phone No: 208-687-1906
Address: Same as above
Relationship to permit Holder: Permit holder's representative

3. **SOURCE:**
GROUND WATER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
95-4139	TWIN LAKES	IRRIGATION	DECREED
95-7624	TWIN LAKES	IRRIGATION	DECREED
95-8546	GROUND WATER	IRRIGATION	LICENSE

Comments: Rights 95-4139 and 95-7624 are surface source irrigation rights that overlap this right's irrigation from storage POU. Both rights are decreed and may be used by the applicant to irrigate 44 acres of the total 112.1 acres that covered by this right. Condition X35 was added to mitigate overlap concerns between rights 95-4139, 95-7624, 95-8546, and 95-14541.

Right 95-8546 overlaps this rights irrigation from storage POU using direct flow irrigation from two wells associated with this right. 95-8546 is a partial decreed right following the CSRBA adjudication of basin 95. 95-8546 overlaps the irrigation from storage POU of this right, and has a condition (E53) that states right No(s). 95-4139, 95-7624, and 95-8546 are limited to a total combined annual diversion volume of 210.0 AF. Condition X35 was added to mitigate overlap concerns from 95-8546, along with prior mentioned surface water source rights and this right. The 112.1 total irrigation acres recommended for licensing under this right include the 70.0 acres of direct flow irrigation covered by right 95-8546.

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-8546	GROUNDWATER	IRRIGATION	LICENSE

Comments: Right 95-8546 and this right use the same two ground water wells as PODs. Condition F06 was added to describe the two rights having the same PODs.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER L3 (NE¼ SE¼), Sec. 8, Twp 52N, Rge 04W, B.M. KOOTENAI County
GROUND WATER L3 (NE¼ SE¼), Sec. 8, Twp 52N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS. PODs are two wells located at -116° 51.047, 47° 51.972 (A0020013) and -116° 51.062, 47° 52.001 (A0020014). The two wells permit No(s). are 95-87-N-92 and 95-87-N-48, but due to the age of the wells there are no distinguishing markings, which made it unable for me to determine the correct well driller report for each well.

PLACE OF USE: IRRIGATION 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	
52N	04W	8													X L3				

PLACE OF USE: IRRIGATION 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	
52N	04W	8	1.2 L1	0.3	6.8 L2	21.9 L2					1.4				28.0 L3	11.5 L3	17.0 L4	16.0	104.1
52N	04W	8			1.9											4.8	0.7		7.4
52N	04W	9			0.0				0.3			0.3				0.0	0.0		0.6

Total Acres: 112.1

PLACE OF USE: RECREATION STORAGE and FIRE PROTECTION 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	
52N	04W	8			X L2	X L2									X L3	X L3	X L4	X	

Method of Determination: Field exam and Arcmap aerial imagery.

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 Serial No.	Pump Make	Pump Serial No. or Discharge Size
WELL A0020013	**UNKOWN**	**60**			
WELL A0020014	**UNKOWN**	**50**			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
FLOWMETER		**McCROWMETER**				
FLOWMETER		**McCROWMETER**				

2. Measurements: A flow meter was installed, one for each well's piping as the pipes daylighted from the well(s) in the pump house. Well 1 (A0020013) with 60 hp pump measured 350 gpm; well 2 (A0020014) with 50 hp pump measured 320 gpm with a system operating pressure of 50 psi. The combined total flow measurement equals 670 gpm or **1.49 cfs**, considering department rounding standards, which is recommended for licensing.

E. FLOW CALCULATIONS

Measured Method: Well #1 (A0020013) flowmeter measurement of 350 gpm + well #2 (A0020014) flowmeter measurement of 320 gpm = 670 gpm = **1.49 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R}$ = (Acres Irrigated) x (Irrigation Requirement) = 112.1 acres x 3.0 afa = 336.3 AF

$V_{D.R}$ = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 = Irrigation from storage use, there is no diversion rate applied to irrigation use under this right.

V = Smaller of $V_{I.R}$ and $V_{D.R}$ = **336.3 af**

2. Volume Calculations for Other Uses:

- See attached 11 pond analysis worksheets
- Recreation storage and fire protection storage annual volume = 28.2 af (11 ponds total capacity) + 12.4 af (11 ponds seepage and evaporation loss) = **40.6 af**
- Maximum diversion volume = 40.6 af (recreation storage & fire protection storage) + 336.3 af (irrigation from storage) = **376.9 af**

G. NARRATIVE/REMARKS/COMMENTS

Field exam was performed on 8/23/2016 with the applicant's representative, Gordon Stephenson, which showed two wells using groundwater for diversion to storage for 11 ponds, recreation and fire protection storage for the 11 ponds, and irrigation from storage use from one pond. At the two PODs, water was diverted from well(s) 95-87-N-48 and 95-87-N-92. There were no distinctive markings on the old wells to definitively identify which well belongs to which permit number. Due to their close proximity from one another, the well with DEQ tag A0020013 is identified as well No.1 and the well with DEQ tag A0020014 is identified as well No.2 for licensing purposes. Well No. 1 has a 60 hp pump installed, and well No.2 has a 50 hp pump installed. Pipes were routed underground to a pump house prior to diversion to storage for the ponds. Flow meters are installed, one for each well's piping as the pipes day-lighted from the well(s) in the pump house. Well No.1 measured 350 gpm; well No.2 measured 320 gpm with a combined system operating pressure of 50 psi. The combined total flow measurement equals 670 gpm or **1.49 cfs**, considering department rounding standards, which is recommended for licensing.

From the pump house water was diverted to 11 storage ponds. Photographs were taken identifying each pond numbered 1-11. Groundwater was piped to each pond throughout the year to keep the ponds full. All of the ponds were lined, except for pond No.2. During licensing review, Arcmap aerial imagery was used to trace out each pond in order to determine the pond(s) surface area (acres). The maximum depths for each pond was provided by the applicant, who had completed independent pond analysis sheets for each pond. The pond(s) size and volume data is shown below, and results are recommended for use in licensing this water right:

WATER RIGHT 95-14541 POND ANALYSIS WORKSHEET RESULTS FOR 11 PONDS							
Pond Name	**Surface Area (ac)**	**Max Depth (ft)**	**Average Depth (ft)**	**Pond Capacity (af)**	**Seepage Loss (af)**	**Evaporation Loss (af)**	**Total Volume Required (af)**
#1	0.8	20	8	6.4	0	0.6	343.3
#2	0.8	15	6	4.8	5.8	0.6	11.2
#3	0.5	15	6	3	0	0.6	3.6
#4	0.5	15	6	3	0	0.6	3.6
#5	0.3	15	6	1.8	0	0.6	2.4
#6	0.2	15	6	1.2	0	0.6	1.8
#7	0.2	15	6	1.2	0	0.6	1.8
#8	0.6	15	6	3.6	0	0.6	4.2
#9	0.3	15	6	1.8	0	0.6	2.4
#10	0.1	15	6	0.6	0	0.6	1.2
#11	0.1	20	8	0.8	0	0.6	1.4
TOTALS	4.4	ORANGE = LINED POND		28.2	5.8	6.6	376.9
						MAXIMUM DIVERSION VOLUME =	376.9 af
						RECREATION STORAGE AND FIRE PROTECTION STORAGE ANNUAL VOLUME =	40.6 af
						IRRIGATION FROM STORAGE AND IRRIGAITON FROM STORAGE ANNUAL VOLUME =	336.3 AF

The eleven ponds combined are designated as the recreation storage and fire protection storage POU for this water right. The combined surface area for the 11 ponds equals 4.4 acres, combined pond capacity equals 28.2 af, combined seepage and evaporation loss equals 12.2 af, multiple fill volume from pond No.1 only equals 336.3 af for irrigation from storage use, and the combined total volume required for the 11 ponds equals **376.9 af**, which is recommended as the maximum diversion volume for this water right license. The recreation storage and fire protection storage annual volume equals 28.2 af (11 pond's capacity) + 12.2 af (11 pond's seepage and evaporation loss) = **40.8 af**, which will be applied to the license.

As stated above, pond No.1 is the only pond the applicant uses for irrigation from storage use. Irrigation storage was identified as its own shape using Arcmap imagery. The irrigation storage volume is equal to the irrigation from storage volume, which was derived from the total acres irrigated by the applicant equal to 112.1 acres x 3.0 afa = **336.3 af**, which is recommended for licensing purposes. Water from the two wells is diverted to storage in the pond. Irrigation water is then pulled from the pond and piped for irrigation from storage use for golf course fairways, designated home and condo lawns, and select common areas that are found within the applicant's property.

Arcmap aerial imagery was used to systematically trace out the irrigation from storage POU, equaling 112.1 acres. Reference attached *95-14541 – IRRIGATION FROM STORAGE COMPUTATION (ACRES)* 16 page document for a detailed description and illustration of the irrigation from storage POU. Note: page 16 of 16 illustrates the Arcmap ¼¼ acre by POU shape computation that shows 110.9 total acres. This variance from the 112.1 acres is likely due to program rounding deviation. The 112.1 acres was derived as each individual shape was developed tracing out small acre areas, and likely more accurate than the broad collective of all the shapes built into one calculation. As such, the 112.1 acres is maintained for licensing purposes. Irrigation from storage occurs as water from pond No.1 is pumped back to a common main line for distribution throughout the golf course. The main line has several irrigation risers that branch off to irrigate individual fairways as well as the lawns around the homes and condos within the POU. The irrigation system infrastructure for this right is the same as used for existing right 95-8546, which authorizes direct flow irrigation (see overlap concerns below). As such each right may be used by the applicant to irrigation throughout the season, but limited by the department standard of 3.0 acre-feet per acre by conditions on the license.

At time of licensing, the permitted POU for the irrigation from storage beneficial use does not include four ¼¼ sections that have been developed that are part of the water system as follows:

POU: ¼¼ sections irrigation from storage use found occurring during licensing review =

- Twp 52 North, Rge 04 West, Section 8, NWNE & NESW
- Twp 52 North, Rge 04 West, Section 9, SWNW & NWSW

An Application for Amendment was initiated, and mailed with cover letter to applicant on 12/7/2020.

Conditions 26A, 077, 046, and 082 were removed from the permit during licensing review. R62 was replaced with R58 due to irrigation from storage use versus the permit approved direct flow irrigation use. 220 was updated to reflect post-field exam pond size and volume metrics derived from pond analysis worksheets. 219 was replaced with 259 to accurately describe pond volume factors and multiple fill requirements for irrigation from storage use. F06 was added describing that rights 95-8546 and 95-14541 use the same PODs. X35 was added to mitigate overlap concerns between rights 95-4139, 95-7624, 95-8546, and 95-14541 (referenced in detail below). All other conditions from permit will be carried to the license.

Overlap concerns: Rights 95-4139 and 95-7624 are surface source irrigation rights that overlap this right's irrigation from storage POU. Both rights are decreed and may be used by the applicant to irrigate 44 acres of the total 112.1 acres that covered by this right. Condition X35 was added to mitigate overlap concerns between rights 95-4139, 95-7624, 95-8546, and 95-14541.

Right 95-8546 overlaps this rights irrigation from storage POU using direct flow irrigation from two wells associated with this right. 95-8546 is a partial decreed right following the CSRBA adjudication of basin 95. 95-8546 overlaps the irrigation from storage POU of this right, and has a condition (E53) that states right No(s). 95-4139, 95-7624, and 95-8546 are limited to a total combined annual diversion volume of 210.0 AF. Condition X35 was added to mitigate overlap concerns from 95-8546, along with prior mentioned surface water source rights and this right. The 112.1 total irrigation acres recommended for licensing under this right include the 70.0 acres of direct flow irrigation covered by right 95-8546. There are no additional overlap concerns for this water right.

Have conditions of permit approval been met? __X__ Yes ____ No

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
IRRIGATION STORAGE	03/15 to 11/15		336.3 AF
IRRIGATION FROM STORAGE	03/15 to 11/15		336.3 AF
RECREATION STORAGE	01/01 to 12/31		40.6 AF
FIRE PROTECTION STORAGE	01/01 to 12/31		40.6 AF
DIVERSION TO STORAGE	01/01 to 12/31	1.49 CFS	
	Totals:	1.49 CFS	376.9 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above __X__ None

__X__ Change P.U. as reflected above ____ Add P.U. as reflected above ____ None

I. AUTHENTICATION

Luke Bates - Water Resource Agent

Field Examiner's Name LBB Date 22 DEC 2020

Reviewer Adam Fruhwirth Date 1/14/2021

State of Idaho
Department of Water Resources

Attachment to Field Exam

95-14541

RECREATION STORAGE and FIRE PROTECTION STORAGE system diagram.



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

0 0.1 0.2 0.4 Miles

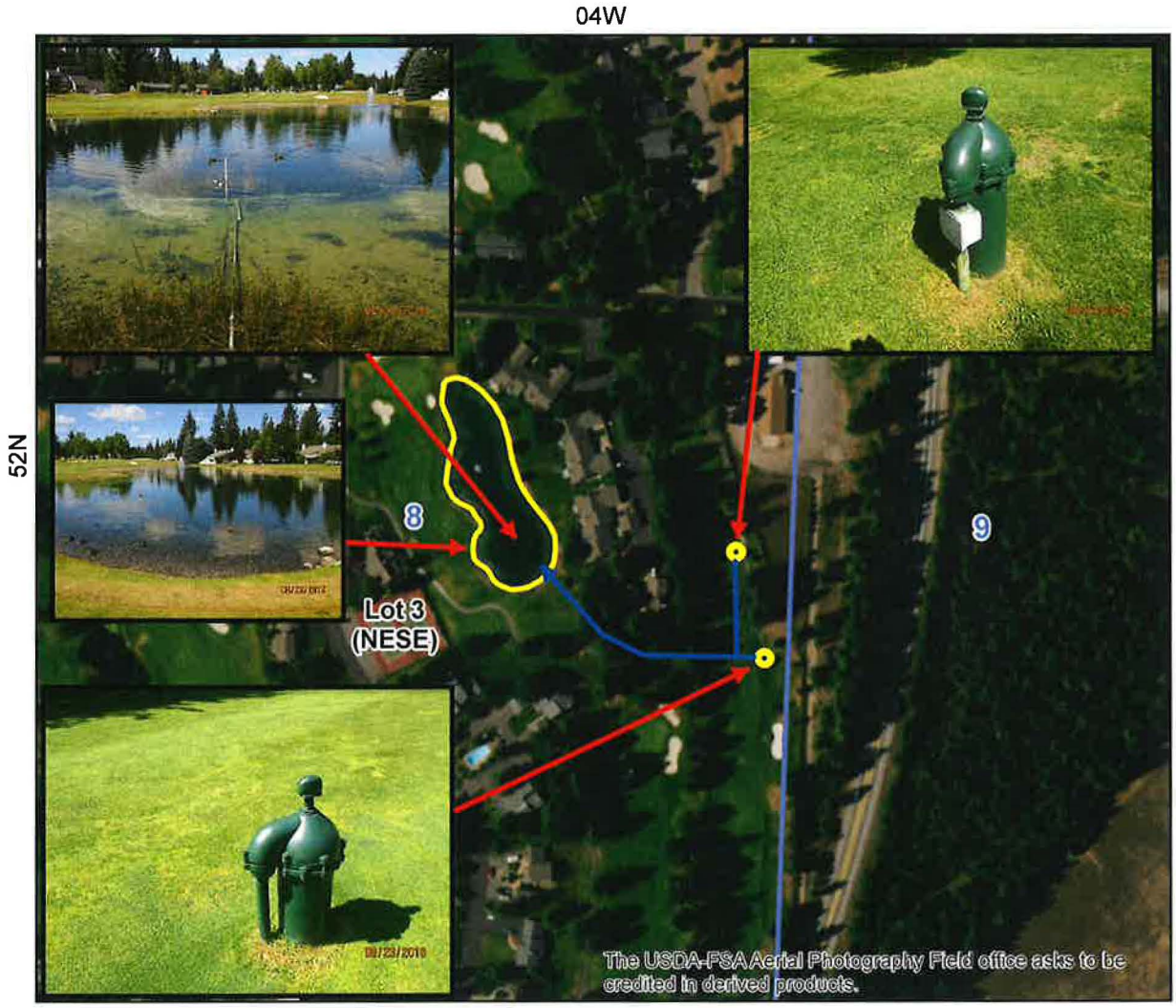
N

State of Idaho
Department of Water Resources

Attachment to Field Exam

95-14541

IRRIGATION STORAGE system diagram.

