

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-10992

Exam Date: 6/1/2016

1. Current Owner:
UPPER COLUMBIA CORP OF SEVENTH DAY ADVENTISTS PO BOX 19039 SPOKANE WA 99219-9039
(208)772-3484

2. Accompanied by: Bruce Christensen
Phone No: 208-772-3484
Address: 17415 E Hayden Lake Rd. Hayden Lake ID 83835
Relationship to Permit Holder: Camp Director

3. SOURCE: HAYDEN LAKE TRIBUTARY: SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 95-9488, 95-651
2. Other water rights with the same point-of-diversion: None

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

HAYDEN LAKE L4 (SE¼NW¼) Sec. 11, Twp 51N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS and maps. POD location at 47° 46.852, 116° 40.390

2.

PLACE OF USE: FIRE PROTECTION STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	03W	11														X			

PLACE OF USE: FIRE PROTECTION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	03W	11								X L 4		X L 6				X			

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	03W	11								0.6 L 4		1.0 L 6				2.4	0.8		4.8

Total Acres: 4.8

PLACE OF USE: IRRIGATION STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	03W	11														X			

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	03W	11								0.6 L 4	1.0 L 6					2.4	0.8		4.8

Total Acres: 4.8

DIVERSION TO STORAGE same as IRRIGATION

Method of Determination: GPS and maps.

3.

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
	FRANKLIN	5			

*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

2. Measurements:

E. FLOW CALCULATIONS

Measured Method: APPLICANT SAID ENGINEERS MADE THE _____ Additional Computation Sheets Attached
 SYSTEM TO RUN WITH 5 HP PUMP AT AROUND 70 PSI WITH 200 FEET OF HEAD TO DIVERT BETWEEN 53 AND 55 GPM. LICENSE WILL BE ISSUED FOR 0.12 CFS FOR DIVERSION RATE.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 4.8 \text{ AC} \times 3 \text{ AF} = 14.4 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.12 \times 246 \times 1.9835 = 58.6 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 14.4 \text{ AF}$$

2. Volume Calculations for Other Uses: SEE ATTACHED POND ANALYSIS SHEETS

G. NARRATIVE/REMARKS/COMMENTS

FIELD EXAM SHOWED 5 HP PUMP FROM LAKE UP HILL TO POND. SYSTEM COULD BE SWITCHED TO SUPPLY IRRIGATION AS WELL. APPLICANT SAID SYSTEM RAN AROUND 53 TO 55 GPM WITH ABOUT 70 PSI AND AROUND 200 FEET OF HEAD. POND SIZE WAS 0.6 ACRES AND AVERAGE DEPTH WAS 8 FEET. APPLICANT WOULD PUMP TO POND AND COULD THEN PUMP OR GRAVITY FEED FROM POND TO IRRIGATION LINES AND TO FIRE HYDRANTS. UPON REVIEW IN OFFICE IT WAS DETERMINED THAT THERE WAS ONLY 4.8 ACRES OF IRRIGATION OCCURRING BASED UPON WHERE BRUCE CHRISTENSEN IDENTIFIED IRRIGATION WAS OCCURRING.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DIVERSION TO STORAGE	01/01 to 12/31	0.12 CFS	
FIRE PROTECTION	01/01 to 12/31	0.12 CFS	
FIRE PROTECTION STORAGE	01/01 to 12/31		7.2 AF
IRRIGATION	03/15 to 11/15	0.12 CFS	14.4 AF
IRRIGATION STORAGE	01/01 to 12/31		21.6 AF
IRRIGATION FROM STORAGE	03/15 to 11/15		14.4 AF
<u>Totals:</u>		0.120 CFS	21.60 AF

2. Recommended Amendments

Change P.D. as reflected above Add P.D. as reflected above X None

Change P.U. as reflected above X Add P.U. as reflected above None

I. AUTHENTICATION

Field Examiner's Name Adam Fendrich Date 7-20-2016

Reviewer Morgan Case Date 7/20/2016

Total Storage Calculations (Pond Size)

FILE NUMBER	95-10992
REVIEWER	Adam Frederick
DATE	6/3/2016

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.)	0.6	"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)	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. <i>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.</i>
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). <i>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</i>
Estimated Seepage Loss (AF)	1.5	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.9	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	7.2	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 (Pond Size + Irrigation Storage)

FILE NUMBER	95-10992
REVIEWER	Adam Frederick
DATE	6/3/2016

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User Input
Calculated value
Formula Explanations

