

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 91-07470

Exam Date: 6/15/2017

1. Current Owner:
CLIFFORD C BECK 756 COTTENWOOD DR SAINT MARIES ID 83861 (208) 582-0362
2. Accompanied by: Clifford Beck

3. **SOURCE:**
ST JOE RIVER

TRIBUTARY:
COEUR D ALENE LAKE

B. OVERLAP REVIEW

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

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

ST JOE RIVER L6 (NE¼SE¼) Sec. 17, Twp 46N, Rge 02W, B.M. BENEWAH County

Method of Determination: Maps and GPS. POD located at -116° 36.545, 47° 19.790

2.

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
46N	02W	17													X L 6				

Method of Determination: Google Earth and Arcmap.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X

Indicate weir size/pipe as applicable.

X

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

X

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

X

Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	UNKNOWN				

*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: N/A

E. FLOW CALCULATIONSX

Additional Computation Sheets Attached

Measured Method: Unable to perform flow measurement. See attached showing nozzle performance for Nelson 6005 series sprinkler head.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses: Domestic external use only up to ½ acre of irrigation = 1.2 AF

Applicant had applied for both components of a domestic use = 0.6 AF for in home use and 0.6 AF for irrigation up to ½ acre

Because applicant had applied with the intention of using 1.2 AF we will issue license for 1.2 AF of external use.

G. NARRATIVE/REMARKS/COMMENTS

Field exam with applicant, Clifford Beck, showed a submersible pump of unknown size. Mr. Beck explained that the water was only used for irrigation around the back and side of his house and not hooked up to the home. He said he ran Nelson irrigation nozzles 6005 and that he ran 5 sprinklers per zone. He said he thought the irrigation system was set up to provide 35 psi. Because there was no proper way to perform a flow measurement, a Nelson nozzle performance chart is attached for flow rate. The flow rate for Mr. Beck's nozzles was equal to 1.6gpm at 35 psi per nozzle (1.6gpm x 5 heads = 8gpm). Because permit was issued for domestic use with up to ½ acre of irrigation, license will be issued for domestic external use only.

It was discussed as to whether this permit should be limited to the irrigation season of use or given year round use. It was decided that we could limit this domestic use to the irrigation season because that was what was developed. The season of use will be changed to show 3/15 to 10/31. The discussion then shifted to annual volume for the domestic use. Domestic in home use is given 0.6 acre-feet and irrigation up to ½ acre is given 0.6 acre-feet for a total of 1.2 acre. It was discussed whether we should give them 0.6 acre-feet for the irrigation component or if we should give 1.2 acre-feet since they applied for domestic use for a home with up to ½ acre of irrigation. It was decided that the license should be for 1.2 acre-feet for external use only.

Mr. Beck explained that house water and irrigation of front yard and driveway was provided by Cottonwood Point Water & Sewer Assn (91-7080). License does not need to include overlap condition with a municipal provider. License will be issued for a diversion rate of 0.02cfs with an annual volume of 1.2 acre-feet. Condition 239 was added to license to limit domestic to external use only. Condition WB9 was replaced with 227 to identify minimum stream flow and show a gaging station to determine flow of the river.

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>
DOMESTIC	03/15 to 10/31	0.02 CFS	1.2 AF
	<u>Totals:</u>	0.020 CFS	1.20 AF

