

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATION

Permit No. 23-11387 & 23-11418

- Owner Jeffrey and Michelle Aleixo, c/o Rob Harris, Holden, Kidwell, et. al. Phone No. 208-523-0620
Current address P.O. Box 50130, Idaho Falls, Idaho 83405
- Examiner's name Paul H. Scoresby, PE (Cert. #131) EXAM DATE June 15, 2011
- Accompanied by Jeff Aleixo Email j.aleixo@employmenttax.com
Address 2377 Crenshaw Blvd., Torrence, CA 90501
Relationship to permit holder Jeff is the permit holder. Phone No. 310-428-6488
- Source Palisades Creek tributary to South Fork of Snake River

B. OVERLAP REVIEW

- Other water rights with the same place of use None
- Other water rights with the same source and point of diversion None

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			SW	NW	25	01N	44E	Bonneville	IDWR Locate tool & aerial photo

2. Place(s) of Use: Method of determination IDWR locate tool, aerial photo (GIS) and field measurement

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
01N	44E	25							.4			1.5							1.9

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.

Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (**required**)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Pump for aesthetic pond	Franklin Electric	5	Unknown	Carry	6", Model #605121-31
Sprinkler irrigation pump	Franklin Electric	1	Unknown	Franklin Electric	2", Model #35FA15S4-PE

*Code to correspond with no. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Estimated from pump curve	NA	NA	NA	NA	NA	NA
Estimated from pump curve	NA	NA	NA	NA	NA	NA

2. **Measurements:** _____

Total dynamic head to use with pump curve was estimated. The static head component was measured in the field.

The operation of the diversion works were witnessed during the exam.

E. NARRATIVE/REMARKS/COMMENTS

The permit holder developed 1.93 acres of grass as illustrated on the attached plan, all of which may or may not be mowed each summer. Permit #23-11387 limits the irrigated area to 1.5 acres. The permit holder acknowledges that 1.5 acres of irrigated land will be authorized under the water right license, therefore, only 1.1 acres will be authorized for irrigation in the NW1/4SW1/4.

The permit holder uses an average of 10 sprinkler heads per zone with an approximate two gpm discharge per head for an estimated zone discharge of 20 gpm. This flow is consistent with the pump curve for the installed sprinkler pump. This pump curve is attached. The overall use of water for sprinkler irrigation was fully developed and is modest in its layout and operation.

The pump curve for the 5 Hp pond pump is attached. This performance of the pump was witnessed and appears to be consistent with the estimated head and flow shown on the attached pump curve.

The point of diversion listed on C.1 of this report is for both irrigation and recreation/aesthetic uses.

On the day of measurement the pond was full. The pond does have a deep zone as the bottom could not be seen where it is deep. The permit holder reported the pond to be 12 feet deep at its maximum point. This is consistent with what was witnessed at the pond. The calculated pond volume is 1.0 AF, which is consistent with what was observed at the pond (see attached IDWR standard; Surface Area (.204 acres) X Max Depth (12 ft) X .4 = Volume (.96 AF ~ 1.0 AF). The requested 1.0 AF is significantly less than the permitted amount of 3.0 AF.

The attached profile drawing illustrates the pipeline diversion from Palisades Creek, through the diversion box, to the pump wet well and to the pond and the sprinkler system. The attached photos illustrate these components. The actual diversion at the creek is completely hidden.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

It is recommended that the use of pump curves be an acceptable means of flow measurement for these pumps. The field examination data, when compared to the pump curve data for the pond pump and irrigation pump, match well. The use of the water for the pond is for circulation purposes. The pond does not empty during the winter months because it was constructed with the pond liner. The water is taken from the creek, passes through the pond and returns to the creek during the allowed period of the year. The pump curve for the irrigation pump and the reported sprinkler head flow of each zone exceeds the permitted amount of 0.03 CFS. Thus no additional flow metering should be necessary. Flow metering is also not a condition of the permits.

The pond was filled when all water right priorities on the Snake River were filled, so no mitigation was required (but will be provided in the future if the pond is drained and filled again).

F. FLOW CALCULATIONS☐ Additional computation sheets attached

Measured Method:

5 Hp Pond Pump (see attached 5 Hp pump curve): Estimated headloss is 1.6 ft. Static head is 8 ft. Enter pump curve at the 9.6 feet of head and read off 650 gpm or 1.45 cfs.