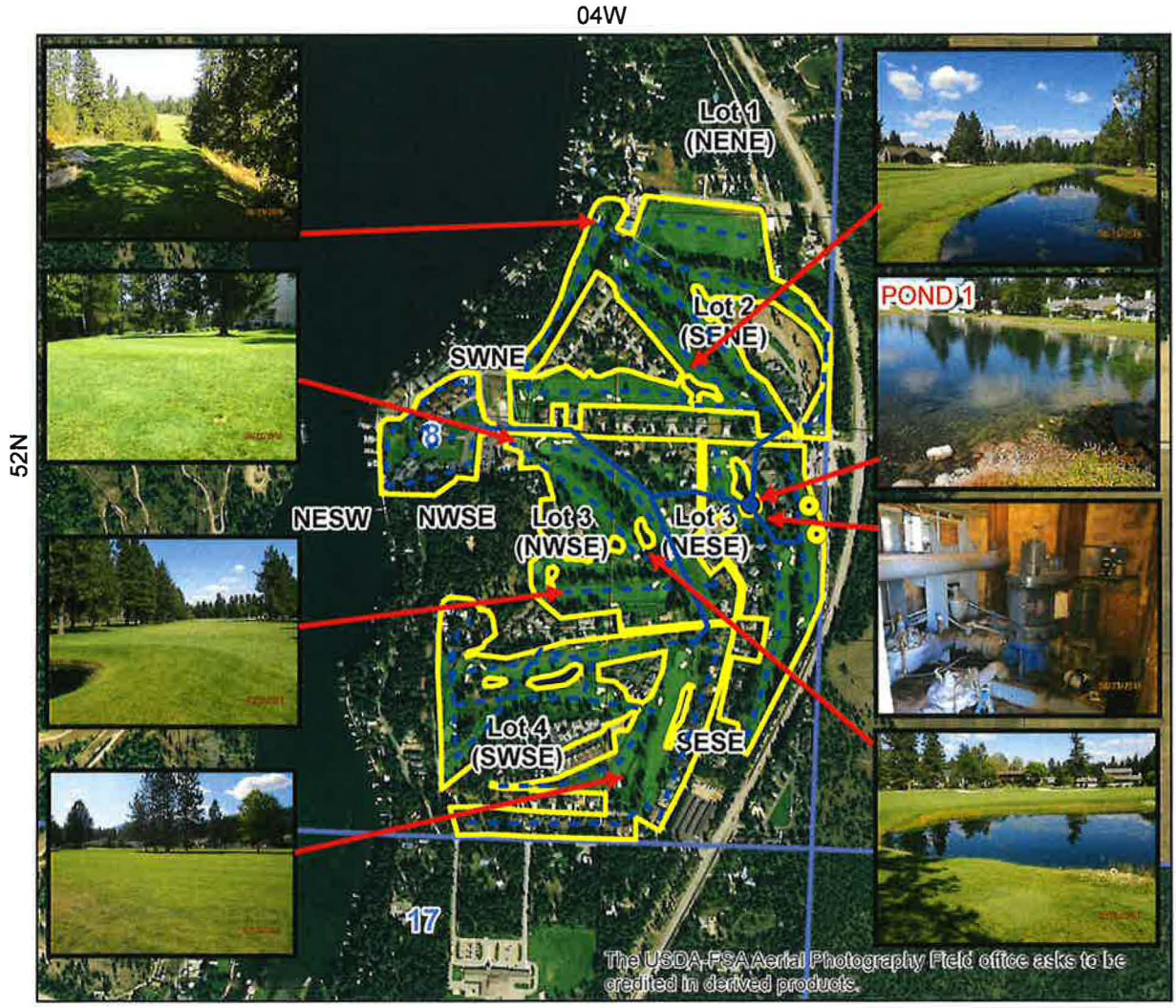


State of Idaho
Department of Water Resources

Attachment to Field Exam

95-14541

IRRIGATION FROM STORAGE system diagram.



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

0 0.125 0.25 0.5 Miles

N

WATER RIGHT 95-14541 POND ANALYSIS WORKSHEET RESULTS FOR 11 PONDS							
Pond Name	Surface Area (ac)	Max Depth (ft)	Average Depth (ft)	Pond Capacity (af)	Seepage Loss (af)	Evaporation Loss (af)	Total Volume Required (af)
# 1	0.8	20	8	6.4	0	0.6	343.3
# 2	0.8	15	6	4.8	5.8	0.6	11.2
# 3	0.5	15	6	3	0	0.6	3.6
# 4	0.5	15	6	3	0	0.6	3.6
# 5	0.3	15	6	1.8	0	0.6	2.4
# 6	0.2	15	6	1.2	0	0.6	1.8
# 7	0.2	15	6	1.2	0	0.6	1.8
# 8	0.6	15	6	3.6	0	0.6	4.2
# 9	0.3	15	6	1.8	0	0.6	2.4
# 10	0.1	15	6	0.6	0	0.6	1.2
# 11	0.1	20	8	0.8	0	0.6	1.4
TOTALS	4.4	ORANGE = LINED POND		28.2	5.8	6.6	376.9
MAXIMUM DIVERSION VOLUME =							376.9 af
RECREATION STORAGE AND FIRE PROTECTION STORAGE ANNUAL VOLUME =							40.6 af
IRRIGATION FROM STORAGE AND IRRIGAITON FROM STORAGE ANNUAL VOLUME =							336.3 AF

Total Storage Calculations

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

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

Print Page to PDF

POND # 1

Surface Area (AC.)	0.8	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	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)	6.4	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)	336.3	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a *from storage* component if the *from storage* 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)	343.3	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.

NOTE: POND #1 is the only storage pond utilized for Irrigation storage and irrigation from storage use.

Total Storage Calculations

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REVIEWER	Luke Bates
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User Input
Calculated value
Formula Explanations

Print Page to PDF

POND # 2

Surface Area (AC.)	0.8	"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)	4.8	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 *from storage* component if the *from storage* 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)	5.8	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)	11.2	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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User Input
Calculated value
Formula Explanations

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POND # 3

Surface Area (AC.)	0.5	"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)	3.0	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 *from storage* component if the *from storage* 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)	3.6	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.

Total Storage Calculations

FILE NUMBER	95-14541
REVIEWER	Luke Bates
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User Input
Calculated value
Formula Explanations

Print Page to PDF

POND # 4

Surface Area (AC.)	0.5	"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)	3.0	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 *from storage* component if the *from storage* 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)	3.6	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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User Input
Calculated value
Formula Explanations

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POND # 5

Surface Area (AC.)	0.3	"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)	1.8	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 *from storage* component if the *from storage* 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)	2.4	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

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

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

Print Page to PDF

POND # 6

Surface Area (AC.)	0.2	"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)	1.2	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 *from storage* component if the *from storage* 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)	1.8	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.

Total Storage Calculations

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

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User Input
Calculated value
Formula Explanations

Print Page to PDF

POND # 7

Surface Area (AC.)	0.2	"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)	1.2	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 *from storage* component if the *from storage* 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)	1.8	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.

Total Storage Calculations

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

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

Print Page to PDF

POND # 8

Surface Area (AC.)	0.6	"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)	3.6	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 *from storage* component if the *from storage* 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)	4.2	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

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

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

Print Page to PDF

POND # 9

Surface Area (AC.)	0.3	"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)	1.8	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 *from storage* component if the *from storage* 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)	2.4	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

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

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

Print Page to PDF

POND # 10

Surface Area (AC.)	0.1	"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)	0.6	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 *from storage* component if the *from storage* 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)	1.2	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

FILE NUMBER	95-14541
REVIEWER	Luke Bates
DATE	12/2/2020

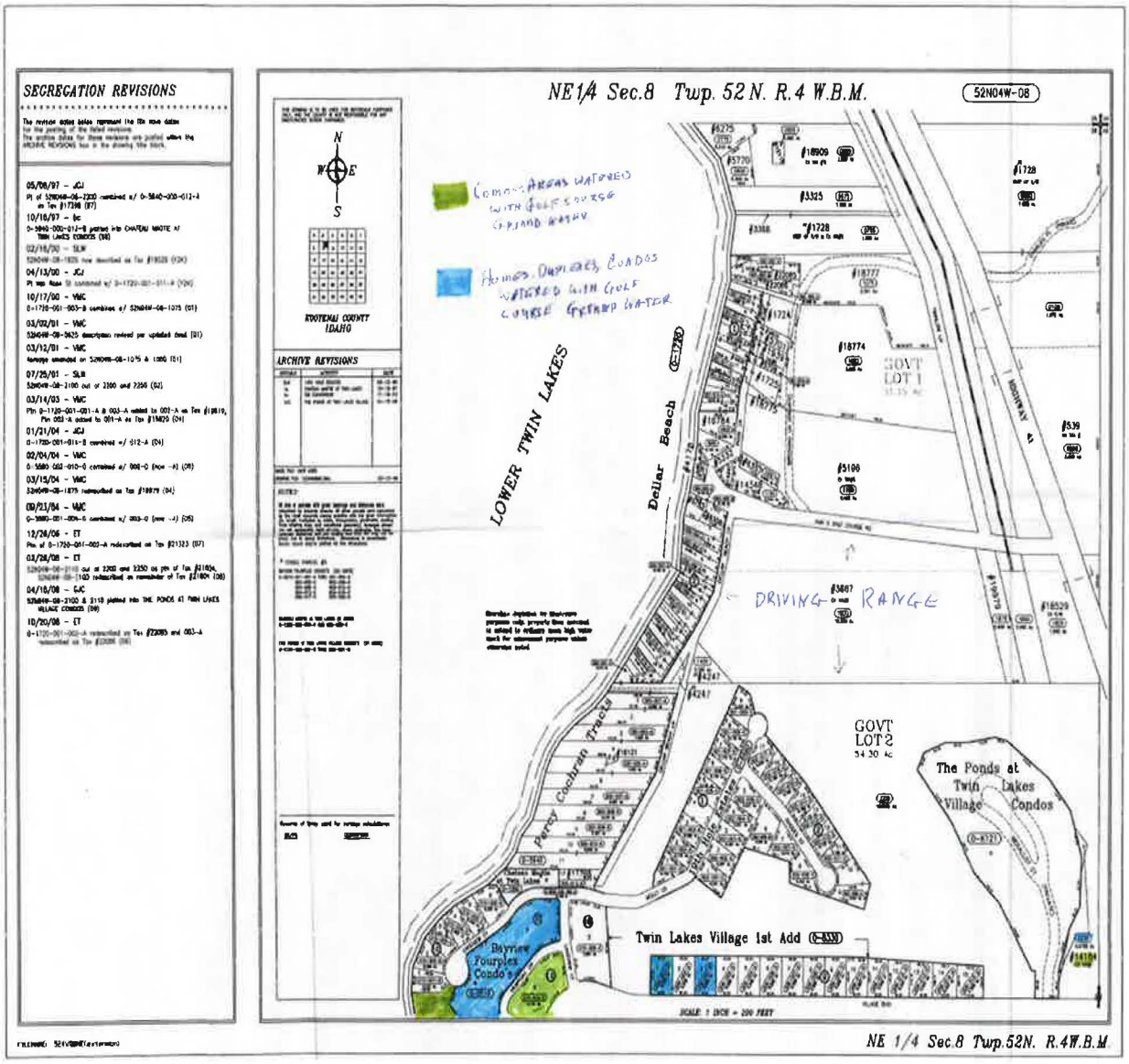
This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Print Page to PDF

POND # 11

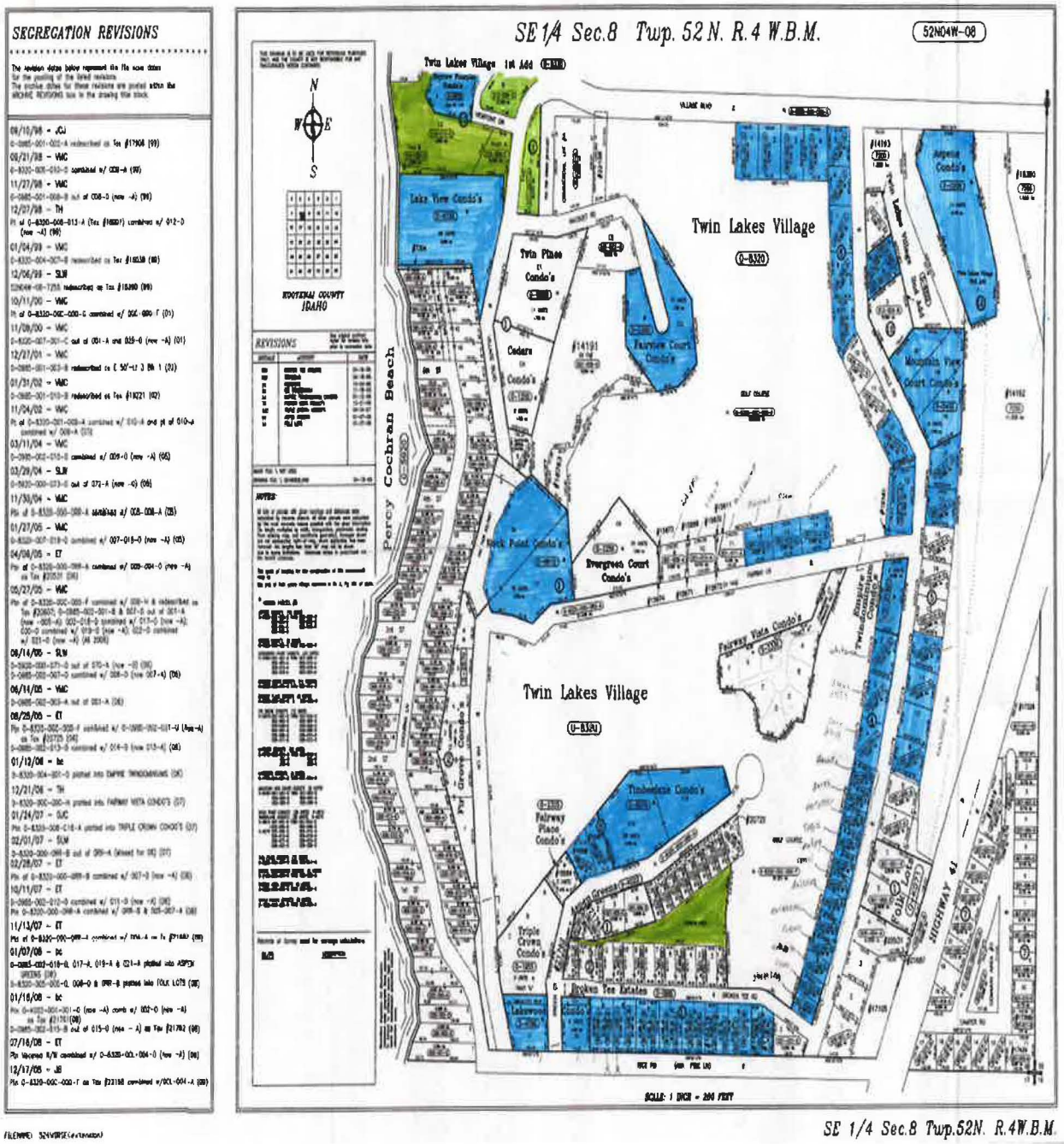
Surface Area (AC.)	0.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	8	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook 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)	0.8	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 *from storage* component if the *from storage* 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)	1.4	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.



