

RECEIVED
FEB - 2 2004
Department of Water Resources

Muldoon Grazing Association
321 North Main Street
Carey, Idaho 83320

January 29, 2004

By fax and regular mail

Tim Luke
Idaho Department of Water Resources
1301 North Orchard Street
Boise, Idaho 83706

Re: IDWR order requiring measuring devices and headgates in Water District 37-O,
Muldoon Creek and tributaries

Dear Tim:

I am writing to submit a plan for installation of headgates and measuring devices by Muldoon Grazing Association in compliance with IDWR's "Order Requiring Measuring Devices and Headgates in Water District 37-O, Muldoon Creek and Tributaries." I appreciate the time you have spent with me on the phone during our conversations of January 6, January 26 and January 29, 2004.

Consistent with the October 14, 2003 order letter, I have included a description of the type of measuring devices and headgates we plan to install. The plan described below is the same plan I outlined during our telephone conversation this afternoon and which you thought would be satisfactory. I have also included a printed copy of our water right information, taken from IDWR's website, which includes the water source, legal description, and name of the diversion.

Muldoon Grazing Association currently diverts water at three locations. At each location, the diversion ditches are approximately 2-3' wide and 1-3' deep. The headgates and measuring devices at each diversion will be of the same type, described below.

For the headgates, we will use a slide gate attached to a 24" corrugated culvert pipe placed in the irrigation ditch at the points of diversion. The slide gate model we plan to use is the Series 6600 Model 101C 24" slide gate manufactured by Fresno Valves & Castings (www.fresnovalves.com) and distributed by Contech Construction Products in Twin Falls. The slide gate can be locked with a padlock.

The measuring devices will consist of built-in staff gauges and galvanized steel ramp flumes, available through Intermountain Environmental (www.inmtn.com) in Logan, Utah. The Adjust-A-Flume model has an adjustable sill and the dimensions of the 6 cfs model are 56 5/8" x 36" x 14 7/8". The flumes are accurate to +/- 3%.

Tim Luke - IDWR
Muldoon measuring devices and headgates
January 29, 2004
Page 2

Based on my discussion with Intermountain Environmental, the flumes will need to be placed approximately 6 flume lengths (or approximately 29-30') from the headgates.

Due to the fact that the diversions are currently under several feet of snow, we will finalize our plan as soon as field conditions permit us to evaluate the diversions, which will likely be sometime in early April. We would then send you a detailed plan of the headgates and measuring devices. We plan to have the headgates and measuring devices installed by IDWR's June 1 deadline.

Please contact me at 208-788-1710 if there are any issues with our plan or approach.
Thanks again for your help during this process.

Sincerely,


Michael S. Stevens
President

cc: Guy Peterson and Kathleen Donahue
Carren Peterson

Muldoon Grazing Association
321 North Main Street
Carey, Idaho 83320

(208) 788-1710
(208) 823-4464
(208) 788-1264 fax

FAX TRANSMISSION SHEET

To: TIM LUKE - IDWR

Fax Number: 208-327-7866

From: MIKE STEVEN

Date: 1/29/04

Pages: 11

Re: Order for measuring devices + headgates in Water District 37-0, Muldoon Ct.

Comments

Tim -

I have included

- (i) our plan for the headgates + measuring devices
- (ii) our water right information
- (iii) information on the flume/measuring device
- (iv) information on the slide gate for the headgate

Thank again for your time. Call me at 788-1710 if there are any issues.

Mike

Muldoon Grazing Association
321 North Main Street
Carey, Idaho 83320

January 29, 2004

By fax and regular mail

Tim Luke
Idaho Department of Water Resources
1301 North Orchard Street
Boise, Idaho 83706

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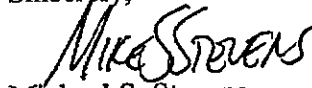
Tim Luke - IDWR
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Sincerely,



Michael S. Stevens
President

cc: Guy Peterson and Kathleen Donahue
Carren Peterson

Water Right Report

Close :

IDAHO DEPARTMENT OF WATER RESOURCES
Adjudication Claim Report

01/28/2004

WATER RIGHT NO. 37-2751

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	MULDOON GRAZING ASSN INC BOX 67 321 North Main St. CAREY, ID 83320 (208) 823-4425 823-4464 or