1.5 Hp Lawn Sprinkler Pump (see attached 1.5 Hp pump curve): the estimated total dynamic head for this pump is 140 feet of head. Enter pump curve at 140 feet and the estimated discharge is 32 gpm. 32 gpm = 0.07 CFS > the permitted amount of 0.03 CFS. Recommend license for 0.03 CFS.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.5 \times 3.5 = 5.25 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.03 \times 183 \times 1.9835 = 10.89 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 5.25 \text{ AF}$$

2. Volume Calculations for Other Uses:

See attached area calculation for the pond. Using the standard formula of Area x Depth x 0.4. The pond volume is calculated to be 0.204 Acre x 12 feet x 0.4 = 0.96 AF

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Irrigation	04/15	10/15	0.03	5.25
Aesthetic/recreation storage	01/01	12/31	NA	1.0
Diversion to Storage	04/15	10/15	1.45	1.0
Totals:				

2. Recommended Amendments

☐ Change P.D. as reflected on page 1☐ Add P.D. as reflected on page 1☐ None☐ Change P.U. as reflected on page 1☐ Add P.U. as reflected on page 1☒ Other**I. AUTHENTICATION**

Field Examiner's Signature _____ Date _____

SEAL

Reviewer _____ Date _____

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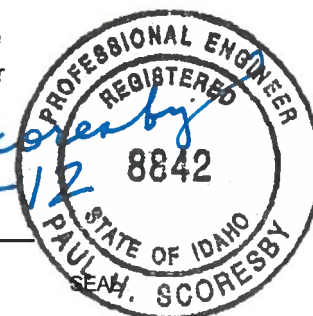
Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
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Aesthetic/recreation storage	01/01	12/31	NA	1.0
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Totals:				

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Field Examiner's Signature _____

Date _____

Reviewer Robert L. FarrisDate 5/11/2012

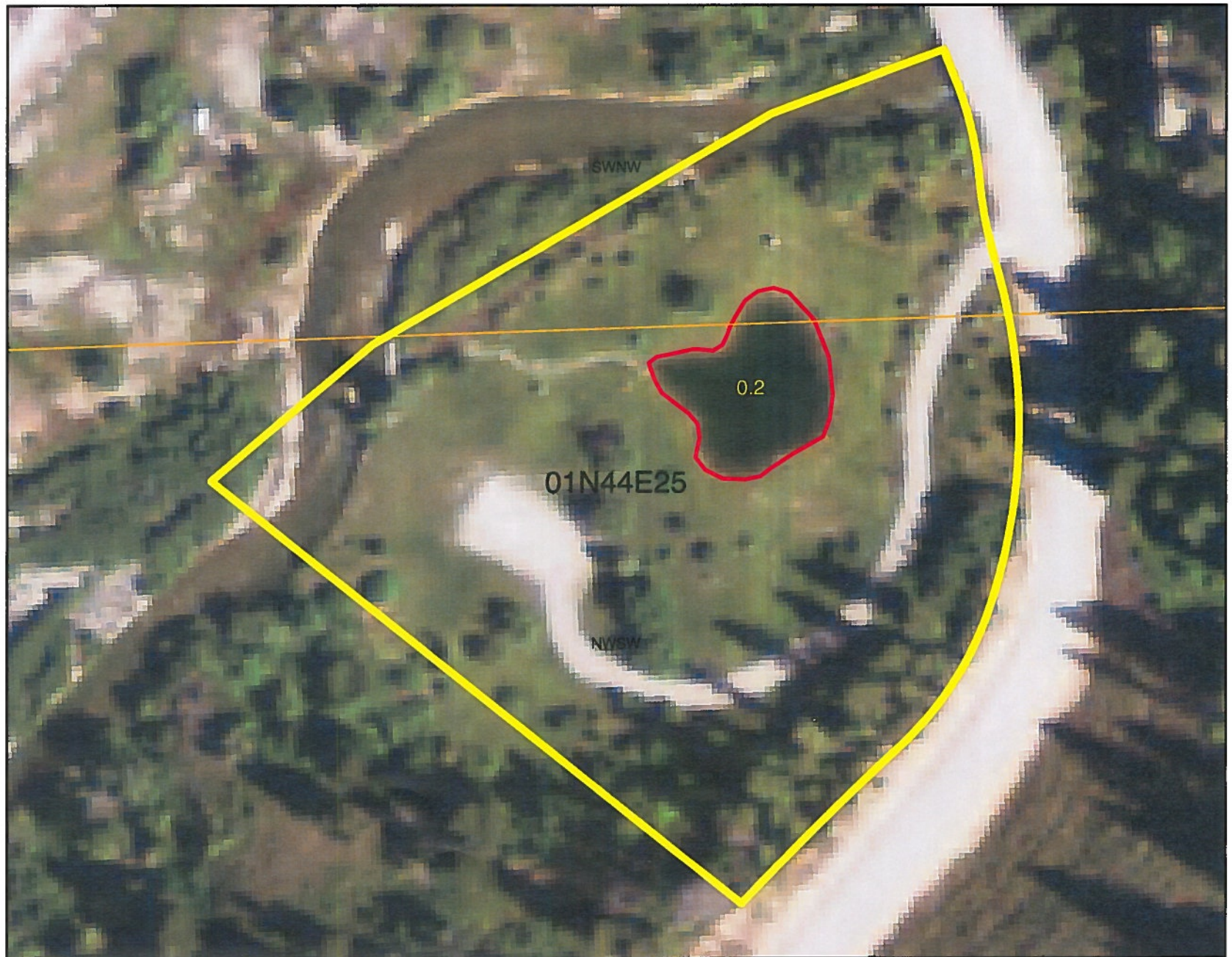
ALEIXO BENEFICIAL USE FIELD EXAM



Legend

- Bonn.Cty.Lot
- Section_Lines
- QQ
- Pond
- Irr._Acres

Prepared by:
Robert L. Harris
May 11, 2012
2011 NAIP Aerial Photo



0 0.015 0.03 0.06 Miles

ALEIXO BENEFICIAL USE FIELD EXAM



Legend

-  Bonn.Cty.Lot
-  Irr._Acres
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0 0.015 0.03 0.06 Miles