PG 1 of 2, Applicant provided plot maps showing the areas of irrigation in addition to golf course fairways. Included are common areas shown in green, and condos/homes shown in blue.

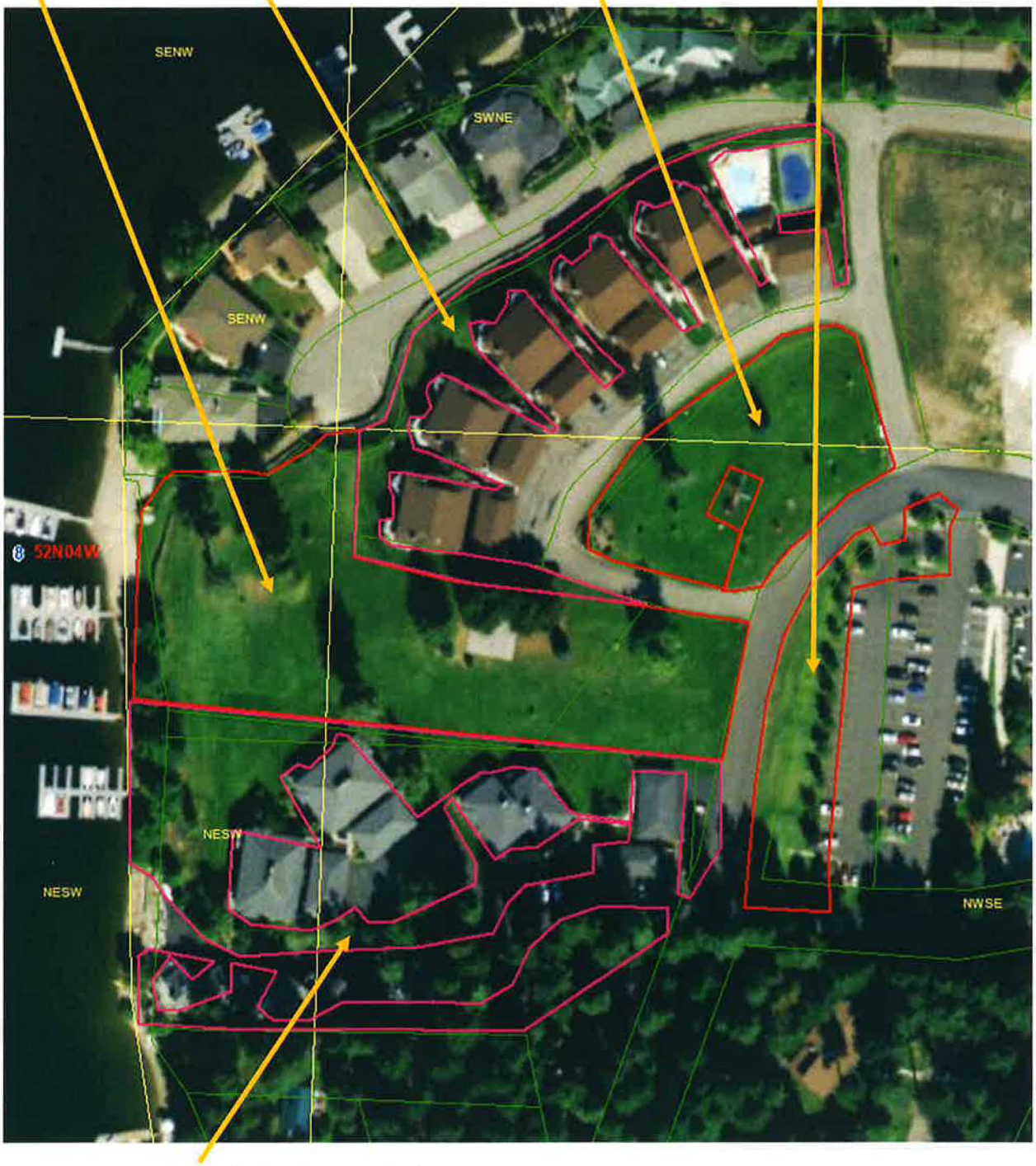
The TOTAL IRRIGATION FROM STORAGE ACREAGE TRACED OUT USING ARCMAP AERIAL IMAGERY IS ILLUSTATED BELOW (PG 3-15):

- Common area and condo/home irrigation TOTAL acres = 5.4 ac + 1.3 ac + 1.2 ac + 5.6 ac + 1.8 ac + 1.7 ac + 4.3 ac + 1.9 ac = **23.2 acres** (PG 3-10)
- Golf course driving range and fairway irrigation TOTAL acres = 33.4 ac + 11.9 ac + 20.9 ac + 22.7 ac = **88.9 acres** (PG 11-15)
- Combined Total irrigation acres = 23.2 ac + 88.9 ac = **112.1 acres**



PG 1 of 2, Applicant provided plot maps showing the areas of irrigation in addition to golf course fairways. Included are common areas shown in green, and condos/homes shown in blue.

1.9 ac (common area), 0.7 ac (Bayview fourplex condos), 0.8 ac (common area), 0.5 ac (common area)



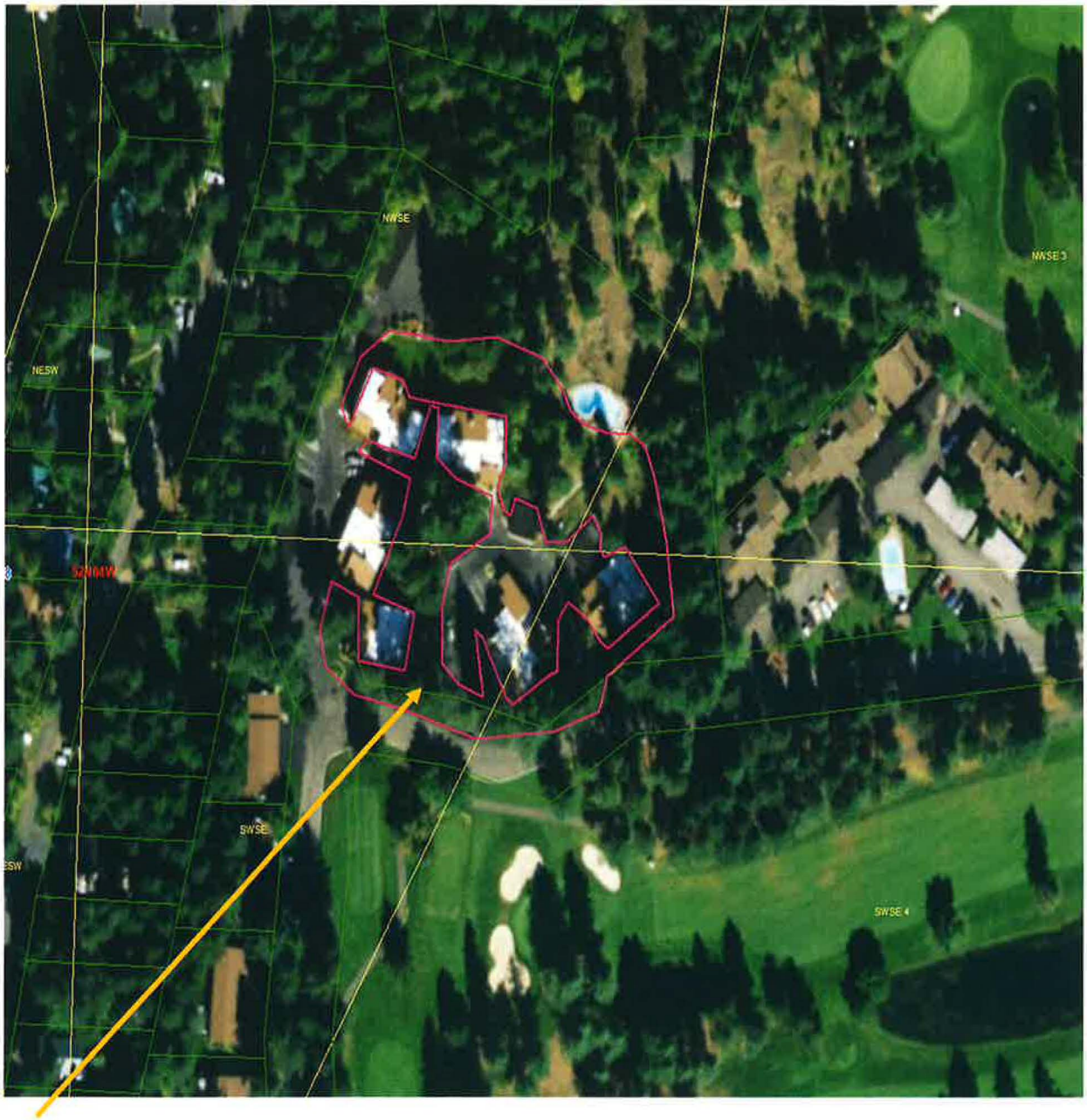
0.4 ac + 1.1 ac = 1.5 ac (Lake View Condos)

PAGE TOTAL ACRES = 1.9 + 0.7 + 0.8 + 0.5 + 1.5 = **5.4 acres**



1.3 ac (Fairview Court Condos)

PAGE TOTAL ACRES = **1.3 acres**



1.2 ac (Rock Point Condos)

PAGE TOTAL ACRES = **1.2 acres**

1.5 ac (Timberlane Condos)

1.5 ac (common area)



0.5 ac (Lakewood Condo 1of2)

2.1 ac (Lakewood Condo 2of2 & 8 lots w/homes)

PAGE TOTAL ACRES = 1.5 + 1.5 + 0.5 + 2.1 = **5.6 acres**



1.8 ac (16 lots w/homes)

PAGE TOTAL ACRES = **1.8 acres**

0.7 ac (3 lots w/homes)



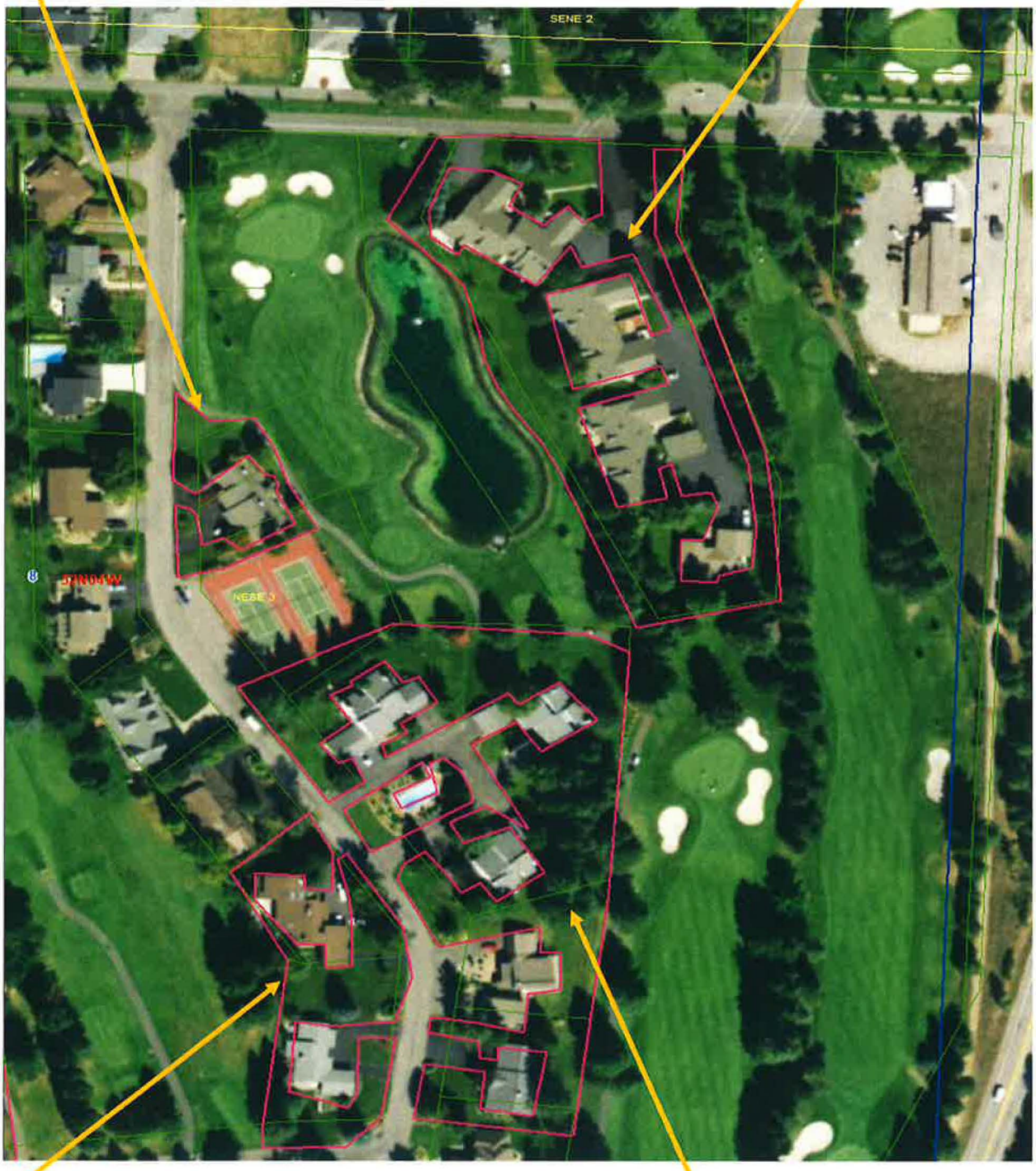
Left hand side of road shape covered on page prior

1.0 ac (4 lots w/homes)

PAGE TOTAL ACRES = 0.7 + 1.0 = **1.7 acres**

0.3 ac (1 lot w/home)

1.4 ac (Aspen Condos)



0.6 ac (2 lots w/homes)

2.0 ac (Mountain View Court Condos)

PAGE TOTAL ACRES = 0.3 + 1.4 + 0.6 + 2.0 = **4.3 acres**



1.9 ac (9 lots w/homes)

PAGE TOTAL ACRES = 1.9 = **1.9 acres**



Golf Course Driving Range and Fairways (1 of 4 images) ¼ ¼ acreage breakdown below:

WR Edit

Save Pls As Layer?