788-1710

Priority Date: 10/31/1966

Basis: License

Status: Active

<u>Source</u>	<u>Tributary</u>
MULDOON CREEK	COPPER CREEK
THOMPSON CREEK	COPPER CREEK

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	5/01	11/01	5.33 CFS	915 AFA
Total Diversion			5.33 CFS	

Location of Point(s) of Diversion:

SENENE	Sec. 26	Township 03N	Range 21E	BLAINE County
NWSWNE	Sec. 26	Township 03N	Range 21E	BLAINE County
SENENW	Sec. 35	Township 03N	Range 21E	BLAINE County

- above bridge (county road)
 - below bridge, midly to Copper Crk
 - 1/2 way between current Thompson Crk

Place(s) of use:

<http://www.idwr.state.id.us/apps/ExtSearch/RightReportAJ.asp?BasinNumber=37&Seque...> 1/28/2004

Place of Use Legal Description: IRRIGATION BLAINE County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Ac
03N	21E	26		NENE	10		NWNE	35		SWNE	40		SENE	10
				SESW	5									
				NESE	5		NWSE	30		SWSE	30			
		35		NWNE	35		SWNE	25						
				NENW	20		SENE	25						
				NESW	20		NWSW	5		SWSW	5			
				NWSE	5									

Total Acres: 305

Dates:

Licensed Date: 05/15/1979

Claim Received Date:

Decreed Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number:

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

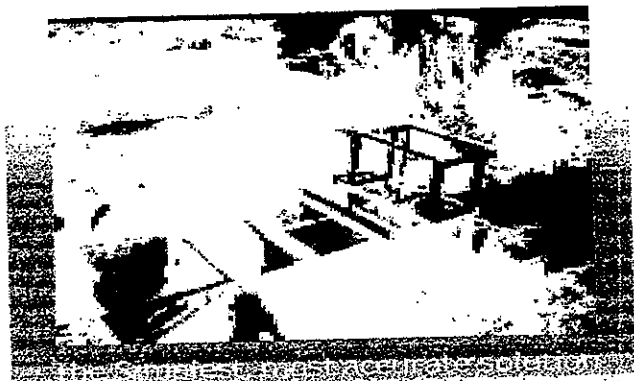
Cary Act Number:

Mitigation Plan: False

Close

Galvanized Steel Ramp Flumes

(Adjust-A-Flume™ and EZ Flow Ramp Flume™)



In today's resource conscious world, accurate measurement of water consumption is more important than ever. The Ramp Flume provides an economical way to accurately measure water.

Two models are available. The Adjust-A-Flume and the EZ Flow Ramp Flume. The main difference between the two is that the Adjust-A-Flume has an adjustable sill feature that allows the user to relocate the level of the sill after installation where the EZ Flow has a stationary sill. The EZ Flow is more economical, but if a user can afford the small additional expense the Adjust-A-Flume offers additional flexibility in measurement range and simpler overall installation.

Many different features have been tried in past adjustable flume designs. For example, fixed, portable, and vertically movable gates have been described by Bosetal. (1991). Small water trays have been used for leveling, as well as radial gates and vertical slide gates to regulate and estimate flow rate. Their range of utility is limited, and accuracy is a persistent problem in these past designs, with errors frequently exceeding $\pm 20\%$. The Adjust-A-Flume™ represents the "state-of-the-art" in flume design, achieving amazing flow metering accuracy.

Measurement Accuracy

Extensive testing and evaluation under field and laboratory conditions, have shown the Adjust-A-Flume™ and EZ Flow Ramp Flumes consistently achieve accuracies to within $\pm 3\%$, when properly installed. The increased flow velocity in the throat section discourages sediment accumulation in this important part of the flume. The approach section near the gage, while somewhat less self-cleaning, is tolerant of considerable sediment accumulation before significantly altering the flumes function. This provides for long periods of time between cleaning and maintenance.

Durable Construction

The Adjust-A-Flume™ and EZ Flow are made of high quality galvanized steel for years of trouble free service. They are designed with extremely rigid "flanged" construction throughout and utilize heavy cross bracing. The design allows the installation of the Adjust-A-Flume™ and EZ Flow Ramp Flume in locations with heavy soil backfill or in concrete channels.