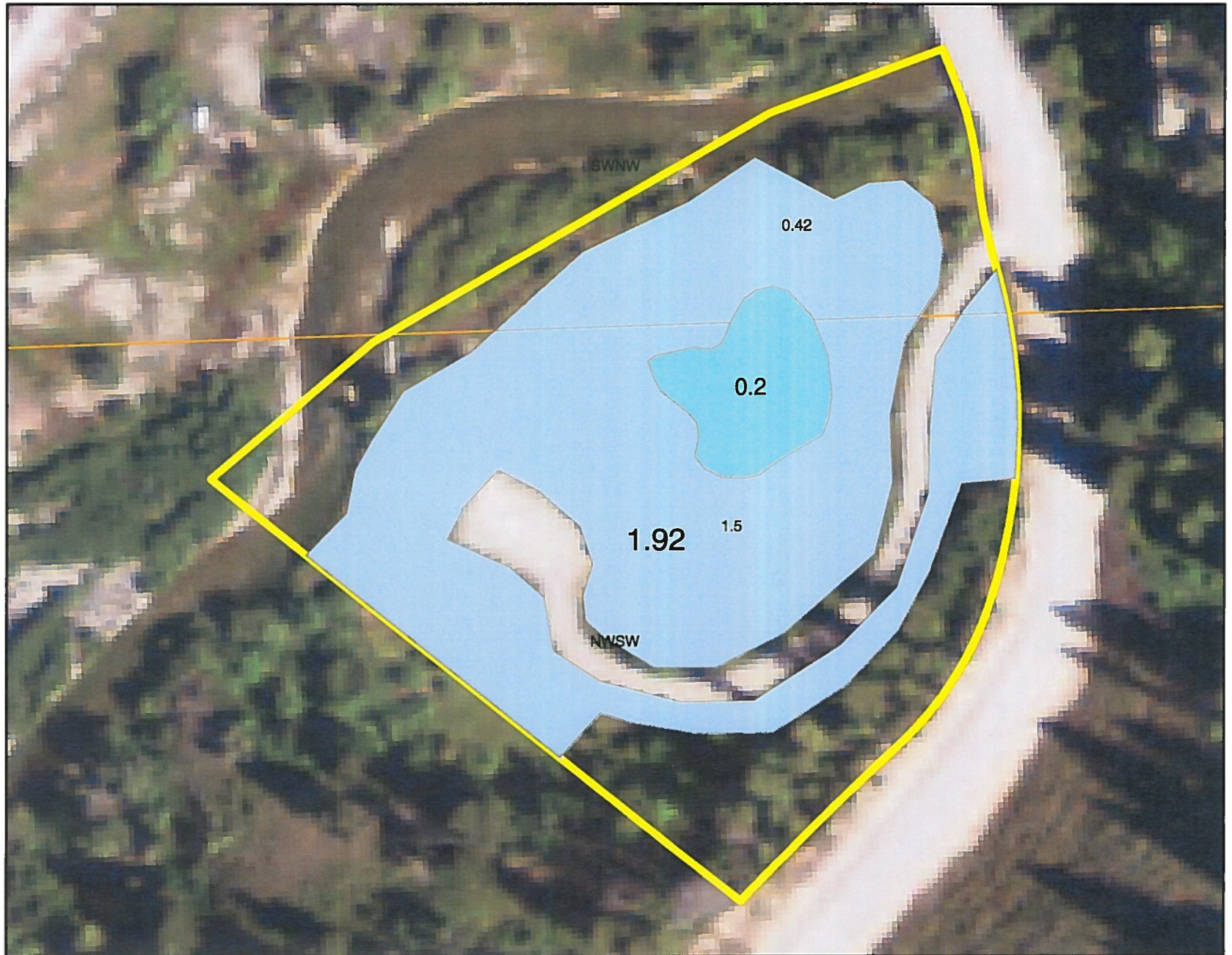
ALEIXO BENEFICIAL USE FIELD EXAM



Legend

- QQAcres
- Bonn.Cty.Lot
- Irr._Acres
- Pond
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