Meridian	Twp	Rng	Rng Partial	Sec	QQ	Q	Govt Lot	County	Acres	Tract ID
1	52N	04W	0	8	NE	NE	1	KOOTE...	1.2	
1	52N	04W	0	8	NW	NE	1	KOOTE...	0.3	
1	52N	04W	0	8	SW	NE		KOOTE...	1.1	38
1	52N	04W	0	8	SW	NE	2	KOOTE...	6.8	
1	52N	04W	0	8	SE	NE	2	KOOTE...	23	
1	52N	04W	0	8	NE	SE	3	KOOTE...	0.5	
1	52N	04W	0	8	NW	SE		KOOTE...	0.1	38
1	52N	04W	0	8	NW	SE	3	KOOTE...	0.1	
1	52N	04W	0	9	SW	NW		KOOTE...	0.3	

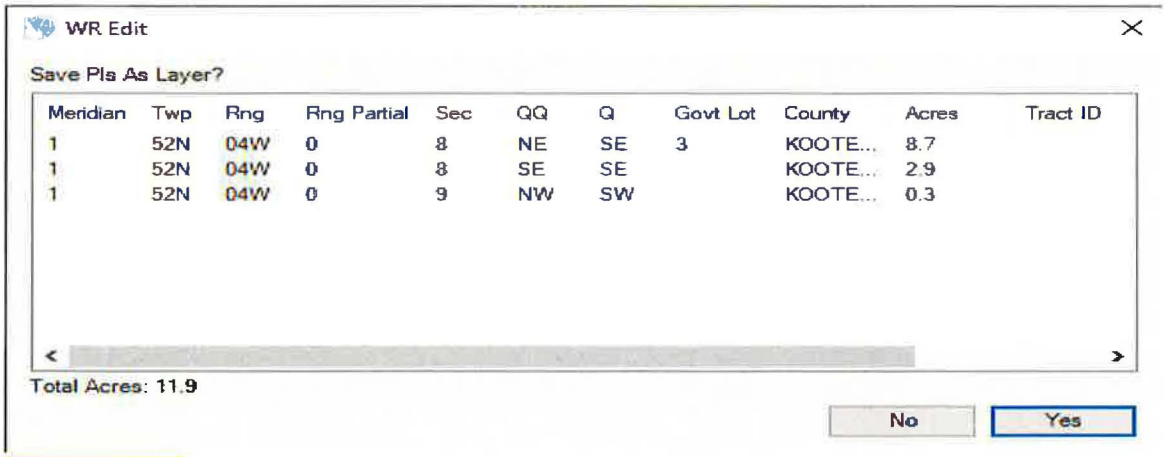
Total Acres: 33.4

No Yes

33.4 acres



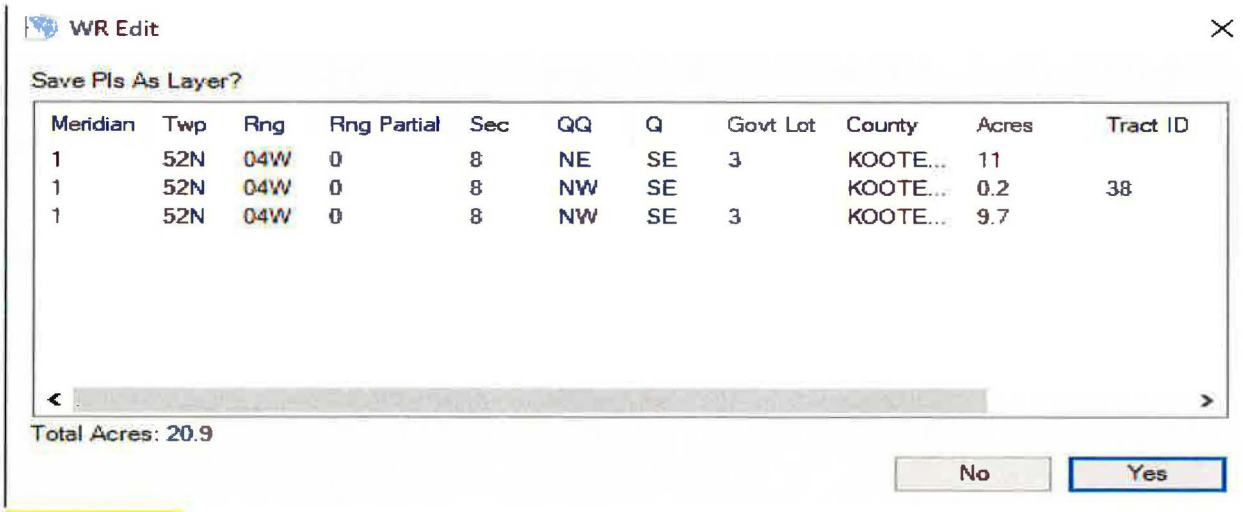
Golf Course Fairways (2 of 4 images) ¼ ¼ acreage breakdown below:



11.9 acres



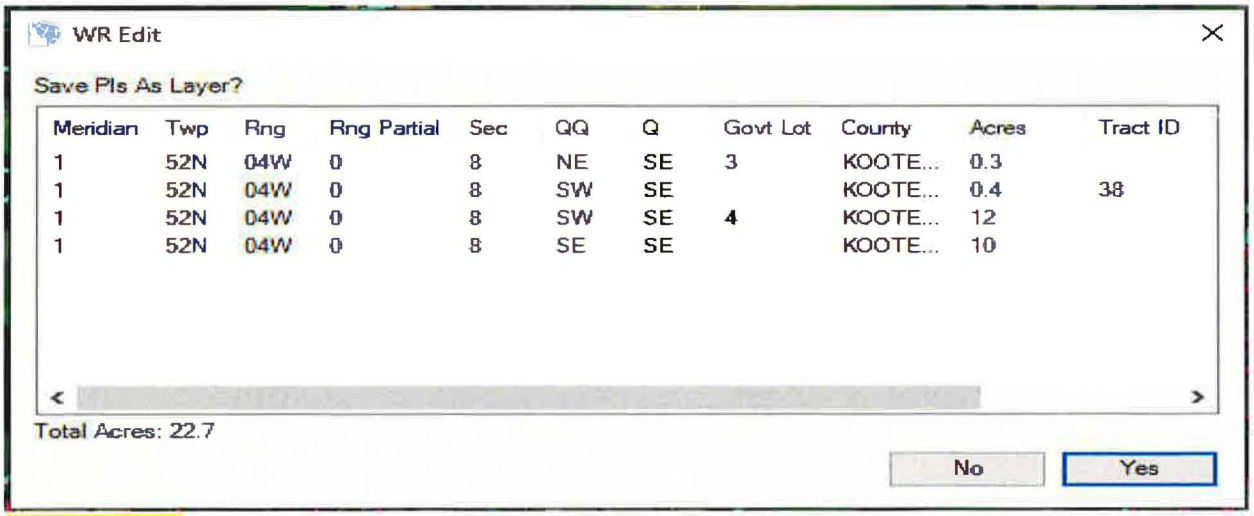
Golf Course Fairways (3 of 4 images) ¼ ¼ acreage breakdown below:



20.9 acres



Golf Course Fairways (3 of 4 images) ¼ ¼ acreage breakdown below:



22.7 acres



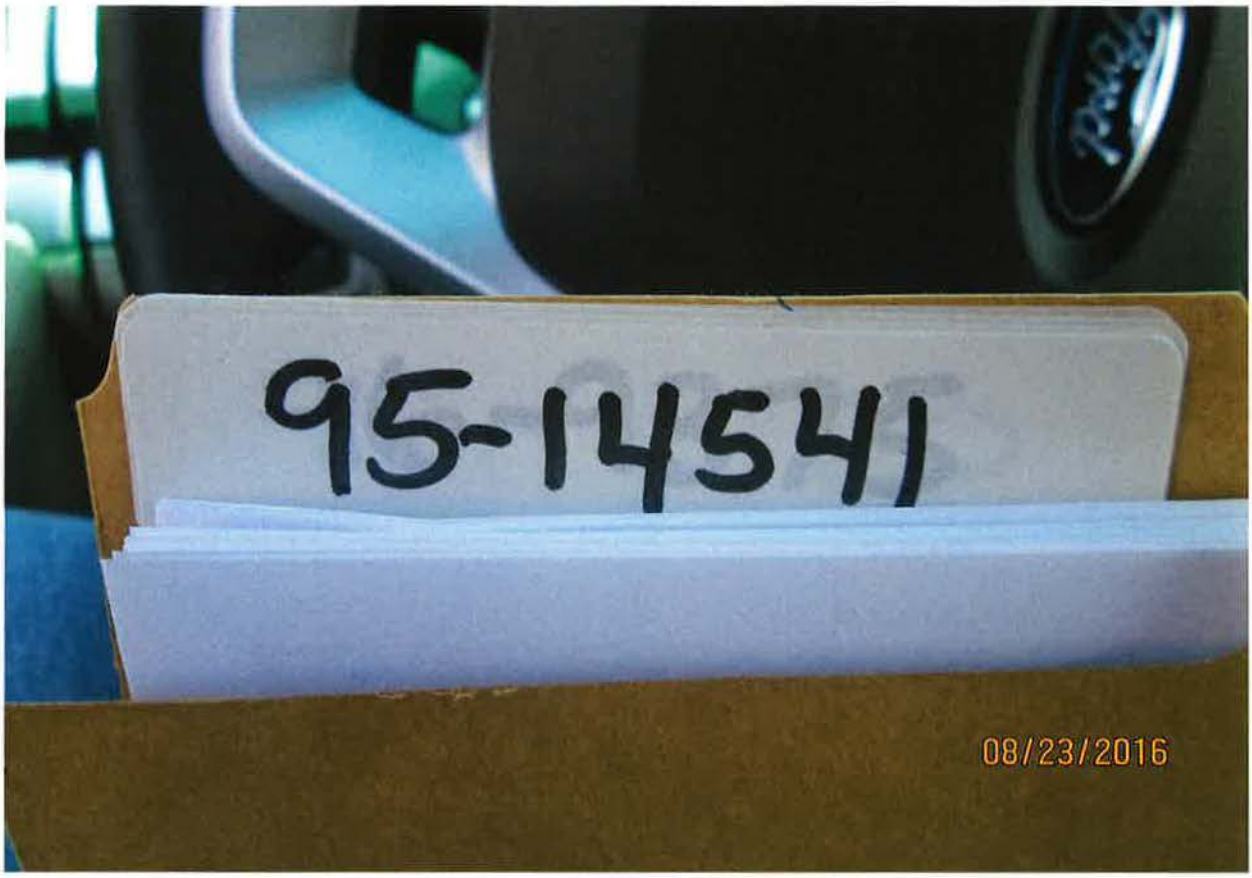
Total irrigation from storage aerial imagery, Arcmap trace-out.

COMBINED ¼ ¼ ACRE SECTIONAL DISTRIBUTION FOR ALL IRRIGATION OCCURING UNDER 95-14541

Save Pls As Layer?

Meridian	Twp	Rng	Rng Partial	Sec	QQ	Q	Govt Lot	County	Acres	Tract ID
1	52N	04W	0	8	NE	NE	1	KOOTE...	1.2	
1	52N	04W	0	8	NW	NE	1	KOOTE...	0.3	
1	52N	04W	0	8	SW	NE		KOOTE...	1.9	38
1	52N	04W	0	8	SW	NE	2	KOOTE...	6.8	
1	52N	04W	0	8	SE	NE	2	KOOTE...	23	
1	52N	04W	0	8	NE	SW		KOOTE...	1.4	38
1	52N	04W	0	8	NE	SE	3	KOOTE...	27	
1	52N	04W	0	8	NW	SE		KOOTE...	4	38
1	52N	04W	0	8	NW	SE	3	KOOTE...	11	
1	52N	04W	0	8	SW	SE		KOOTE...	0.7	38
1	52N	04W	0	8	SW	SE	4	KOOTE...	17	
1	52N	04W	0	8	SE	SE		KOOTE...	16	
1	52N	04W	0	9	SW	NW		KOOTE...	0.3	
1	52N	04W	0	9	NW	SW		KOOTE...	0.3	

