

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9268
Exam Date: 08/11/2016

1. Current Owner:
CITY OF SANDPOINT 1123 LAKE ST SANDPOINT ID 83864-1714
2. Accompanied by: Austin Hull
Phone No: 208-263-3674
Address: Same as above
Relationship to permit Holder: Parks Supervisor

3. **SOURCE:** CHUCK SLOUGH **Tributary**
PEND OREILLE RIVER

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
96-7312	SYRINGA CREEK	IRRIGATION	LICENSE

Comments: WR 96-9713 is used for irrigation purposes by Russel Yerkes, from Syringa Creek, but is associated with this water right, and not a concern from overlap.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
CHUCK SLOUGH NE¼ SW¼, Sec. 21, Twp 57N, Rge 02W, B.M. BONNER County

Method of Determination: GPS; POD is a pump located at -116°34.852, 48°16.397.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	02W	21		7.1	7.9		0.3			10.0									25.3

Right Acre Limit: 25.3
Total Acres: 25.3

Method of Determination: Field exam and arcmap.

- 3.
- Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
 - Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
 - Aerial Photo Attached (required for irrigation of 10+ acres).
 - 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
SUBMERSIBLE PUMP	HITACHI	20			

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform flow measurements, system was buried in ground running from pump to sprinkler system.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: Applicant provided motor size and pump size that is rated at 250 gpm, but provided email correspondence showing their usage from 17 sprinkler heads, each producing 14.3 gpm running at 60 psi equaled:

- 17 sprinkler heads x 14.3 gpm = 243.1 gpm = **0.54 cfs** diversion rate.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 25.3 \text{ AC} \times 3 \text{ AFA} = 75.9 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.54 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 229.2 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 75.9 \text{ AF}$$

2. Volume Calculations for Other Uses:

This is a surface water right, so no volume will be included on the water right license.

G. NARRATIVE/REMARKS/COMMENTS

Field exam with Austin Hull, Parks Supervisor, showed city was irrigating sports complex with water from Chuck Slough. Kim Woodruff, City of Sandpoint's Park and Recs Director confirmed the motor and pump sizes through email as 20HP Hitachi motor, with a 250 gpm capacity Hitachi pump. Field exam showed the point of diversion, permitted for in the SENW, was not where it had been permitted for, so an amendment at time of licensing will be completed to reflecting its proper location in the NESW. Based on applicant's pump performance supporting documentation, and applicant's email description of watering operation system, the diversion rate was found to be 17 sprinkler heads x 14.3 gpm = 243.1 gpm = **0.54 cfs** diversion rate that will be carried forward to licensing.

Applicant had originally applied for 30 acres of irrigation with a diversion rate of 0.60 cfs, which is the standard rate for that amount of irrigation. During licensing it was determined they were irrigating only 25.3 acres, which normally would have a diversion rate of 0.51 cfs, but the park irrigates in a compressed time period at night only, a greater diversion rate can be justified. Because the applicant's system and pump can produce a greater diversion rate, the 0.54 cfs will be licensed.

Applicant supplied some information about the system, and that there were 800ea sprinklers with various sized heads. The size of the heads were different depending on type of area it was irrigating in the park. Some had a very large radius for the large fields, and others were small in between walking paths. Sprinkler system had 42 stations which if you divided equally into 800 would be 19 sprinklers per station. Applicant did not have an 'as built' or any idea how many sprinklers ran in each station. Applicant verified that only 1 station at a time was irrigated, and it took 2 days to irrigate the entire complex. During the exam, Mr. Hull stated a church in the NWNE that had applied for irrigation water was not using the water from system. As such, irrigation was sketched during field exam, and traced out using arcmap at time of licensing review. The resulting acreage after removing church irrigated area equaled 25.3 acres with a diversion rate of 0.54 cfs and annual volume of 75.9 af. As this is a surface water water right, there is no Maximum diversion volume applied to license.

Condition 26A was removed from license. Condition 004 was added to describe property right of way and easement restrictions. Condition R62 was replaced with R58 to describe 3.0 afa per acre for at the field headgate for irrigation of the place of use. All other conditions will remain on license. WR 96-7312 overlaps this license's POU, but uses water from Syringa Creek and is not associated with this WR, and not a concern for overlap.