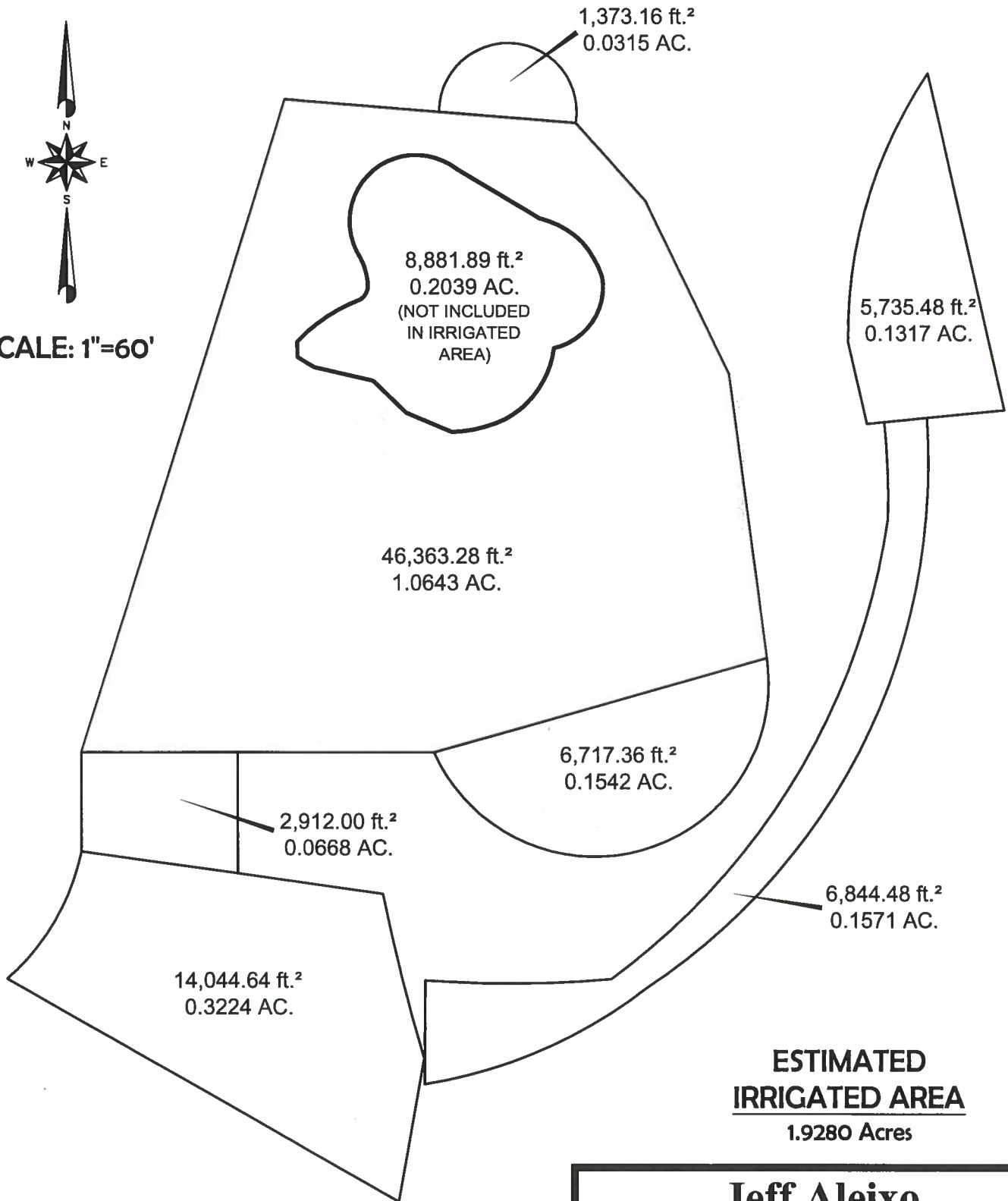
Prepared by:
Robert L. Harris
May 11, 2012
2011 NAIP Aerial Photo



0 0.015 0.03 0.06 Miles



SCALE: 1"=60'