Total Acres: 110.9

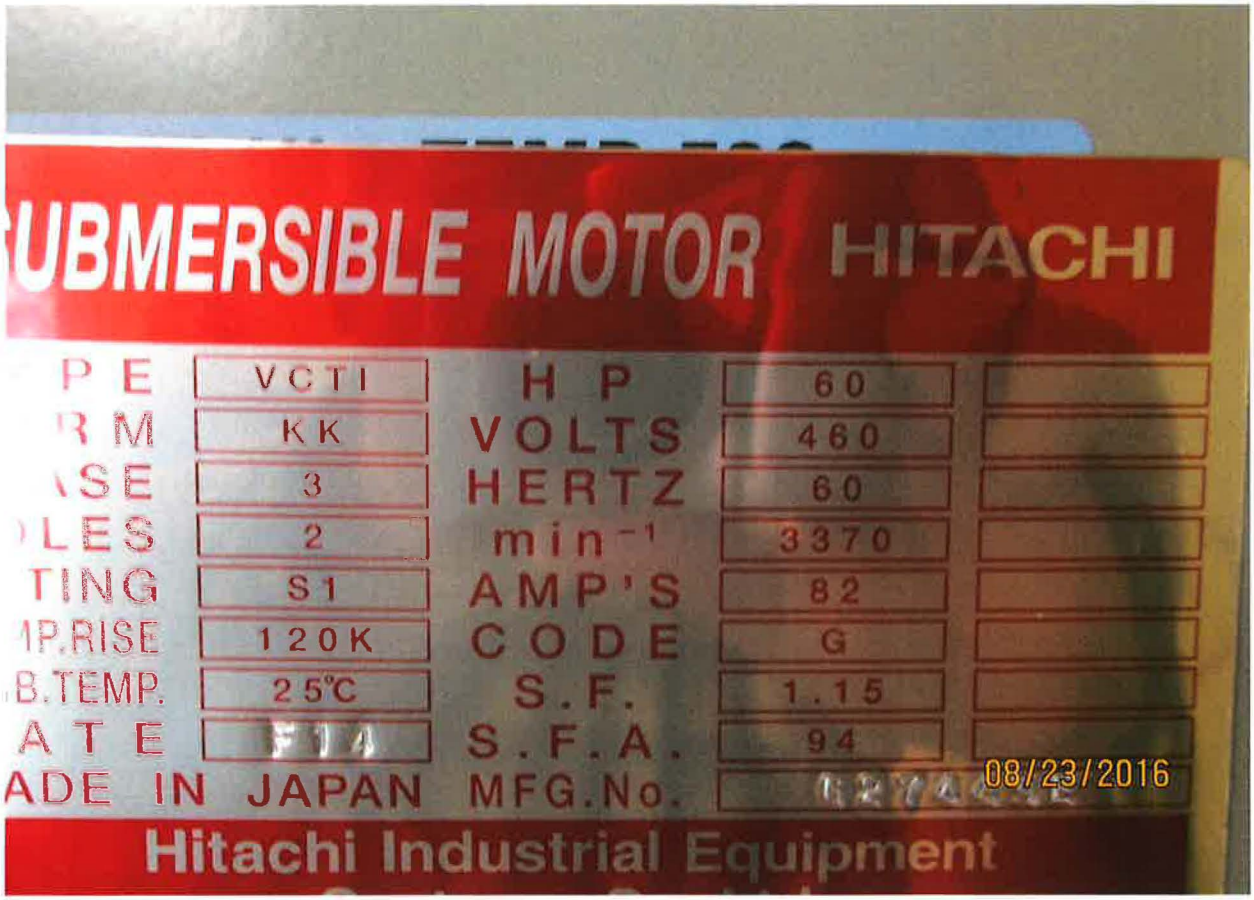




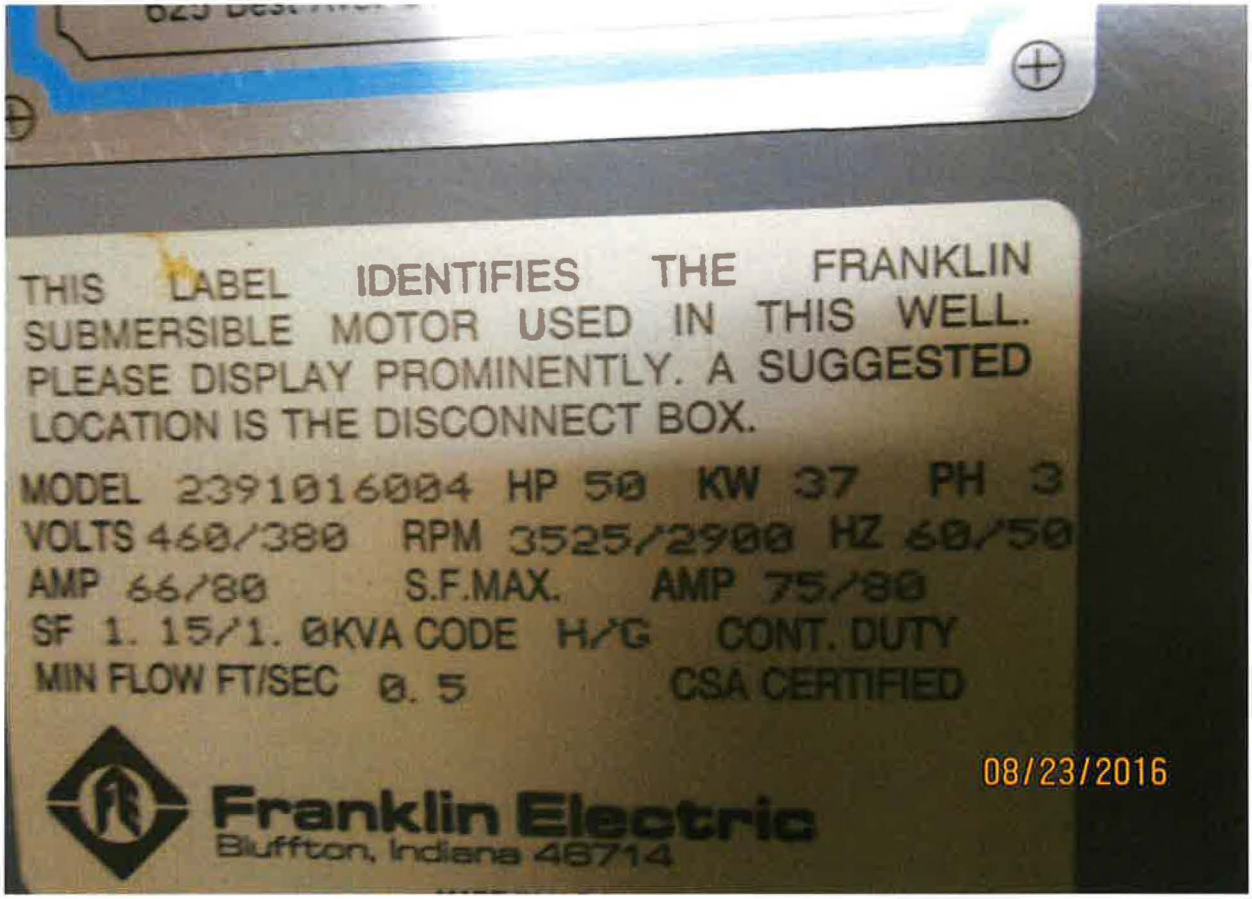
POD – WELL 1 OF 2, A0020013



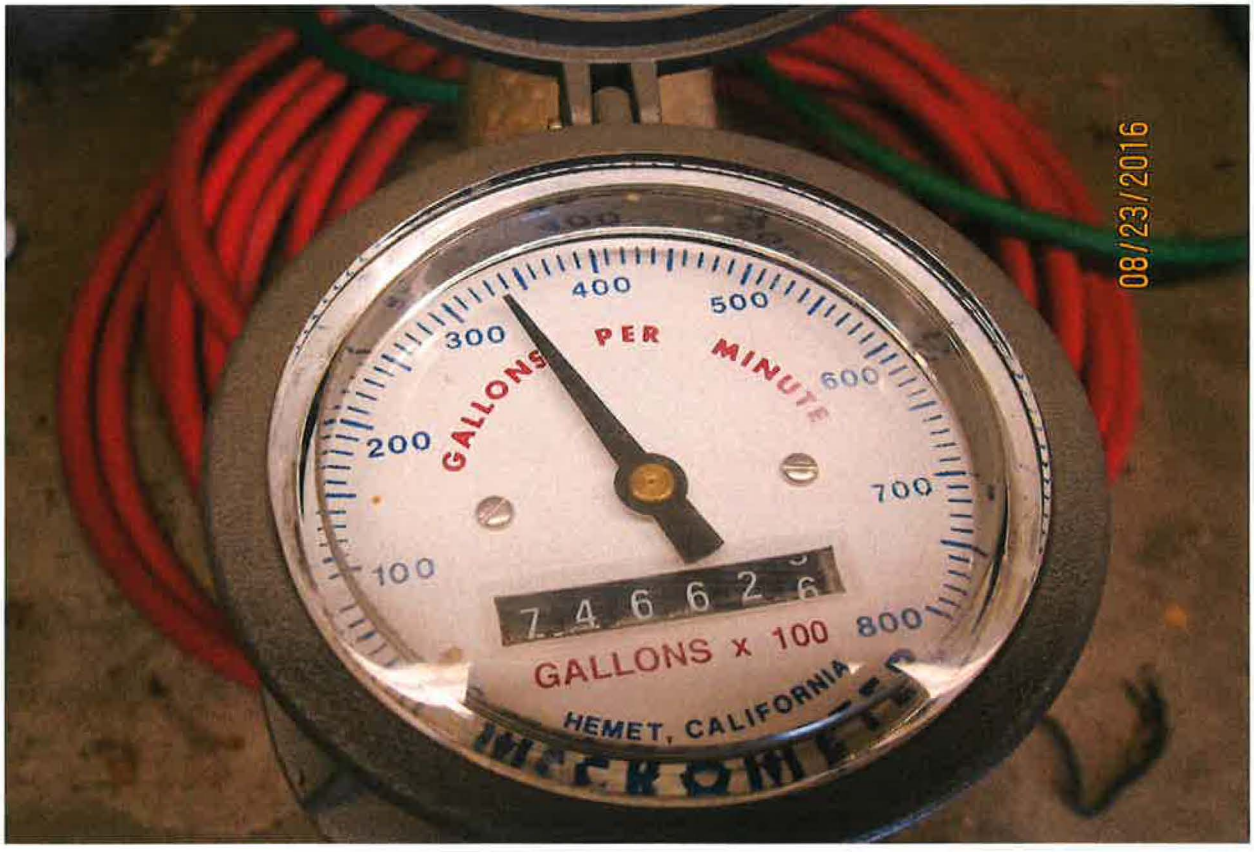
POD – WELL 2 OF 2, A0020014



WELL PUMP 1 OF 2 – 60 HP



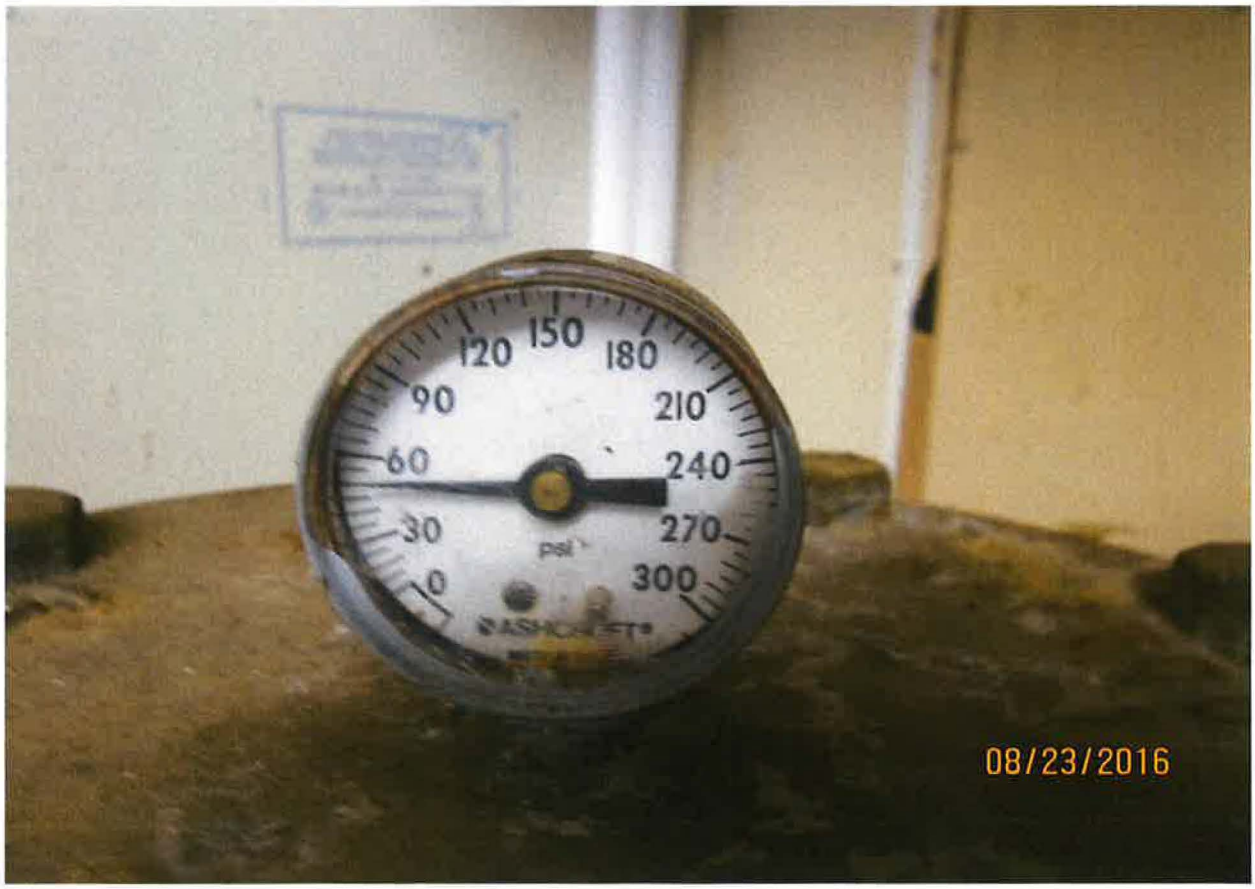
WELL PUMP 2 OF 2 – 50 HP



FLOW METER INSTALLED WITH 60 HP PUMP – 350 GPM AVG



FLOW METER INSTALLED WITH 50 HP PUMP – 320 GPM AVG



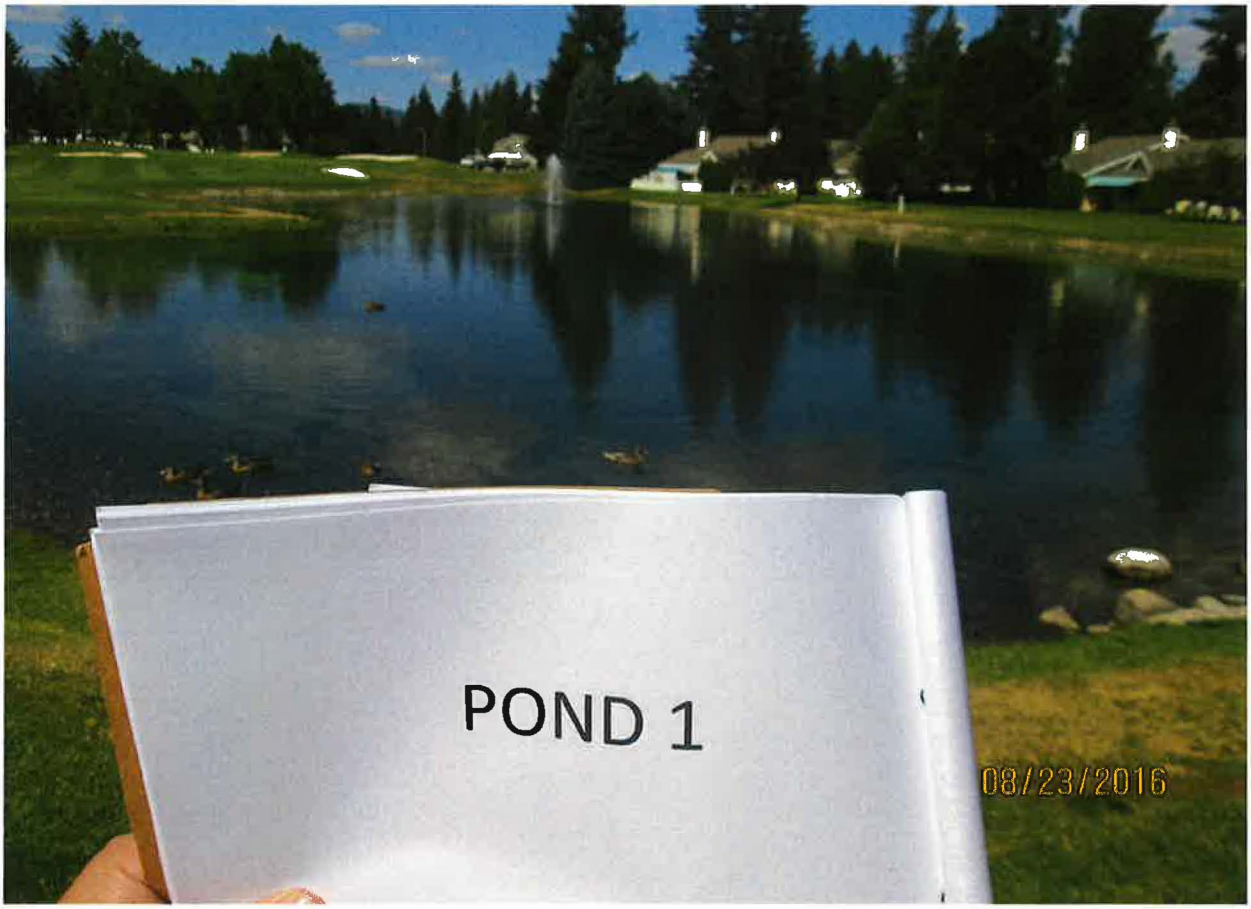
50 PSI WATER SYSTEM OPERATING PRESSURE