2. Recommended Amendments

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

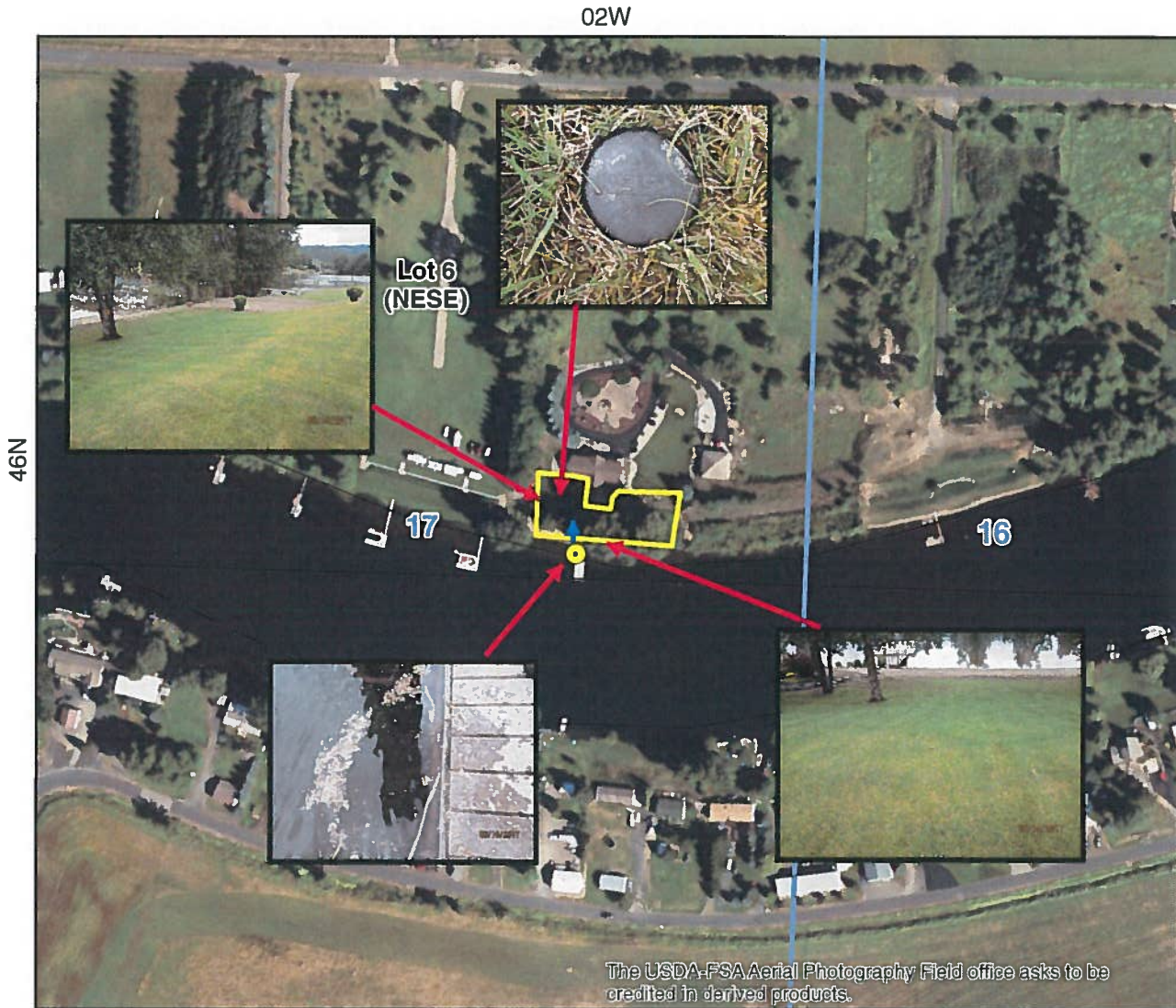
 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

Field Examiner's Name Adrian Finkel Date 2/5/2018
 Reviewer Douglas Jones P.E. Date 2/28/18