Economical

The manufacturing process allows us to keep prices very affordable. Unlike other flumes where you may pay as much for shipping (because of the dimensional size and weight) as for the flume itself, the Adjust-A-Flumes™ and EZ Flow Ramp Flume are shipped unassembled for lower cost shipping and handling. In fact, most of the smaller sized flumes can be shipped via FedEx or UPS.

Installation

The Adjust-A-Flume™ and EZ Flow Ramp Flumes are easy to assemble, even in the field. Initial assembly usually takes less than an hour for the smaller flumes and no more than two hours for the larger flumes. After installing the flume in the water channel, just assure that the flume is level both end to end, and side to side and that the top of the fixed frame is 2 to 5 inches above the high water mark. Adjust the height of the sill on the Adjust-A-Flume, and the flume is ready for service. It really is that easy. Unlike some other flume designs, the Adjust-A-Flume™ and the EZ Flow Ramp Flume do not require sight surveying or complicated excavation for proper and accurate installation. For more information on installation of the Adjust-A-Flume™, and the EZ Flow Ramp Flume contact us, or visit the "Flume" pages on our web site at www.inmtn.com.



Choosing the Correct Size

Choosing the correct flume size for your application is important. It is suggested that the smallest size flume that will accommodate the correct flow be used. On the back page is a listing of the standard available sizes. We can also design and manufacture other custom sizes upon request.

INTERMOUNTAIN ENVIRONMENTAL, INC.
WATER MEASUREMENT SYSTEMS • EARTH AND SITE INVESTIGATION SERVICES

601 W. 1700 S., Ste B
Logan, UT 84321-8247

Ph: 435-755-0774
Web: www.inmtn.com

Fx: 435-755-0794
E-mail: info@inmtn.com

Adjust-A-Flume

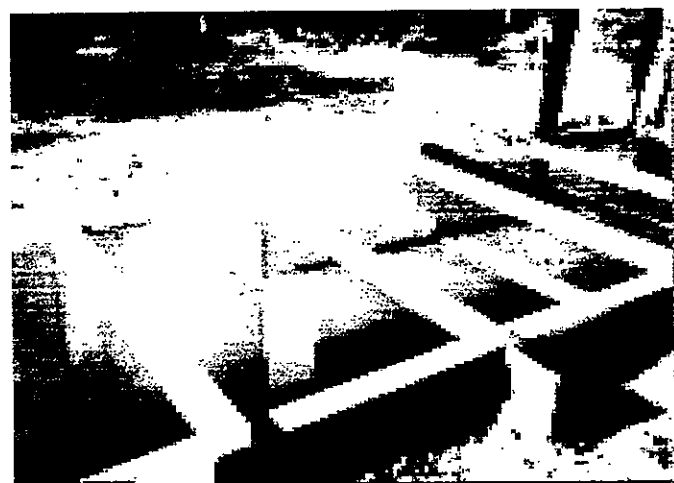
Max Cat. No.	Flow Rate cfs	Length in.	Throat Width in.	Height in.	Shipping Weight lbs.
AF0.45	0.45	36	6	9-9/16	23
AF2	2	56-5/8	12	14-7/8	82
AF4	4	56-5/8	24	14-7/8	103
AF6	6	56-5/8	36	14-7/8	123
AF11	11	91-7/8	30	28	412
AF15	15	91-7/8	30	34	511
AF25	25	111	38	38-3/8	698
AF35	35	111	38	43-3/4	793

EZ Flow Ramp Flume

Cat. No.	Max Flow Rate cfs	Length in.	Throat Width in.	Height in.	Shipping Weight lbs.
EF3.5	3.5	47-1/2	12-1/8	14-7/8	62
EF7	7	47-1/2	24-1/8	14-7/8	86
EF10	10	47-1/2	36-1/8	14-7/8	108
EF20	20	80	30-1/8	26	400
EF40	40	120	38-1/8	38-3/8	665
EF60	60	120	57-3/16	38-3/8	998
EF80	80	120	75-1/4	38-3/8	1208
EF100	100	120	95-5/16	38-3/8	1432
EF120	120	120	114-3/8	38-3/8	1684