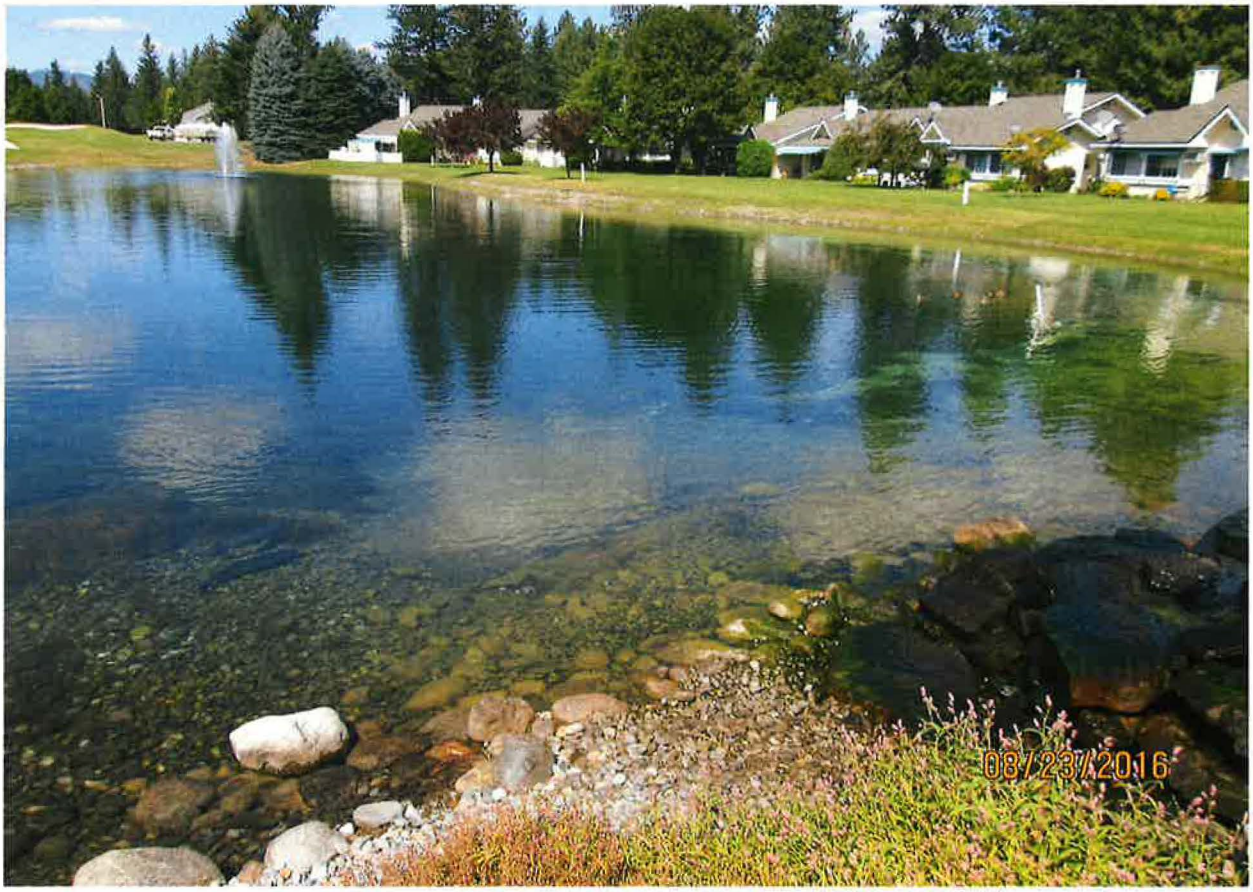
PUMP HOUSE WITH WATER CONVEYANCE SYSTEM



WATER PIPE FROM PUMP HOUSE TO POND(S) - DIVERSION TO STORAGE USE



IRRIGATION STORAGE, RECREATION STORAGE, AND FIRE PROTECTION STORAGE POU – POND # 1



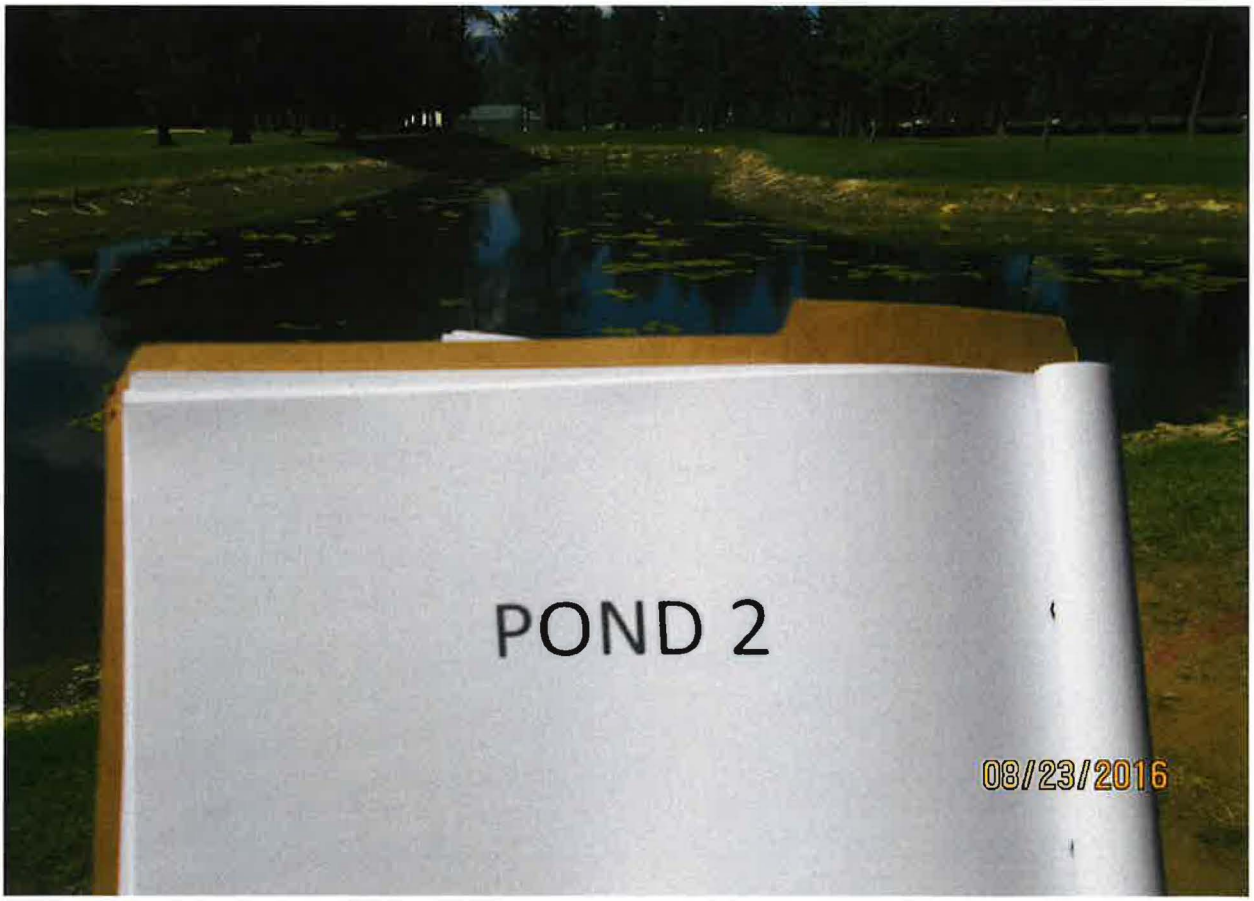


POND # 1 WATER PIPE FOR IRRIGATION FROM STORAGE





EXAMPLE POND LINER INSTALLED ON POND(S) # 1 AND 3-11



RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 2 (NOT LINED)