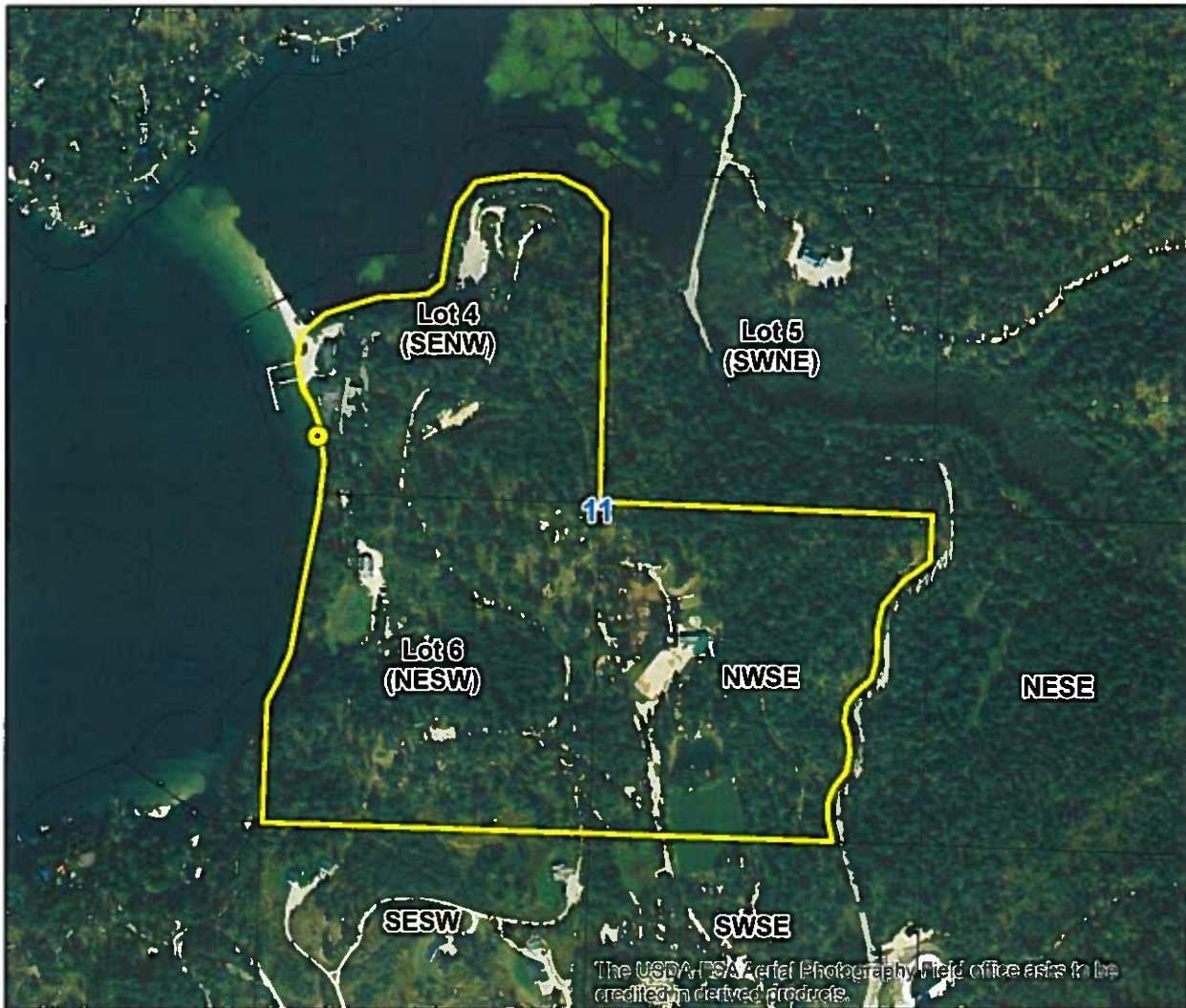
Surface Area (AC.)	0.6	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	8	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook 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.
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Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	14.4	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 " <u>From Storage</u> " component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	1.5	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.9	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	21.6	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.