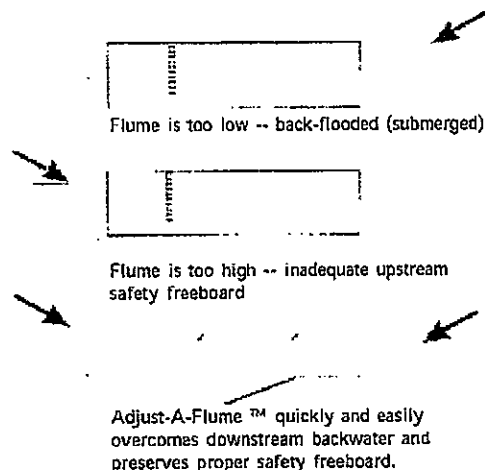
Additional Features & Benefits

- Flexible in matching site requirements (being adaptable to earthen or concrete lined channels)
- Quick and easy installation in unlined channels. Sealing against water leakage is easily accomplished with compacted earth
- Causes very little upstream ponding, usually less than one inch, so it can be used in flatland farming areas
- Direct reading sidewall gauges eliminate the need to carry rating tables or to calculate flow rates. Gauges can usually be read from a vehicle on the channel bank. A stilling well can be added for sensors and data logging instruments
- Adjust-A-Flume is adaptable to changes in channel flow caused by weed growth or sedimentation in the channel by simply raising the sill slightly



The Adjust-A-Flume™ is Accurate, Durable, Economical, Easy to Install, and Simple to Use. It is the ideal primary device for many water measurement applications.

- Adjust-A-Flume simplifies vertical placement problems. Vertical placement is one of the most critical field decisions for installing flumes and weirs, and it must be completely supervised to avoid costly refitting or improper function. (See the diagram below). Quickly install flumes into earthen or small concrete lined channels without expensive and complicated surveying equipment.
- Adjust-A-Flume allows sediment to be flushed by simply raising the ramp to allow the water to flow under the sill for a short period.



INTERMOUNTAIN ENVIRONMENTAL, INC.
WATER MEASUREMENT FOR RESIDENTS - AND COMMERCIAL WATER METER

601 W. 1700 S., Ste B
Logan, UT 84321-8247

Ph: 435-755-0774
Web: www.inmtn.com

Fx: 435-755-0794
E-mail: info@inmtn.com

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Series 6600 - Slide Gate



One-piece adjustable wedges ensure uniform wedging action.

Roll threaded rising stem provides ease of operation and extended stem life.

Rugged Cast Iron seat and cover.

Available for mounting to headwalls or corrugated pipe.

Precision machined seating surfaces.

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Series 6600 Model 101C Slide Gate

Pressure Rating

<u>Gate Size</u> <u>seating</u>	<u>Maximum</u>
6" - 24"	23' (10 psi)
30" - 36"	11' (4.8 psi)
42" - 48"	9' (3.9 psi)
54" - 60"	6' (2.6 psi)

*Used where pressure is in
seating direction only!

Installation

Series 6600 Slide Gate is normally installed on corrugated steel pipe or bolted to a concrete head wall. When attaching to corrugated pipe, you may either bolt directly to the spigot back seat, or use a rod and harness assembly.

Options

Frame angles available painted, galvanized or stainless steel.

Cast Iron or bronze seating surfaces.

Rising Stem and non-projecting stem extensions.

Stainless Steel stem and fasteners.

Flat back for headwall or flange mounting.

Spigot back for mounting to corrugated pipe.

Tapered setting collars for concrete pipe installations.