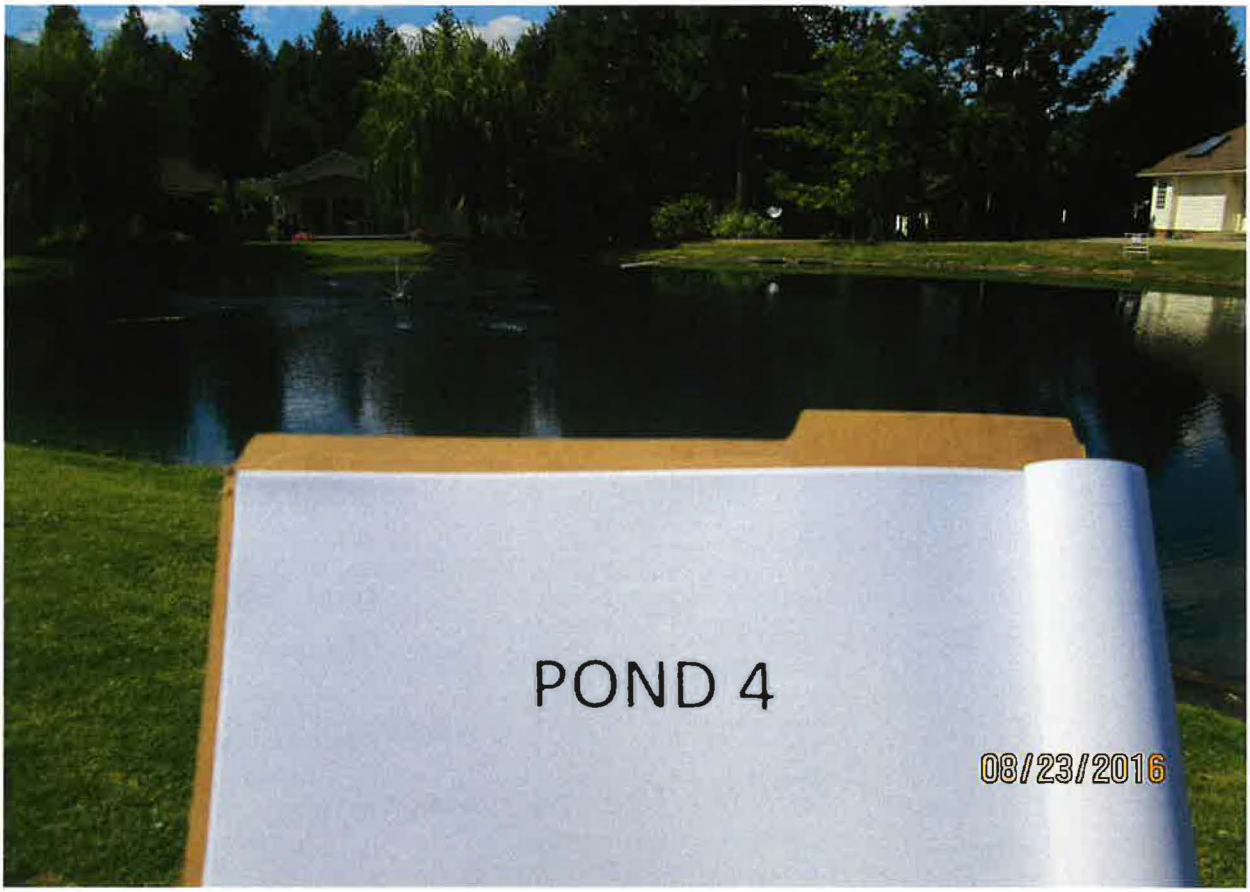
RECREATION STORAGE AND FIRE PROTECTION STORAGE – POND # 2



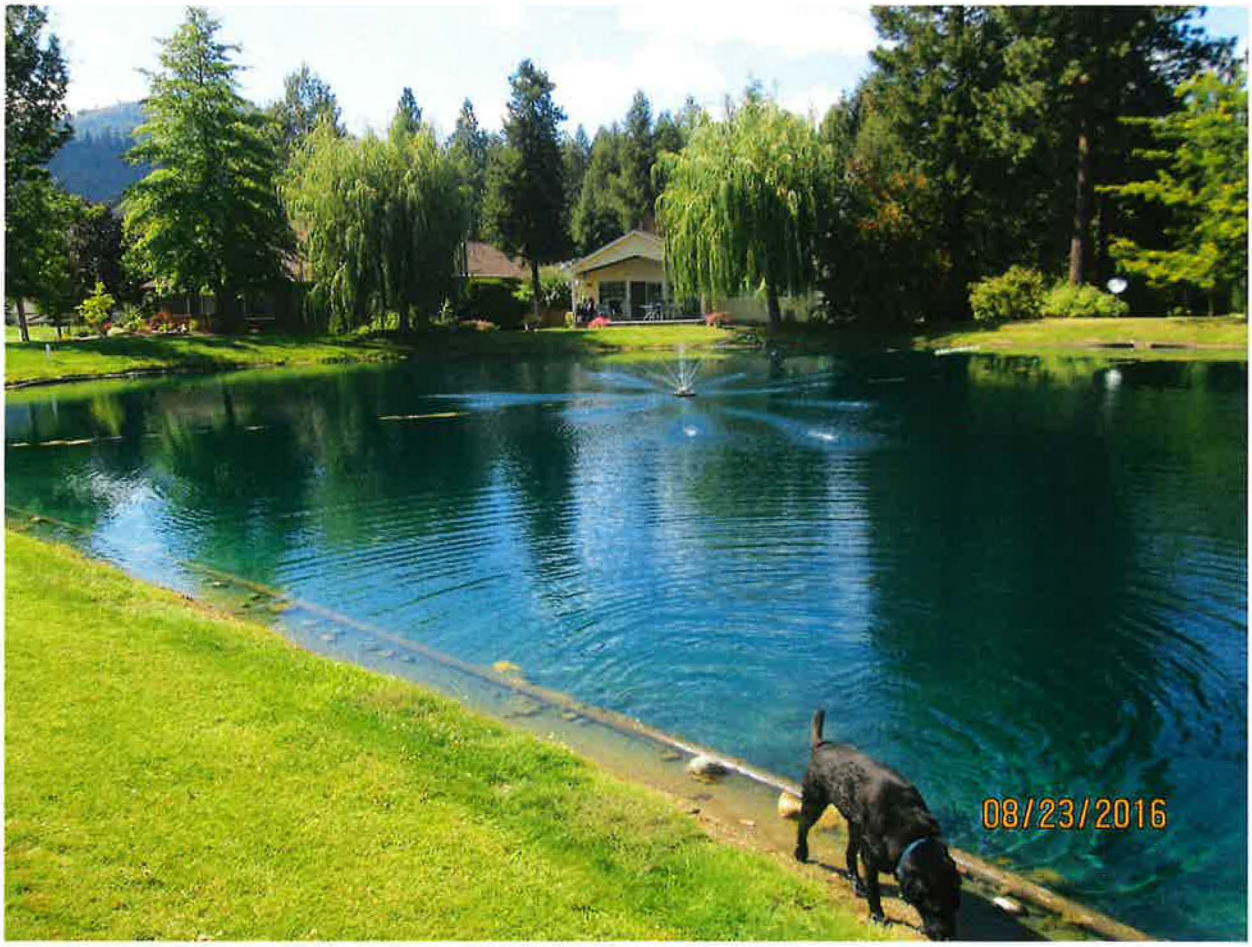


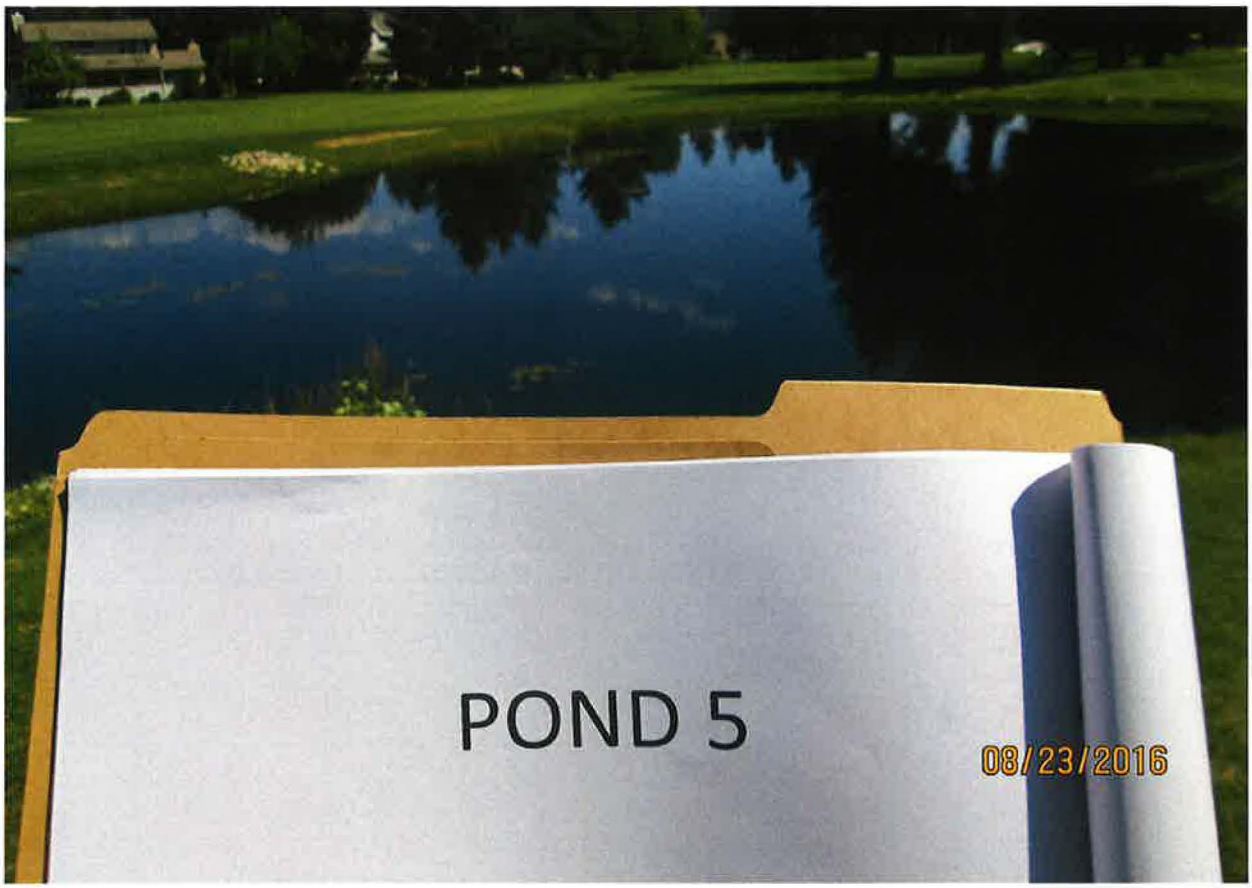
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 3





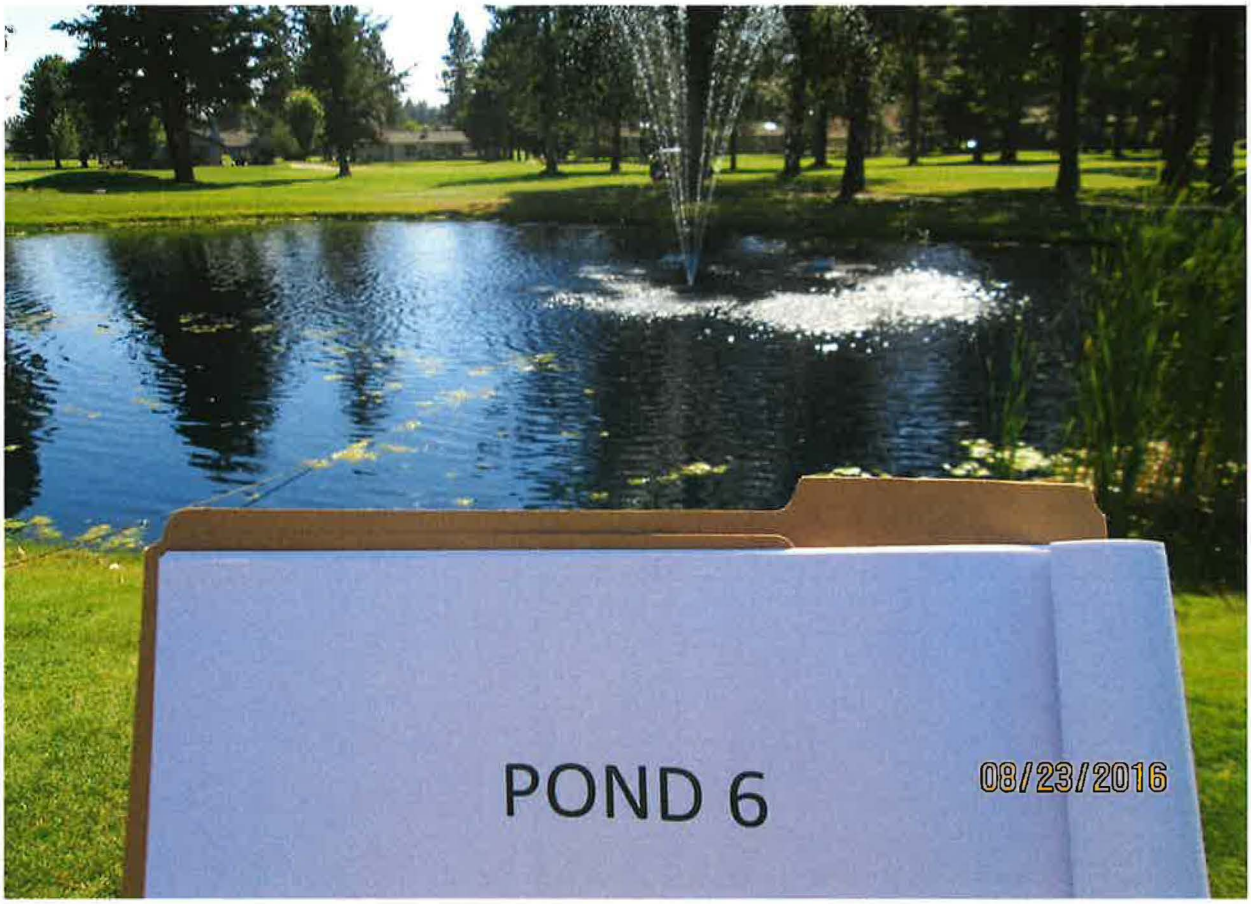
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 4





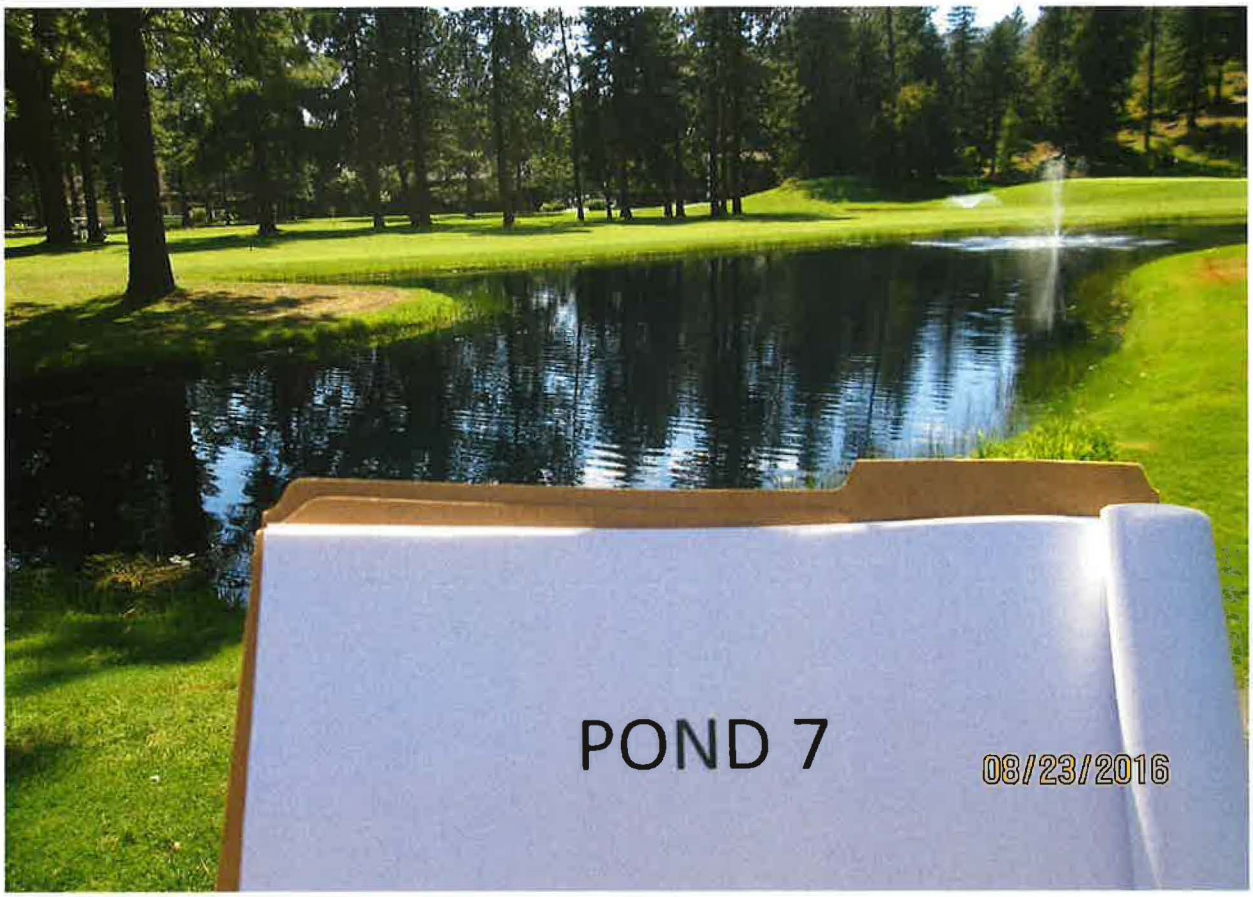
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 5





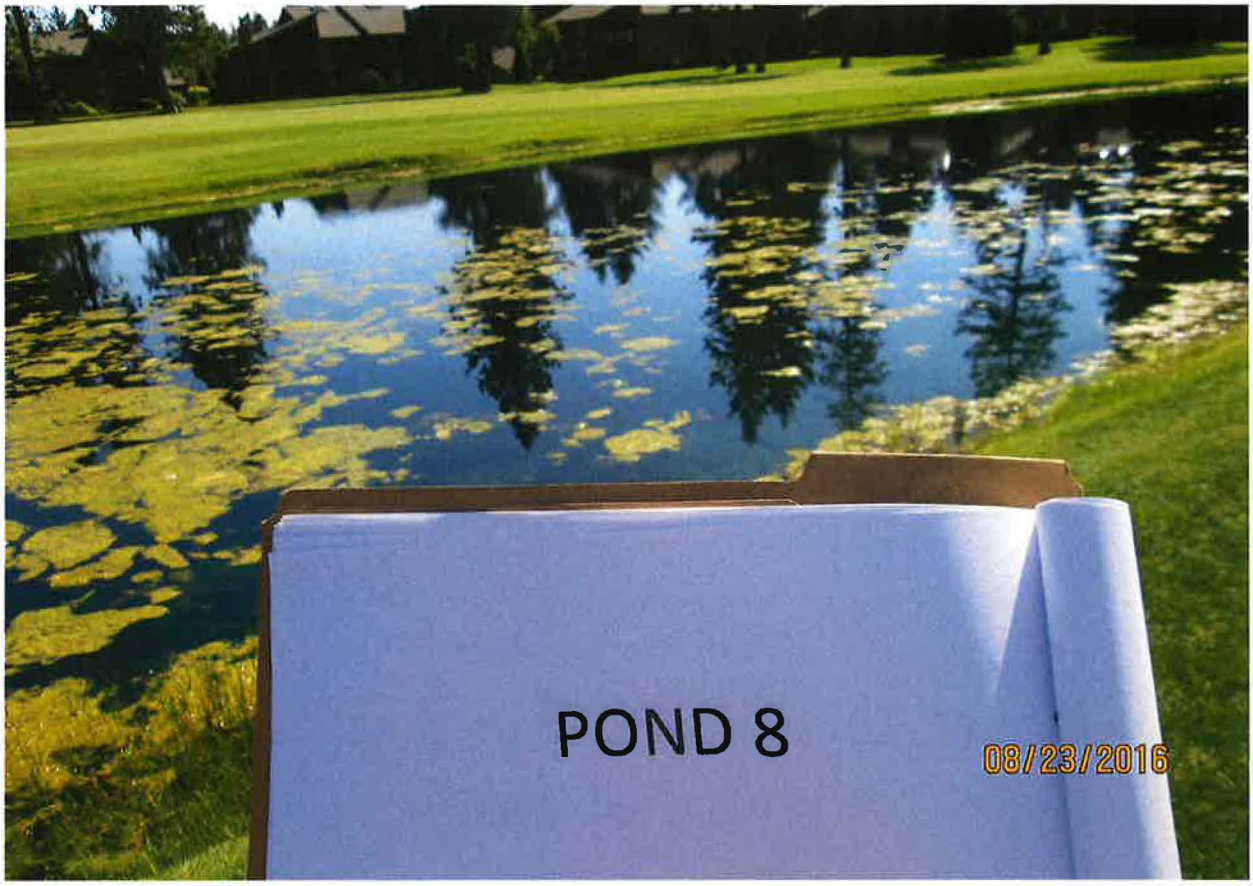
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 6