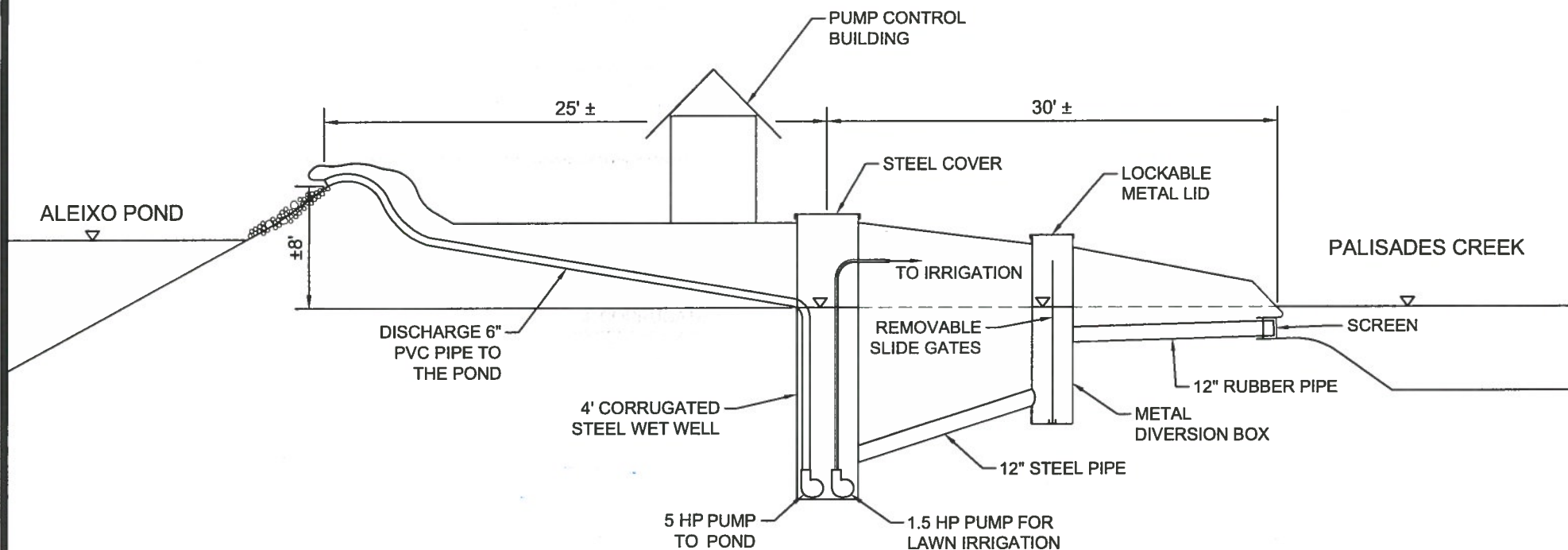


Jeff Aleixo
Irrigated Property at Lot 27
Palisades Creek Ranch Div. No. 1



Schiess & Associates

ENGINEERING • PLANNING • LAND SURVEYING
Idaho Falls 522-1244 Rexburg 356-6092



SCALE: 1"=10'

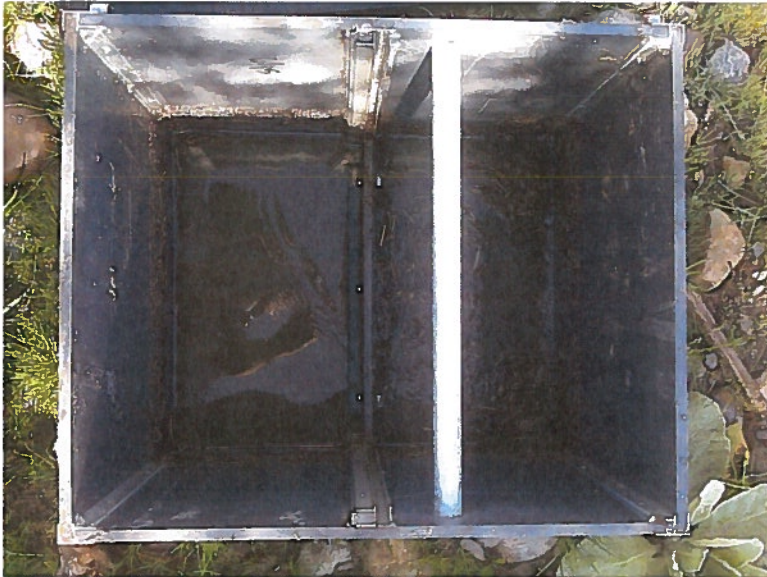
Jeff Aleixo
Diversion Profile at Lot 27
Palisades Creek Ranch Div. No. 1
Schiess & Associates