State of Idaho
Department of Water Resources
Water Right License
95-10992

FIRE PROTECTION

03W

51N



Point of Diversion



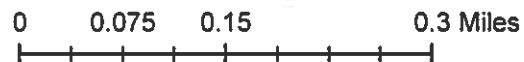
Place Of Use Boundary



Townships

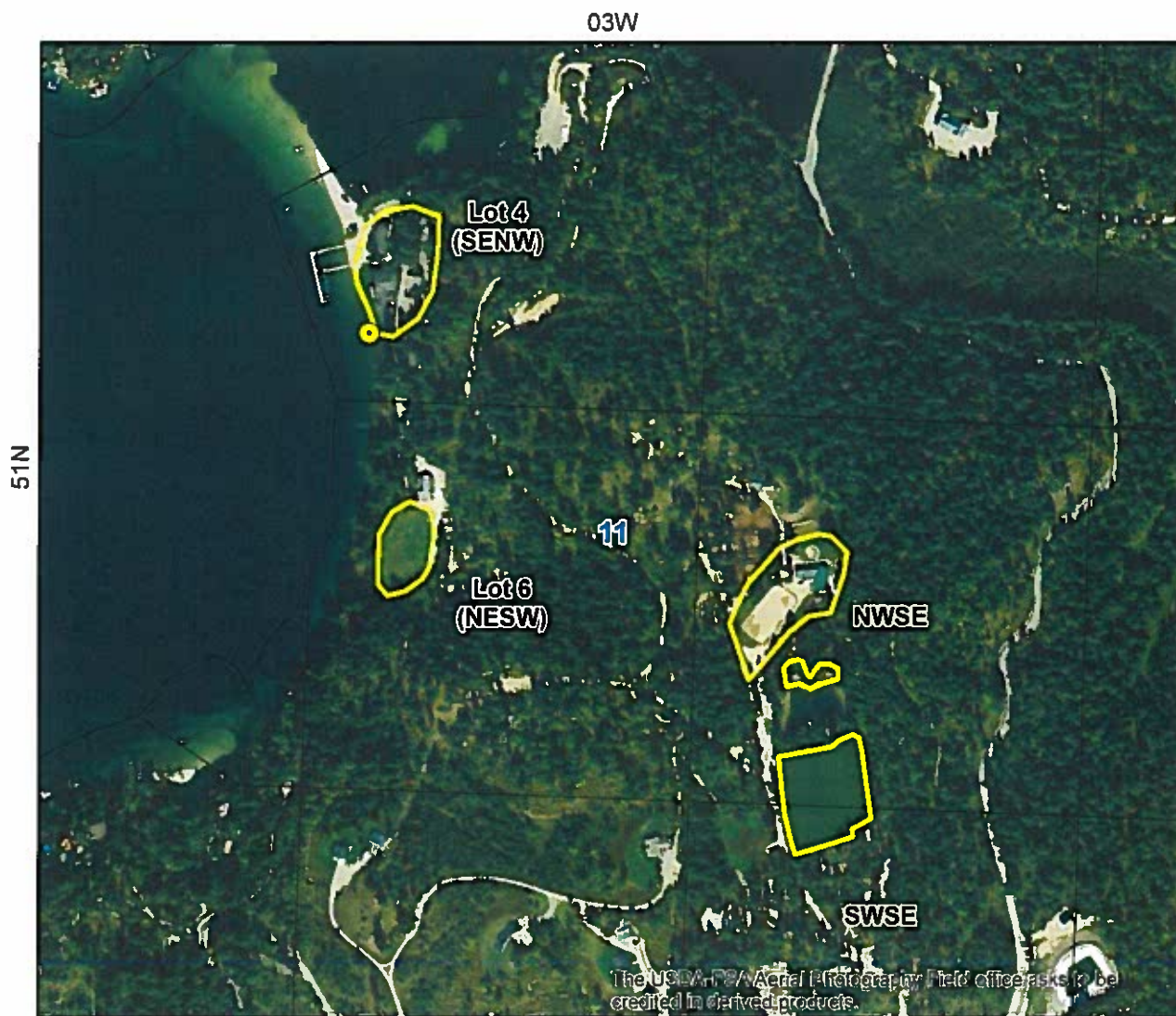


PLS Sections



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95-10992