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>Rate of Diversion</u>
IRRIGATION	04/01 to 10/31	0.54 CFS

Totals: 0.54 CFS

2. Recommended Amendments

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

I. AUTHENTICATION Luke Bates - Water Resource Agent






Field Examiner's Name Adam Franklin Date 8/31/2020

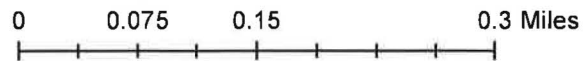
Reviewer [Signature] Date 5/6/2020

State of Idaho
 Department of Water Resources
Attachment to Field Exam
 96-9268

IRRIGATION system diagram



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



Frederick, Adam

From: Kim Woodruff <kwoodruff@sandpointidaho.gov>
Sent: Thursday, June 01, 2017 1:09 PM
To: Frederick, Adam
Subject: RE: Additional Information for 96-9189 & 96-9268

Hello Adam,

Sport complex we run 17 heads per station. The heads are Hunter I 25 rotors with # 15 gray tip in them at 60 PSI.

15 tip at 60 PSI = 14.3 GPM x 17 heads = 243.1 GPM

Thanks – I hope all finds you well an warm.

Kim

Frederick, Adam

From: Frederick, Adam
Sent: Tuesday, May 16, 2017 11:16 AM
To: 'Kim Woodruff'
Subject: Additional Information for 96-9189 & 96-9268

Kim,

I am trying to gather additional information to justify the maximum diversion rate for the I-95 irrigation system (96-9189) and the Travers Park irrigation system from Chuck Slough (96-9268). So there a couple ways to figure out the maximum diversion rate:

1. Have a 3 foot section of pipe with no obstructions to perform a flow measurement with the system running at its maximum rate. Sometimes hard to do because pipes are buried or elbows or connection pipes that don't provide for a measurement.
2. Identifying the largest zone(s) of irrigation, count the number and types of sprinkler heads, find out the psi the system is running at to determine each sprinkler heads diversion rate. If we know this we can determine a rate by using something like this as an example.

<https://www.sprinklerwarehouse.com/Rain-Bird-Nozzle-Performance-Charts-s/6541.htm>

If you have any questions feel free to give me a call.

Adam

Adam Frederick
Senior Water Resource Agent
Idaho Department of Water Resources
Northern Regional Office
Phone 208-762-2800

Beach Shop

From: Kim Woodruff
Sent: Tuesday, August 09, 2016 11:49 AM
To: Beach Shop
Subject: pump

Sports Complex

Motor: Hitachi 20 hp

Pump: Goulds #6C0C-250
250 gal / cu in

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I-25

Radius: 40' to 71'
Flow: 3.8 to 31.5 GPM
Inlet Size: 1" NPT



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This Rugged Rotor Can Stand Up to Any Commercial Job

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[SPECS](#)