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Idaho Falls 522-1244

Rexburg 356-6092



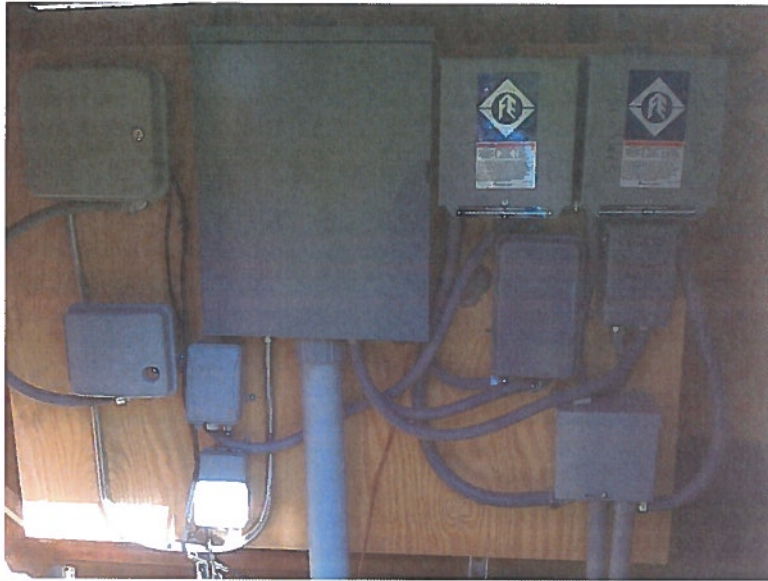
Diversion Box



Pump Wet Well



Pump Control Building



Pump Controls



Pond Inlet



Pond Outlet

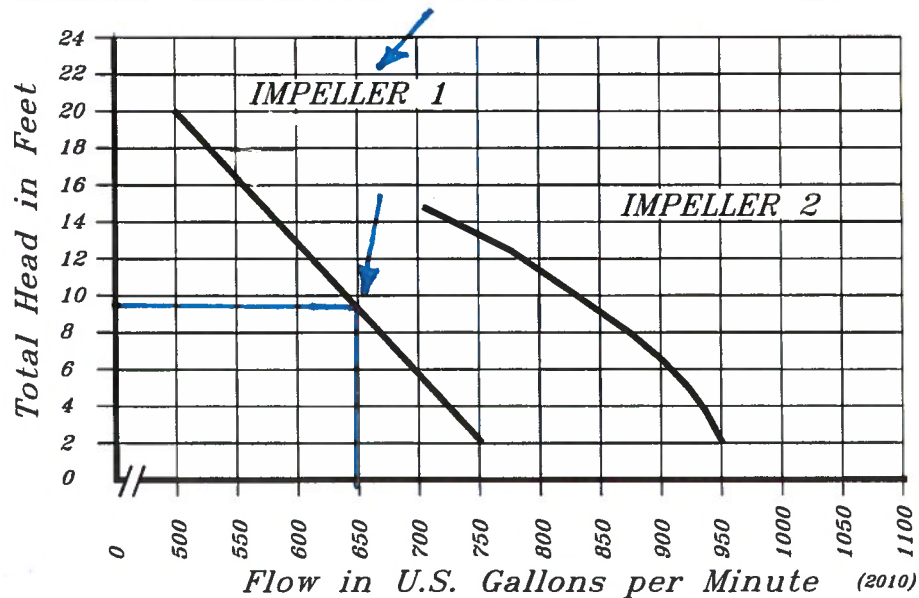
Pond and Surrounding Greenery



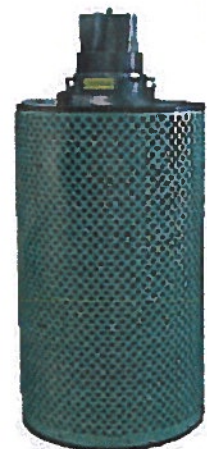
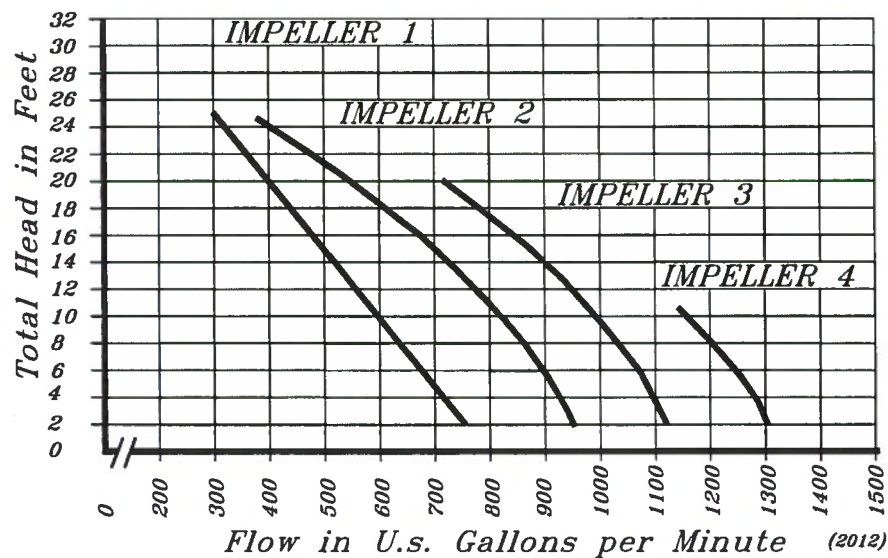
Carry Manufacturing Model #605121-31