IRRIGATION FROM STORAGE and IRRIGATION



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

0 0.075 0.15 0.3 Miles

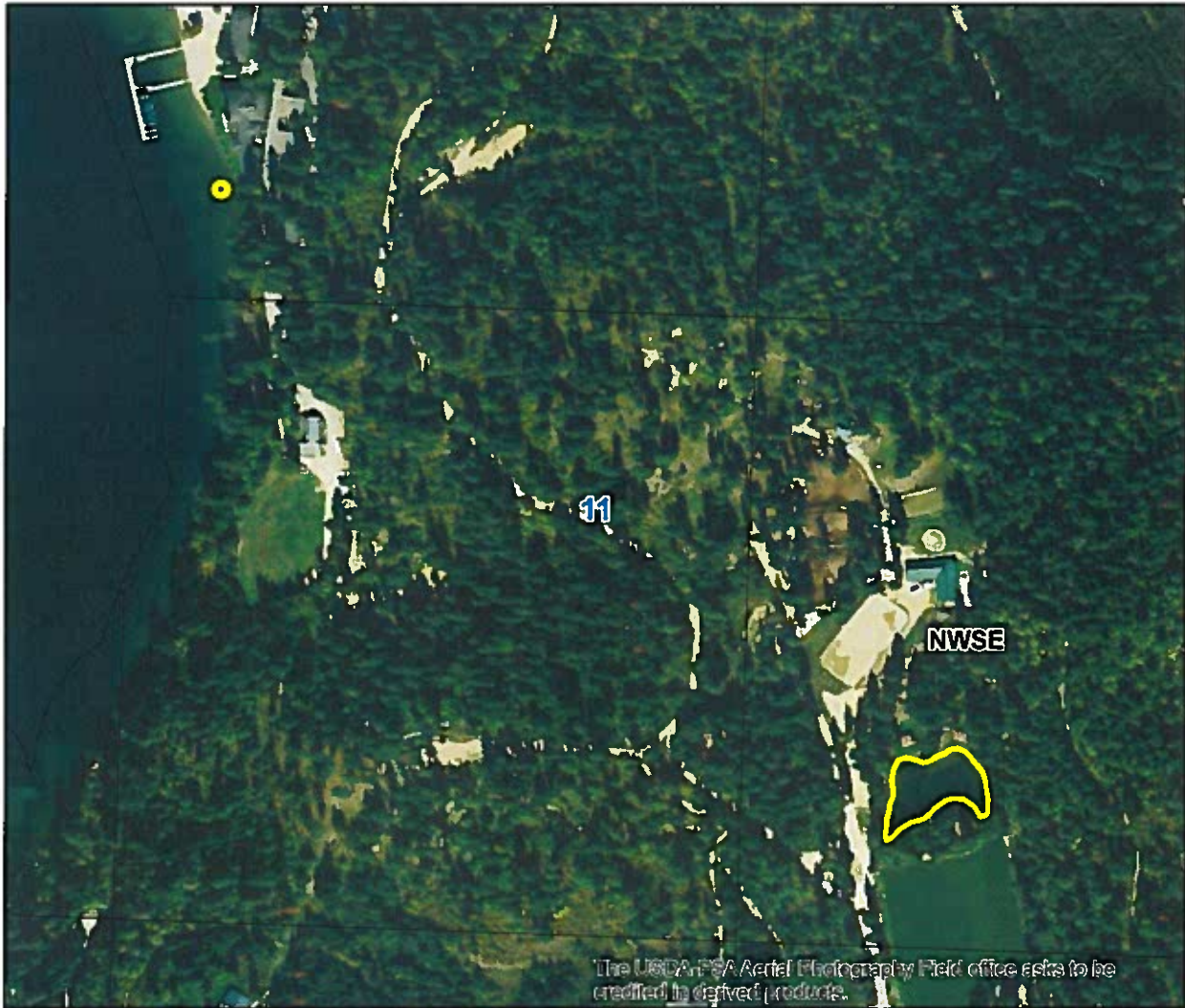


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FIRE PROTECTION STORAGE and IRRIGATION STORAGE