State of Idaho
Department of Water Resources
Attachment to Field Exam
91-7470

DOMESTIC / SYSTEM DIAGRAM



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

0 0.035 0.07 0.14 Miles



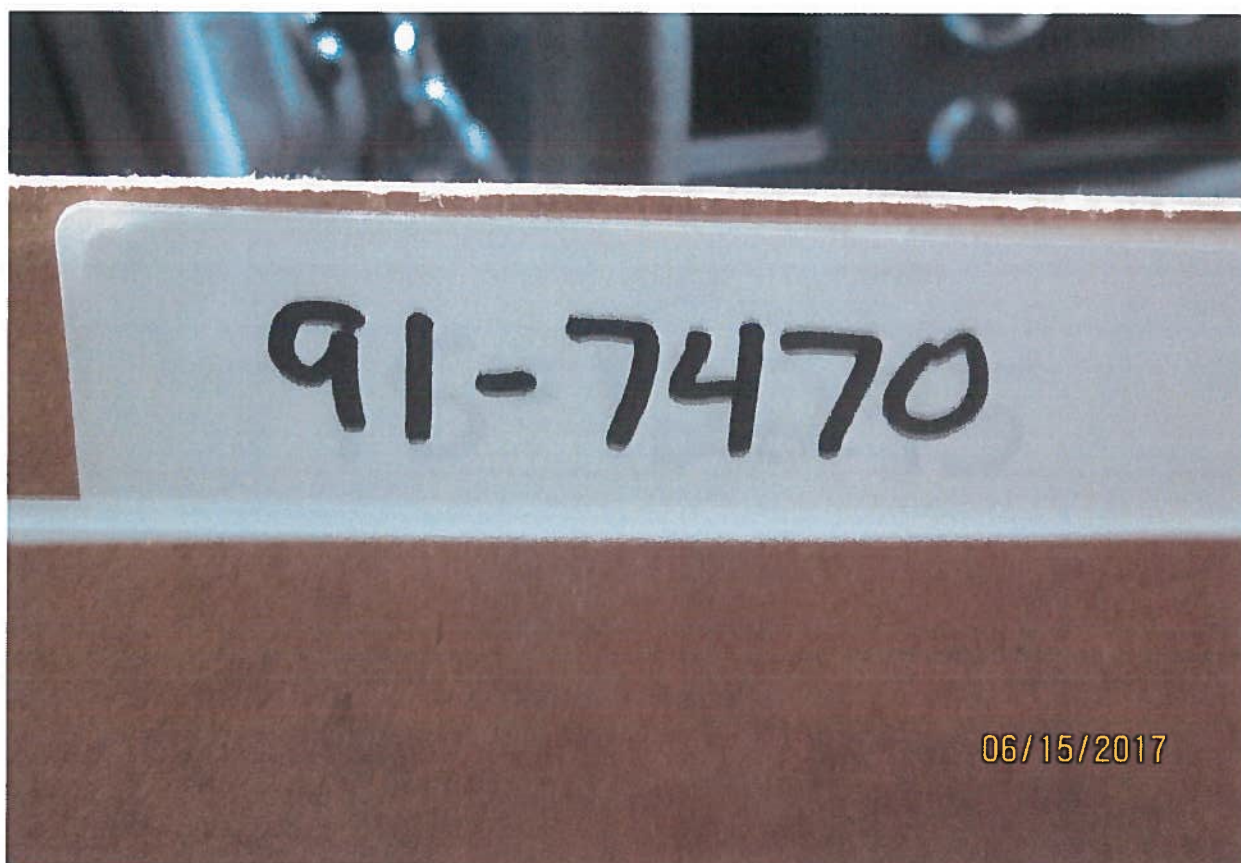


PRO 5500 SERIES ACU-COVER NOZZLE PERFORMANCE

Pressure • Pression • Pressão		Max Radius • Rayon maximum • Radio máximo • Gittata max. • Raio de alcance máximo		Min Radius • Rayon minimum • Radio mínimo • Gittata min. • Raio de alcance mínimo		Discharge • Débit • Descarga • Portata • Débito		Precipitation rate ¹ • Pluviométrie ¹ • Tasso di precipitazione ¹ • Tasa de precipitación ¹ • Taxa de precipitação ¹		Nozzle Number • Numéro de la buse • Número de surtidor • Numero ugelli • Número de bico		Pressure • Pression • Pressão		Max Radius • Rayon maximum • Radio máximo • Gittata max. • Raio de alcance máximo		Min Radius • Rayon minimum • Radio mínimo • Gittata min. • Raio de alcance mínimo		Discharge • Débit • Descarga • Portata • Débito		Precipitation rate ¹ • Pluviométrie ¹ • Tasso di precipitazione ¹ • Tasa de precipitación ¹ • Taxa de precipitação ¹	
PSI	FT	FT	GPM	IN/HR■	IN/HR▲							BAR	kPa	m	m	L/min	m ³ /hr	mm/hr■	mm/hr▲		
20	18	14	0.5	0.30	0.37	51						1.4	138	5.5	4.1	1.9	0.11	7.5	9.4		
35	20	15	0.7	0.34	0.42							2.5	242	6.1	4.6	2.6	0.16	8.6	10.7		
50	21	16	0.8	0.35	0.44							3.5	345	6.4	4.8	3.0	0.18	8.9	11.1		
20	20	15	0.8	0.39	0.48	52						1.4	138	6.1	4.6	3.0	0.18	9.8	12.2		
35	24	18	1.2	0.40	0.50							2.5	242	7.3	5.5	4.5	0.27	10.2	12.7		
50	25	19	1.3	0.40	0.50							3.5	345	7.6	5.7	4.9	0.30	10.2	12.7		
20	22	17	1.1	0.44	0.55	53						1.4	138	6.7	5.0	4.2	0.25	11.1	13.9		
35	27	20	1.6	0.42	0.53							2.5	242	8.2	6.2	6.1	0.36	10.7	13.4		
50	28	21	1.8	0.44	0.55							3.5	345	8.5	6.4	6.8	0.41	11.2	14.0		
20	23	17	1.6	0.58	0.73	54						1.4	138	7.0	5.3	6.1	0.36	14.8	18.5		
35	31	23	2.2	0.44	0.55							2.5	242	9.5	7.1	8.3	0.50	11.2	14.0		
50	32	24	2.5	0.47	0.59							3.5	345	9.8	7.3	9.5	0.57	11.9	14.9		