INDIVIDUAL PUMP PERFORMANCE DATA

→ 5HP
Performance Curve →



← 7-1/2HP
Performance Curve



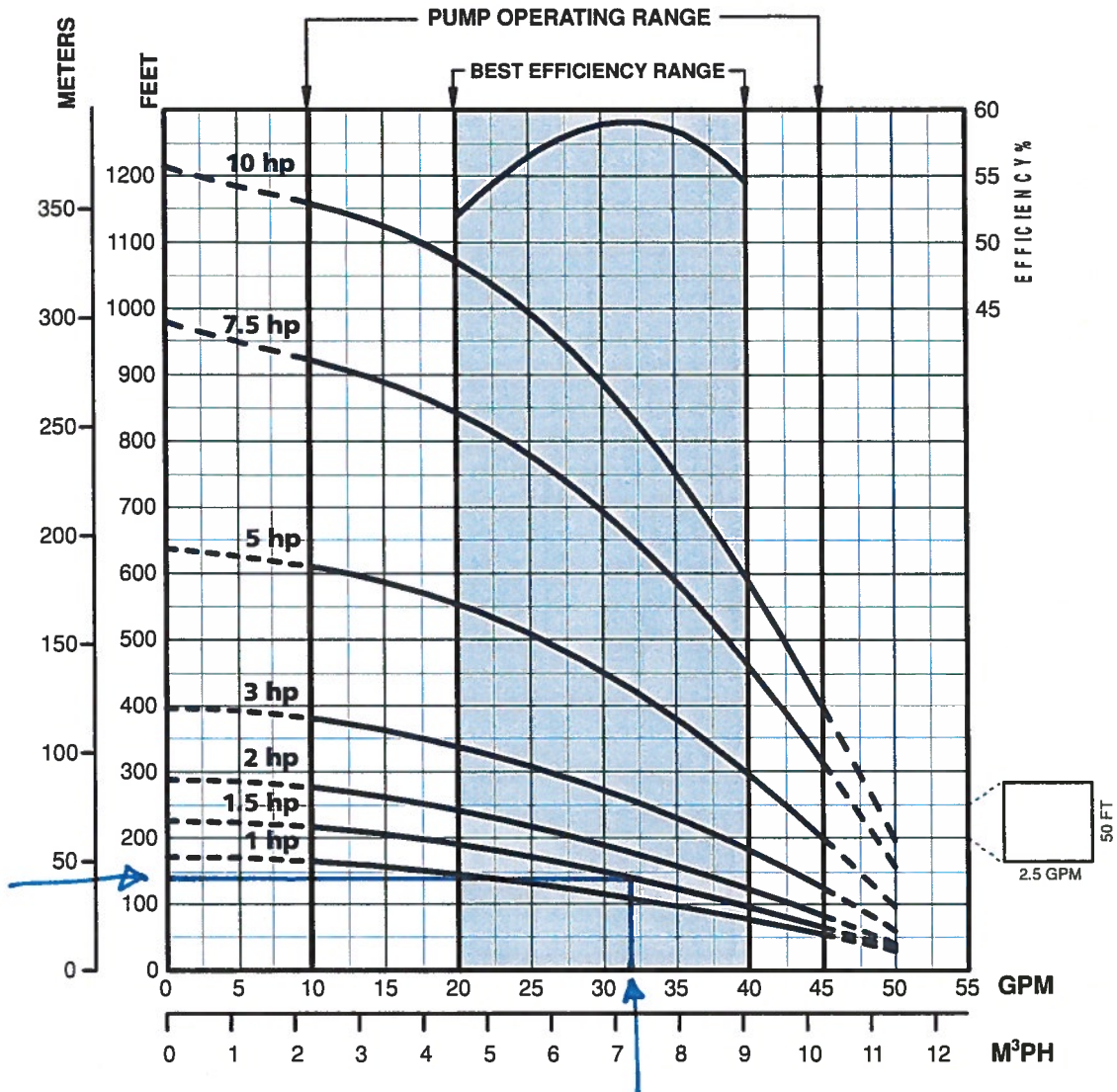
Dimensions:

VOLTAGE:
WEIGHT (pounds):
HEIGHT (inches):
MIN. SUBMERGENCE:
DIA. OF PUMP CASING:
DIA. OF BASE:
DISCHARGE:
PUMP LENGTH:
FULL LOAD AMP DRAW:

5HP				7-1/2HP			
1PH		3PH		1PH		3PH	
VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.
230	230	200, 230, 460 or 575	200, 230, 460 or 575	230	230	200, 230, 460 or 575	200, 230, 460 or 575
164	155	148	139	182	172	155	146
34.500	11.625	31.750	11.625	38.000	12.875	34.250	12.875
32.250	30.000	29.500	30.000	35.750	30.000	32.000	30.000
9.000	9.250	9.000	9.250	9.000	9.250	9.000	9.250
14.500	N/A	14.500	N/A	14.500	N/A	14.500	N/A
6" NPT	6" NPT	6" NPT	6" NPT	6" NPT	6" NPT	6" NPT	6" NPT
N/A	25.625	N/A	23.125	N/A	28.125	N/A	24.375
23.0	23.0	17.5, 15.0, 7.5, 6.0	17.5, 15.0, 7.5, 6.0	36.5	36.5	25.1, 21.8, 10.9, 8.7	25.1, 21.8, 10.9, 8.7

Submersible Pumps

4" High Capacity Pumps 35 GPM Performance Curves



Capacities in U.S. Gallons per Minute

HP	PSI	Depth to Pumping Water Level, or Lift, in Feet. Shaded Areas Indicate Most Efficient Performance																		
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	
1	0			44	40	34	28	22	13											Shut-off 171 ft
	10		43	39	33	27	21	11												
	20	43	38	32	26	20														
	30	37	31	26	19															
	40	30	25	18																
	50	24	16																	
	60	14																		
	70																			
	80																			
Shut-off PSI		65	57	48	39	31	22	13	5											

Submersible Pumps

4" High Capacity Pumps

Ordering Information (See pgs. 2-3 for model number explanation)