03W

51N



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

0 0.05 0.1 0.2 Miles





06/01/2016

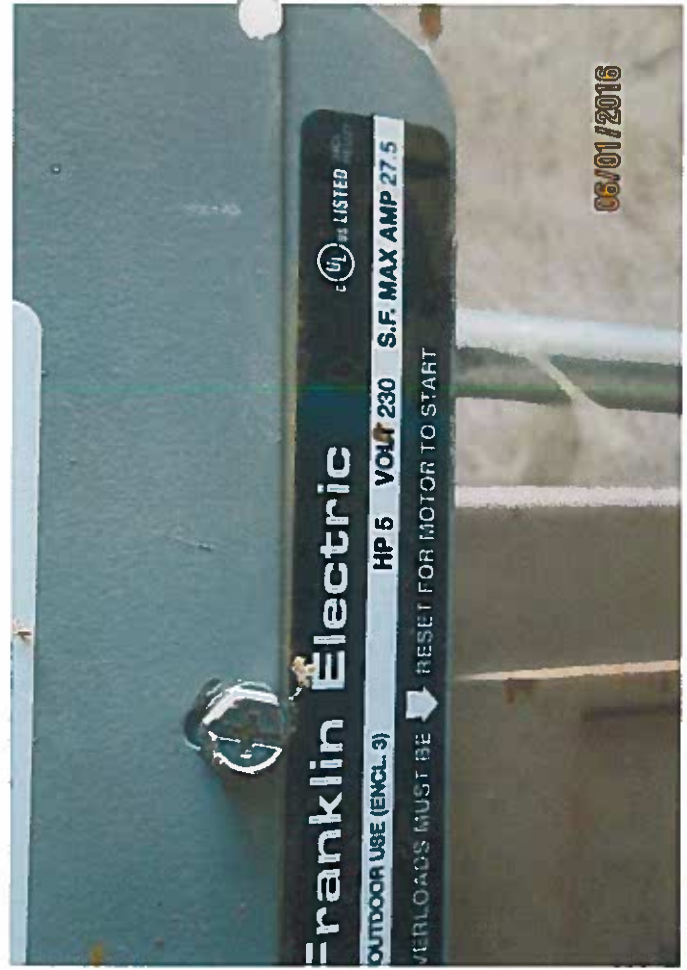
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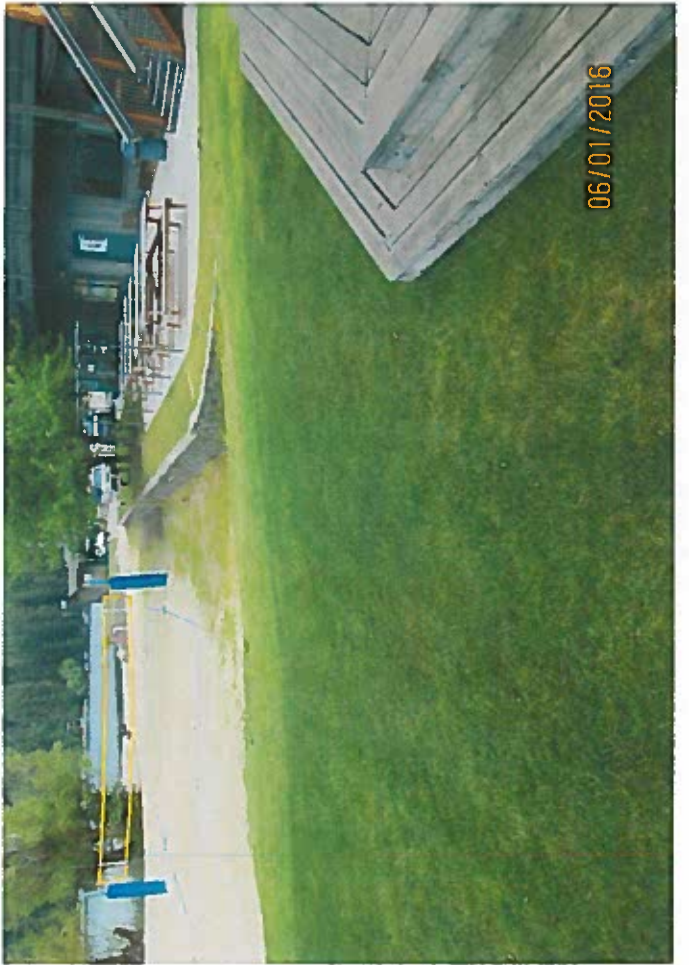
Franklin Electric



HP 5 VOLT 230 S.F. MAX AMP 27.5

OUTDOOR USE (ENCL. 3)