PRO 6000 SERIES ACU-COVER NOZZLE PERFORMANCE

PSI	FT	FT	GPM	IN/HR■	IN/HR▲		BAR	kPa	m	m	L/min	m ³ /hr	mm/hr■	mm/hr▲
20	30	23	1.0	0.21	0.27	4	1.4	138	9.2	6.9	3.8	0.23	5.4	6.8
35	31	23	1.4	0.28	0.35		2.5	242	9.5	7.1	5.3	0.32	7.1	8.9
50	34	26	1.7	0.28	0.35		3.5	345	10.4	7.8	6.4	0.39	7.2	9.0
20	33	25	1.2	0.21	0.26	5	1.4	138	10.1	7.5	4.5	0.27	5.4	6.7
35	37	28	1.6	0.23	0.28		2.5	242	11.3	8.5	6.1	0.36	5.7	7.1
50	38	29	1.9	0.25	0.32		3.5	345	11.6	8.7	7.2	0.43	6.4	8.0
20	32	24	1.4	0.26	0.33	6	1.4	138	9.8	7.3	5.3	0.32	6.7	8.3
35	38	29	1.9	0.25	0.32		2.5	242	11.6	8.7	7.2	0.43	6.4	8.0
50	40	30	2.3	0.28	0.35		3.5	345	12.2	9.2	8.7	0.52	7.0	8.8
20	38	29	2.2	0.29	0.37	7	1.4	138	11.6	8.7	8.3	0.50	7.5	9.3
35	40	30	2.7	0.33	0.41		2.5	242	12.2	9.2	10.2	0.61	8.3	10.3
50	41	31	3.1	0.36	0.44		3.5	345	12.5	9.4	11.7	0.70	9.0	11.3
35	38	29	3.1	0.41	0.52	8	2.5	242	11.6	8.7	11.7	0.70	10.5	13.1
50	42	32	4.0	0.44	0.54		3.5	345	12.8	9.6	15.1	0.91	11.1	13.8
65	43	32	4.6	0.48	0.60		4.6	449	13.1	9.8	17.4	1.04	12.2	15.2
35	42	32	4.2	0.46	0.57	9	2.5	242	12.8	9.6	15.9	0.95	11.6	14.5
50	47	35	5.4	0.47	0.59		3.5	345	14.3	10.8	20.4	1.23	12.0	14.9
65	48	36	6.3	0.53	0.66		4.6	449	14.6	11.0	23.8	1.43	13.4	16.7
35	42	32	5.4	0.59	0.74	10	2.5	242	12.8	9.6	20.4	1.23	15.0	18.7
50	48	36	6.8	0.57	0.71		3.5	345	14.6	11.0	25.7	1.54	14.4	18.0
65	49	37	8.0	0.64	0.80		4.6	449	14.9	11.2	30.3	1.82	16.3	20.3
35	42	32	6.4	0.70	0.87	11	2.5	242	12.8	9.6	24.2	1.45	17.7	22.1
50	48	36	8.1	0.68	0.84		3.5	345	14.6	11.0	30.7	1.84	17.2	21.4
65	51	38	9.5	0.70	0.88		4.6	449	15.6	11.7	36.0	2.16	17.9	22.3



Submersible pump of unknown size.



View of house from street. Most irrigation and domestic uses provided by Cottonwood Point Water & Sewer Assn (91-7080).





POU on backside of home to the river.





Applicant said he ran 5 sprinklers per set and thought the psi was around 35 when it was installed. Nelson irrigation nozzle performance shows it is capable of 1.6 gpm per head.