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Operating Specifications

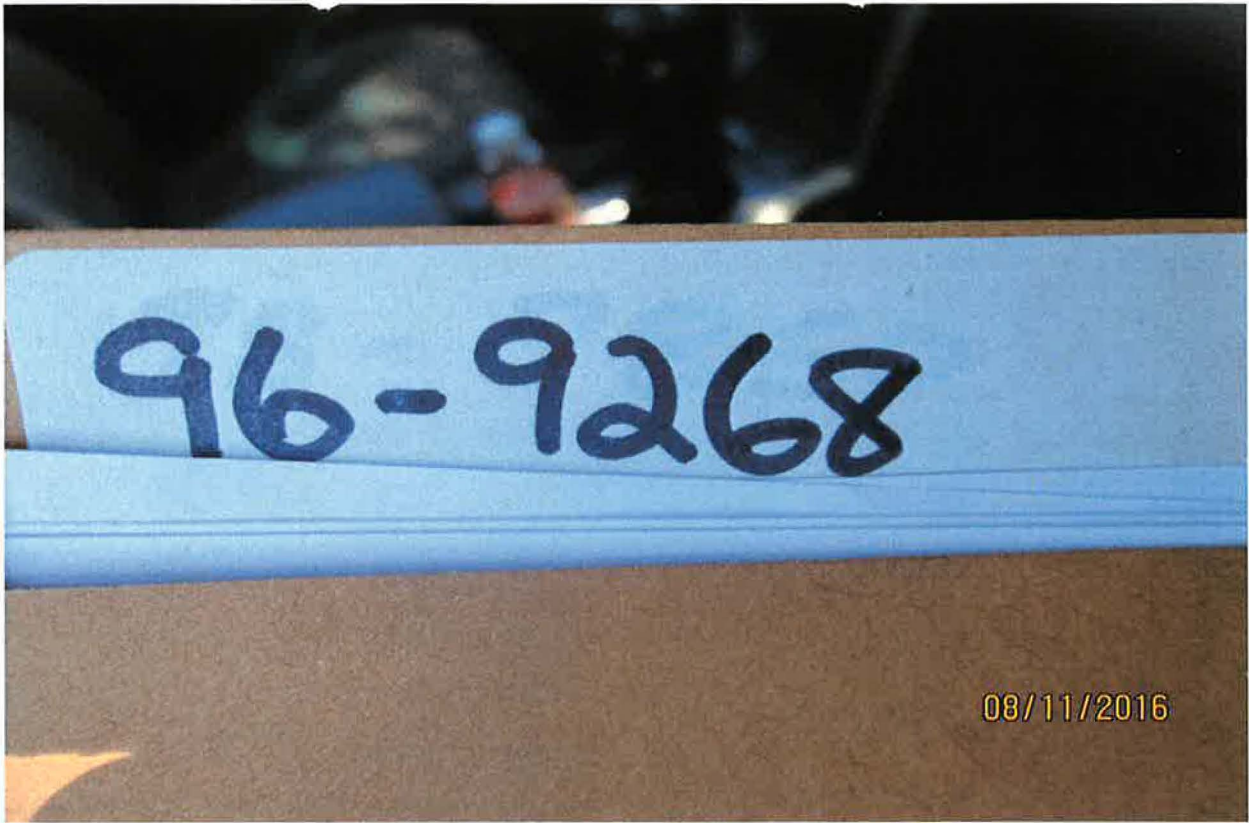
- Radius: 37' to 71'
- Flow rate: 3.8 to 31.5 GPM
- Recommended pressure range: 40 to 100 PSI
- Operating pressure range: 40 to 100 PSI
- Precipitation rates: 0.4 in/hr approx.
- Nozzle trajectory: 25 degrees

[\(/NODE/398\)](#)

I-25 Nozzle Performance Data

[View Nozzle \(/sites/default/files/i-25-nozzles.png\)](#)

Nozzle	Pressure	Radius	Flow	Precip in/hr	
	PSI			■	▲
4 ● Yellow	40	40	3.8	0.46	0.53
	50	41	4.3	0.49	0.57
	60	42	4.7	0.51	0.59
	70	43	5.1	0.53	0.61
5 ● White	40	43	4.4	0.48	0.53
	50	44	4.8	0.48	0.55
	60	45	5.3	0.50	0.58
	70	46	5.6	0.51	0.59
7 ● Orange*	40	45	6.6	0.63	0.72
	50	47	7.0	0.61	0.70
	60	48	7.5	0.63	0.72
	70	49	7.9	0.63	0.73
8 ● Lt. Brown	40	47	7.7	0.67	0.77
	50	49	8.3	0.67	0.77
	60	50	9.2	0.71	0.82
	70	51	9.9	0.73	0.85
10 ● Lt. Green*	50	51	10.1	0.75	0.86
	60	52	11.1	0.79	0.91
	70	53	12.1	0.83	0.96
	80	54	12.9	0.85	0.98
13 ● Lt. Blue	50	53	11.2	0.77	0.89
	60	54	12.3	0.81	0.94
	70	55	13.3	0.85	0.98
	80	55	14.3	0.91	1.05
15 ● Grey*	50	56	13.4	0.82	0.95
	60	57	14.3	0.85	0.98
	70	57	15.2	0.90	1.04
	80	58	16.4	0.94	1.08
18 ● Red	50	58	14.5	0.83	0.96
	60	59	15.7	0.87	1.00
	70	62	16.9	0.85	0.98
20 ● Dk. Brown*	80	63	18.2	0.86	1.02
	60	62	17.8	0.89	1.03



Electrical unit for pump in Chuck Slough. Director of Sandpoint's Park and Recreation Department supplied IDWR with information about system saying it is a 20 HP Hitachi motor with a Goulds #6C0C-250 250 gallon per minute pump.



Baseball fields.



Baseball fields.



Park and soccer fields



Park and lacrosse fields.