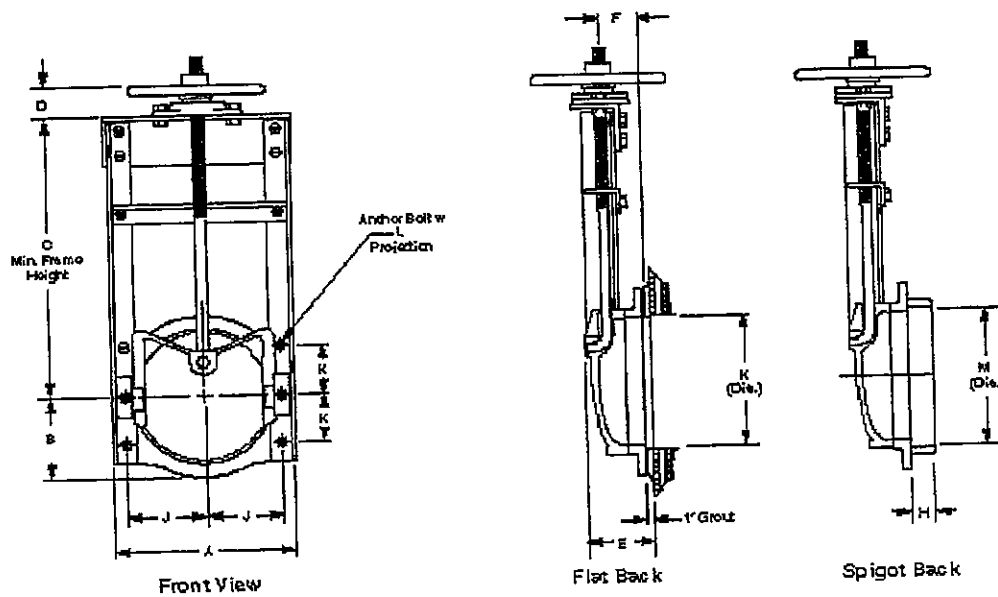
Square bottom slide.

Sizes

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Series 6600 Model 101C Slide Gate



Gate Diameter	Dimensions (inches)										Anchor Bolt Data			Lift Data		
	A	B	C	D	E	F	G	H	J	K	Qty.	Size	L	Lift Type	Wheel Dia.	Stem Dia.
6"	9.25	4.00	15.50	2.88	3.88	2.25	6.75	1.5	4.00	2.5	4	1/2 x 12	4.00	H1	10	7/8
8"	11.25	5.00	18.00	2.88	3.88	2.25	8.75	1.5	5.00	4.0	4	1/2 x 12	4.00	H1	10	7/8
10"	13.25	6.00	21.00	2.88	3.88	2.25	10.75	1.5	6.00	4.0	4	1/2 x 12	4.00	H1	10	7/8
12"	15.25	7.25	24.00	2.88	3.88	2.25	13.25	1.5	7.00	4.0	4	1/2 x 12	4.00	H1	10	7/8
14"	17.25	8.25	27.25	2.88	3.88	2.25	15.25	1.5	8.00	4.0	4	1/2 x 12	4.00	H1	10	7/8
15"	18.25	8.75	28.50	2.88	3.88	2.25	16.25	1.5	8.50	4.0	4	1/2 x 12	4.00	H1	10	7/8
16"	19.25	9.25	30.00	2.88	3.88	2.25	17.25	1.5	9.00	4.0	4	1/2 x 12	4.00	H1	10	7/8
18"	23.00	10.62	33.25	2.88	4.88	2.88	19.25	1.5	10.50	7.0	4	5/8 x 12	4.50	H1	14	1-1/8
20"	25.00	11.62	36.75	2.88	4.88	2.88	21.25	1.5	11.50	7.0	4	5/8 x 12	4.50	H1	14	1-1/8
21"	26.00	12.12	37.25	2.88	4.88	2.88	22.25	1.5	12.00	7.0	4	5/8 x 12	4.50	H1	14	1-1/8
24"	29.00	13.62	42.25	2.88	4.88	2.88	25.25	1.5	13.50	7.0	4	5/8 x 12	4.50	H1	14	1-1/8
30"	35.88	17.12	51.50	2.88	5.88	3.75	31.25	1.5	16.88	12.0	4	3/4 x 12	5.25	H1	14	1-1/8
36"	41.88	20.12	60.50	3.50	6.50	3.75	37.25	2.0	19.88	12.0	4	3/4 x 12	5.25	H2	24	1-1/2

42"	47.88	23.12	69.50	3.50	6.88	4.12	43.38	2.0	22.88	16.0	4	3/4 x 12	5.50	H2	30	1-1/2
48"	53.88	26.12	78.50	6.12	6.88	4.12	49.38	2.0	25.88	16.0	4	3/4 x 12	5.50	HB	24	1-1/2
54"	61.25	29.25	87.75	6.12	7.75	4.62	55.38	2.0	29.25	18.0	4	1 x 12	5.50	HB	30	2
60"	66.00	32.25	97.25	6.12	9.00	5.12	61.38	2.0	32.50	20.0	4	1 x 12	5.50	HB	30	2