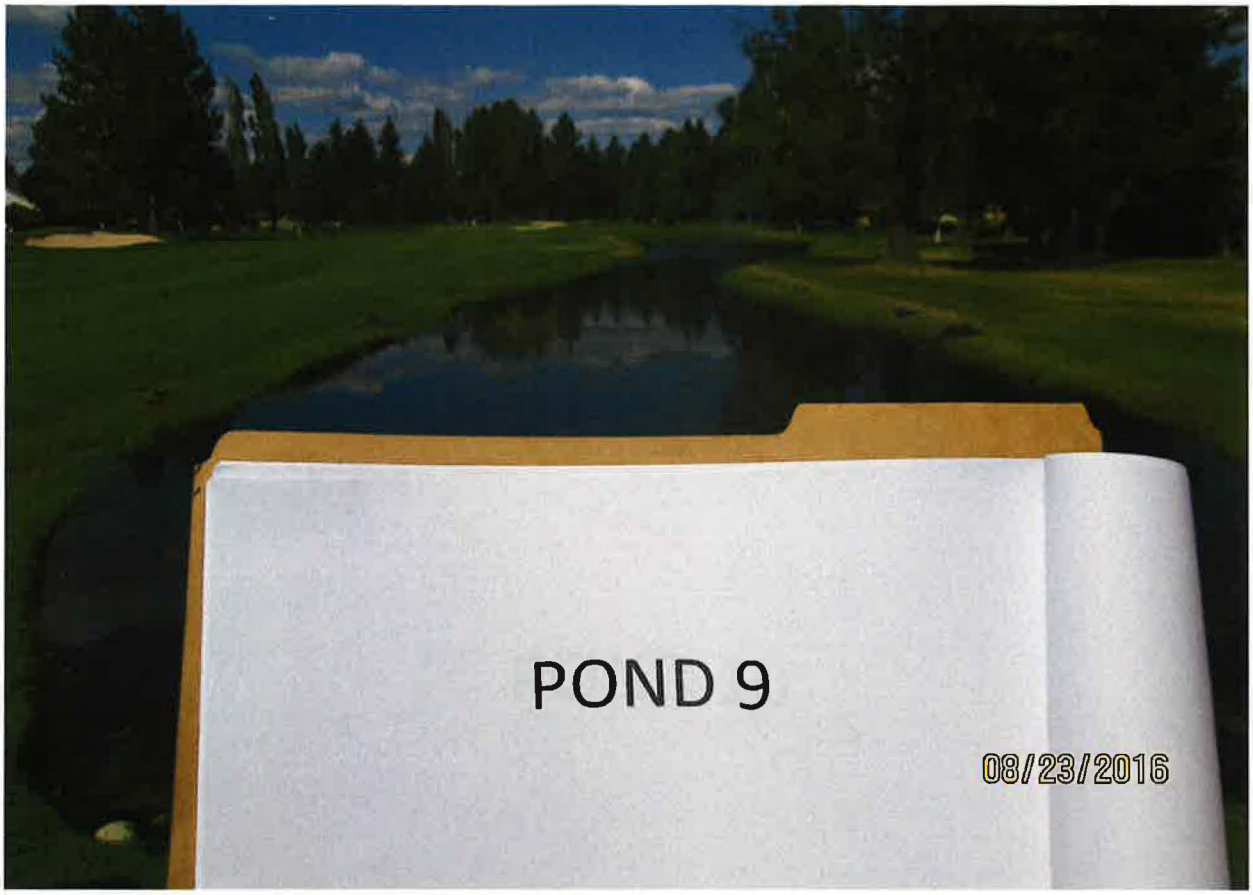
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 7





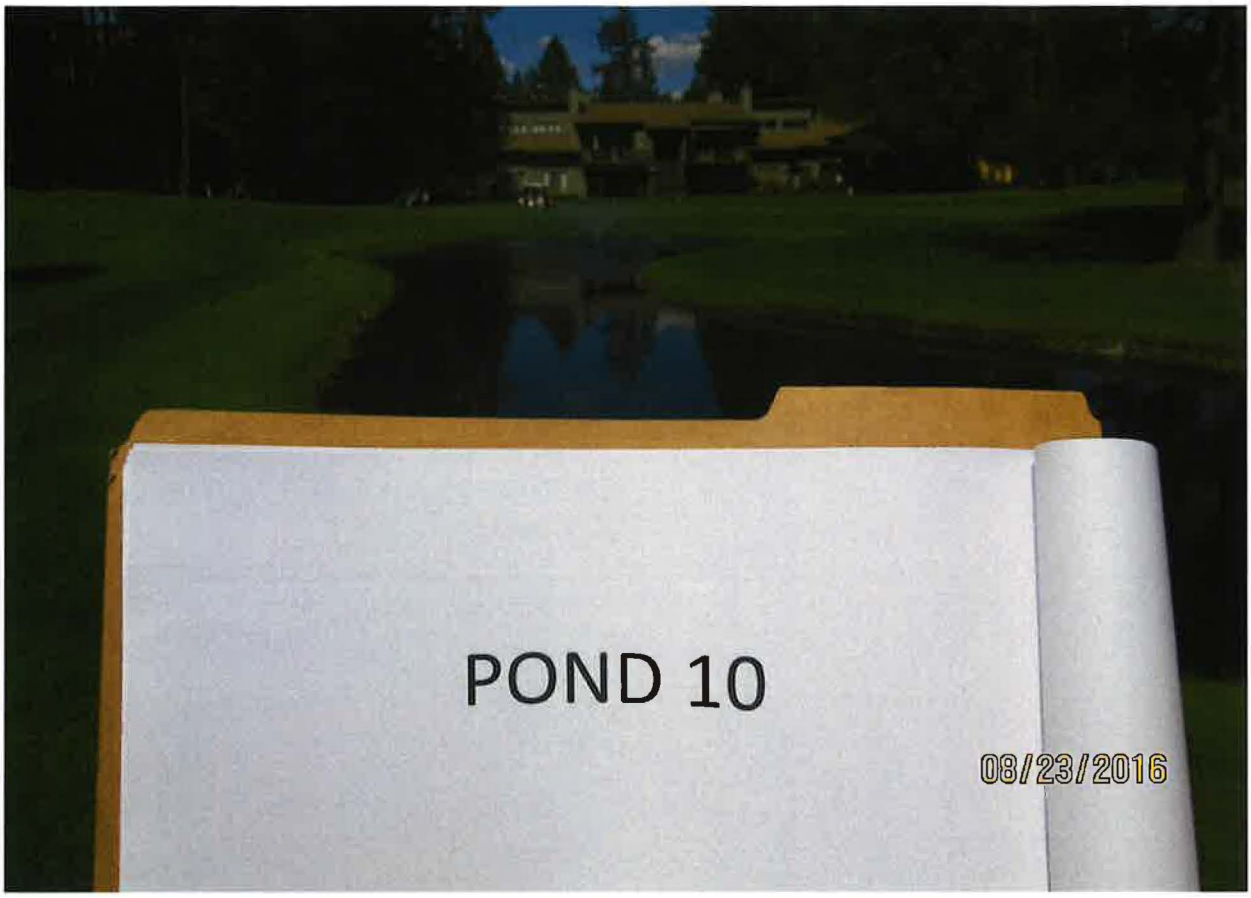
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 8



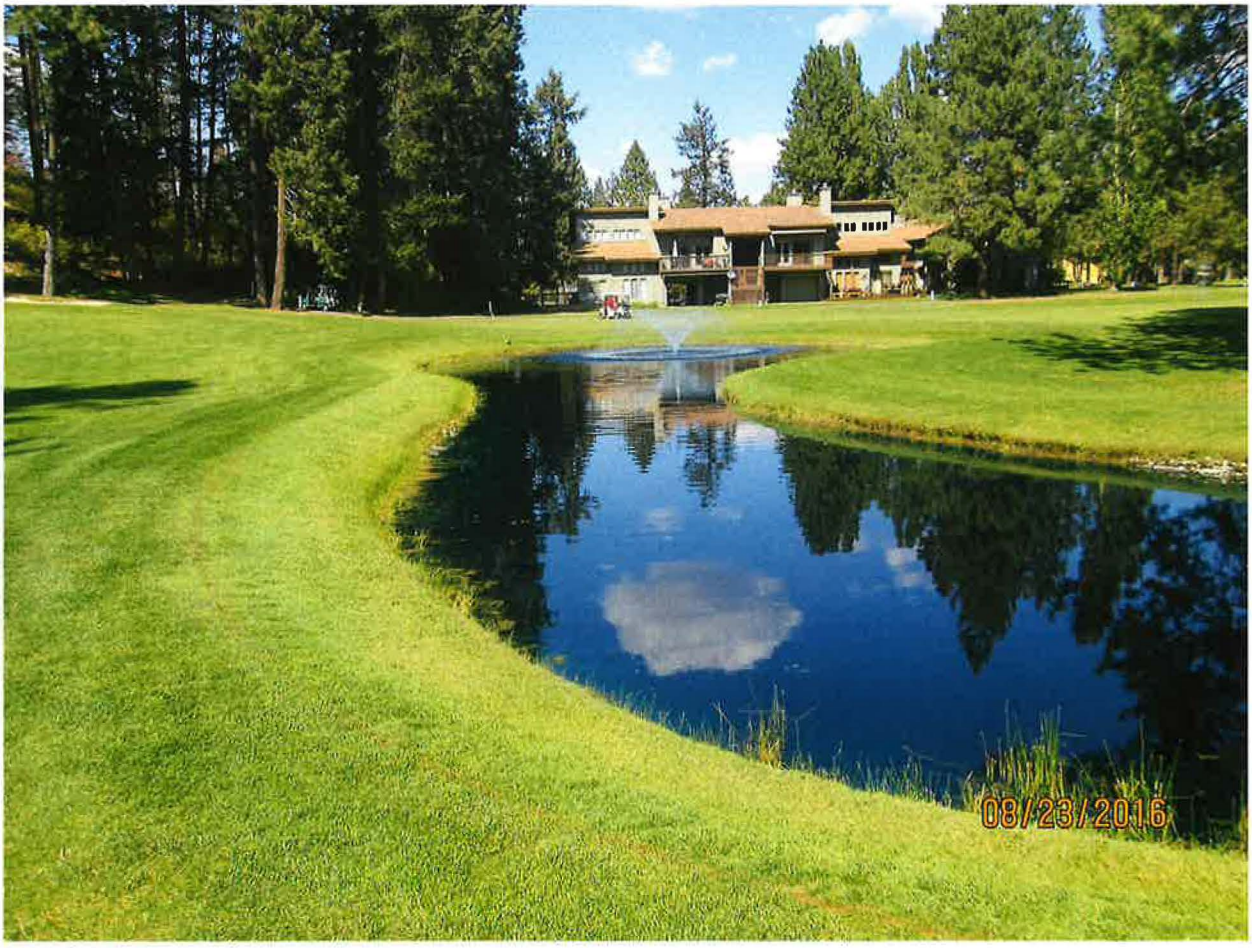


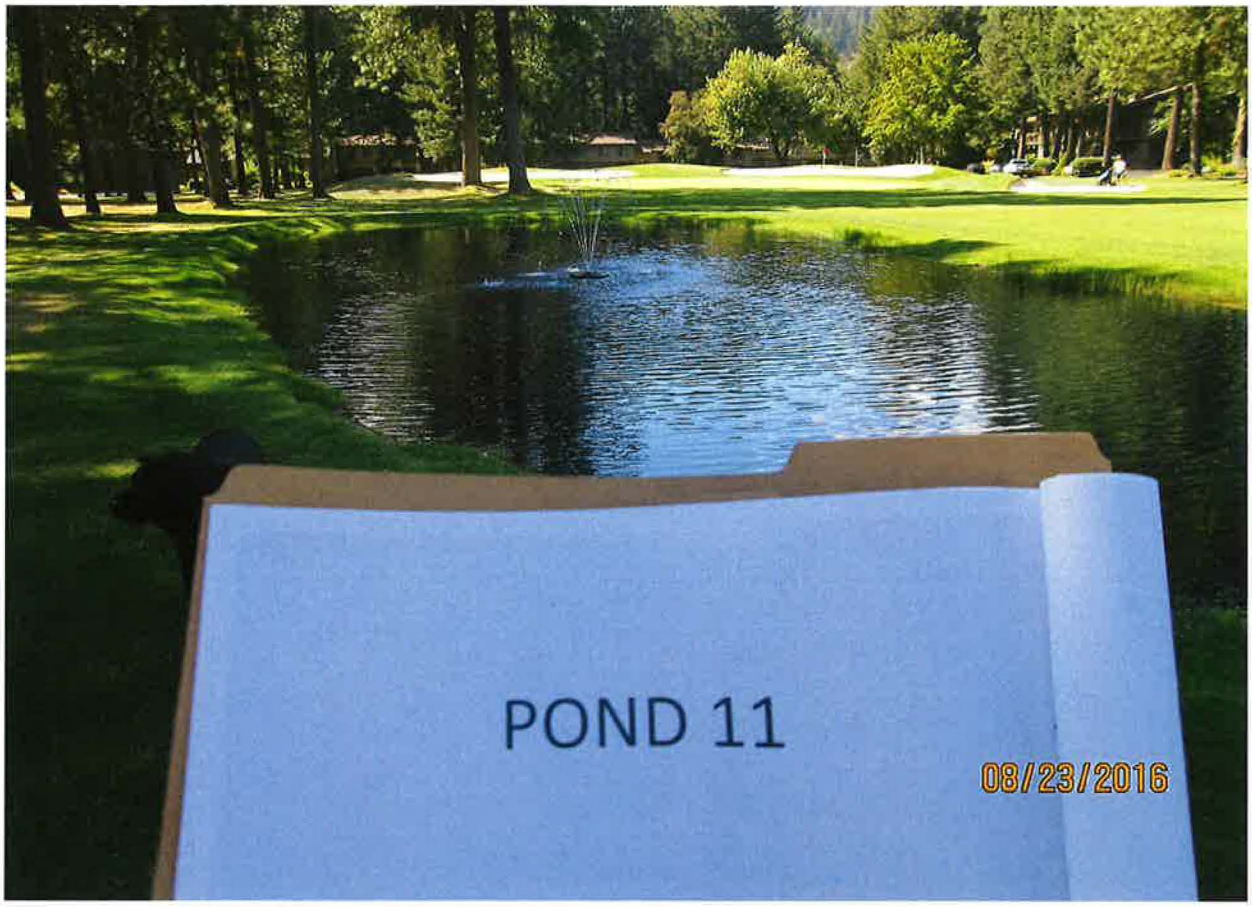
RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 9





RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 10





RECREATION STORAGE AND FIRE PROTECTION STORAGE POU – POND # 11





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU