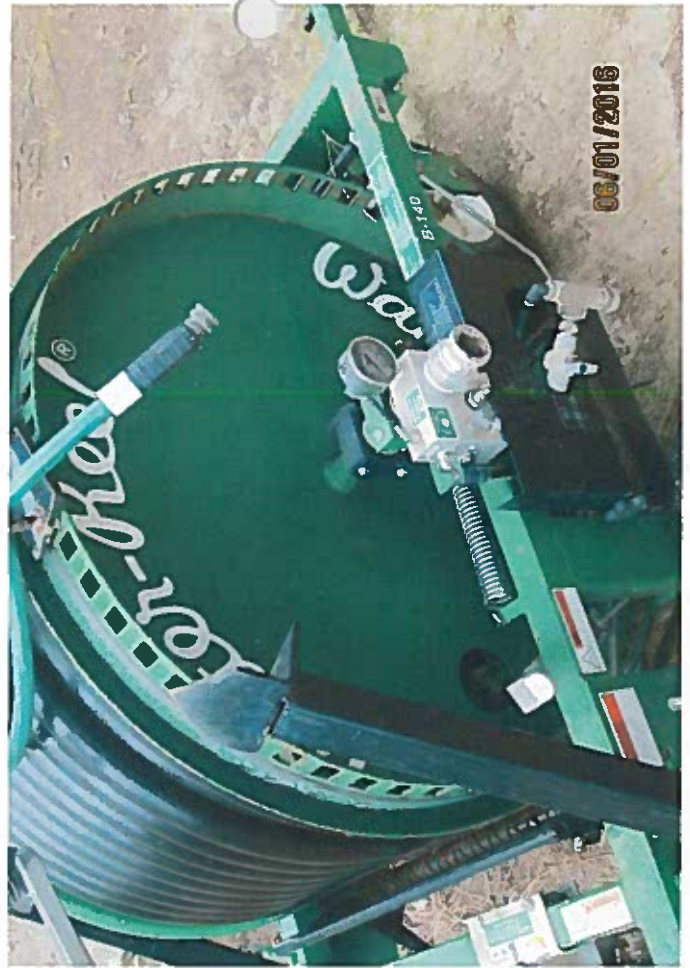
OVERLOADS MUST BE RESET FOR MOTOR TO START



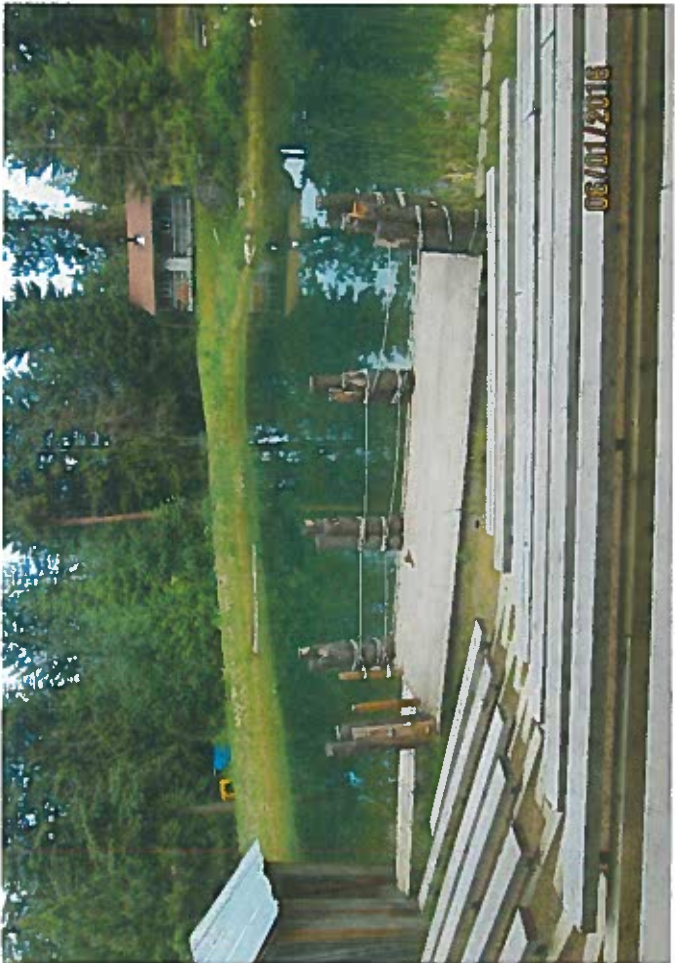
9.5.17992



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06/01/2016

MODEL B

140 X 350

Irrigated Width Wt.
Wetted Diameter

WIDTH

LENGTH

PSI

GPM

DIA

Hours for Full R

140

350

140

350

Nozzle
size

SPRINKLER

PSI

GPM

DIA

140

350

140

350

140

350

140

350

MODEL B140 X
350'

NELSON SR75

Area covered may
vary depending on
wind conditions, field
dimensions & use of
different sprinklers.
Specifications are
subject to change
without notice.

95-1099J



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