1 - 10 HP 4" Pump Ends						
GPM	HP	Stages	Ordering Info.		Dimensions	Wt.
			Model No.	Order No.	Pump End Only	
35	1	6	35FA1S4-PE	93613506	15.00	9
	1.5	8	35FA15S4-PE	93613508	17.50	10
	2	10	35FA2S4-PE	93613510	20.00	11
	3	14	35FA3S4-PE	93613514	25.00	13
	5	22	35FA5S4-PE	93613522	35.00	17
	7.5	34	35FA7S4-PE	93613534	52.17	25
	10	42	35FA10S4-PE	93613542	62.23	31
45	1.5	6	45FA15S4-PE	93614506	21.00	15
	2	8	45FA2S4-PE	93614508	25.50	16
	3	11	45FA3S4-PE	93614511	32.25	19
	5	18	45FA5S4-PE	93614518	47.75	25
	7.5	26	45FA7S4-PE	93614526	65.25	33
	10	31	45FA10S4-PE	93614531	78.30	38
60	2	6	60FA2S4-PE	93616006	21.00	15
	3	8	60FA3S4-PE	93616008	25.50	17
	5	13	60FA5S4-PE	93616013	36.75	21
	7.5	17	60FA7S4-PE	93616017	45.25	25
	10	24	60FA10S4-PE	93616024	61.00	31
90	2	5	90FA2S4-PE	93619005	22.56	15
	3	7	90FA3S4-PE	93619007	28.56	17
	5	12	90FA5S4-PE	93619012	43.56	21
	7.5	19	90FA7S4-PE	93619019	64.50	27

Notes: All dimensions are in inches. Discharge is 2" NPT. Maximum diameter across cable guard is 3.90" on all models. Weight in pounds.

1 - 1.5 HP Single-Phase Units									
GPM	HP	Stages	Volts	2-Wire			3-Wire		
				Model No.	Order No.	Wt.	Model No.	Order No.	Wt.
35	1	6	230	35FA1S4-2W230	93613606	33	35FA1S4-3W230	93613706	33
	1.5	8	230	35FA15S4-2W230	93613608	41	35FA15S4-3W230	93613708	39
45	1.5	6	230	45FA15S4-2W230	93614606	46	45FA15S4-3W230	93614706	44

Notes: All listed above have 2" NPT discharge. Order check valve separately.
Pump and motor will be individually cartoned and require assembly.
Weight in pounds.

DETERMINING RESERVOIR CAPACITY

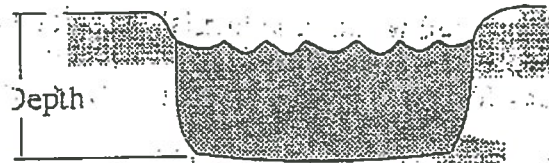
A. V shaped reservoirs, lakes, and ponds.

$$\text{Capacity} = \text{Surface Area} \times \text{Maximum Depth} \times 0.4$$

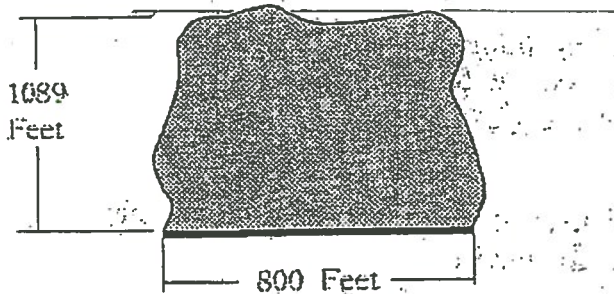


B. Flat Bottom reservoirs, lakes, and ponds.

$$\text{Capacity} = \text{Surface Area} \times \text{Maximum Depth}$$



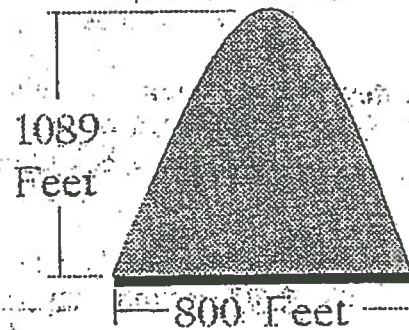
EXAMPLES:



1. Smith Creek Pond is 800' wide, 1089' long and 9' deep.

$$\begin{aligned} \text{Surface Area} &= \frac{300' \times 1089'}{43,560} \\ &= 20 \text{ acres} \end{aligned}$$

$$\begin{aligned} \text{Capacity} &= 20 \text{ acres} \times 9 \text{ feet} \\ &= 180 \text{ acre feet} \end{aligned}$$



1. Trout Creek Reservoir is 800' wide, 1089' long and 9' deep.

$$\begin{aligned} \text{Surface Area} &= \frac{1/2(800') \times 1089'}{43,560} \\ &= 10 \text{ acres} \end{aligned}$$

$$\begin{aligned} \text{Capacity} &= 10 \text{ acres} \times 9 \times 0.4 \text{ feet} \\ &= 36 \text{ acre feet} \end{aligned}$$

LOT 21

POD/INLET

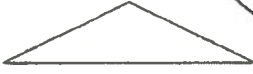
SANDPOINT

PALISADES CREEK 190'

OUTLET

POND

JEFF ALEIXO
LOT 27
3.489 acres


NORTH
SCALE: 1"=100'

CUTTHROAT
RUN