WD

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 7129
Boise ID 83707-1129

(208) 334-8000
itd.idaho.gov

March 22, 2007

Mr. Nick Miller
Idaho Department of Water Resources
P.O. Box 83720
Boise, ID 83720-0098

Re: Plan for Measuring Device and Control Works
Smiley Creek Airport
Water Right #71-60C/71-62C

Dear Mr. Miller,

As per the requirements specified in the 'Order Requiring Measuring Devices and Head gates in Water District 170', included herein is ITD's plan for controlling the flow of irrigation water to the Smiley Creek airport, and also for measuring the amount of water diverted.

Diversion Point #1

Flow Control. The airport runway irrigation system at Smiley Creek consists of a head gate on the east side of the Salmon River, which diverts water into a vertical culvert via a non-removable inlet pipe. Irrigation water is then pumped from the culvert through a 6" suction hose by a diesel powered pump and into a 4" discharge pipe. The volume of water discharged into the system is controlled by a gate valve located on the discharge side immediately off of the pump. We propose this gate valve to be the lockable flow control, in that the watermaster can run a chain through the valve handle, around the discharge pipe, and secure it with a padlock (see attached photos).

Measuring Device. We propose measuring the amount of water used via an in-line flanged end flowmeter. This device is Model #MF100, manufactured by McCrometer (see attached spec sheet). The meter on this device will read and totalize in gallons per minute, and will be sufficient as to not roll over for at least two years. We will plan on having IDWR conduct the calibration test as we have no way of performing that task.

Diversion Point #2

This diversion is located upstream from that noted above and is used only when the need arises to irrigate the airport campground using a portable, gas-powered pump. The campground is normally irrigated via the diesel powered pump noted in Diversion Point #1, and is done at the same time the runway is irrigated. The portable pump is used only on rare occasions when a

single dry patch of lawn is noted and the runway does not require irrigation. When not in use the pump is stored in the on-site shop building.

Flow Control. We do not anticipate the need for a lockable flow control device on this unit due to its portability. Should the need arise for the watermaster to shut this unit down it can simply be stored on-site, transported to our shop located in Boise, or to our storage unit in Stanley.

Measuring Device. It is our position that a measuring device should not be required on this unit, as the discharge hose consists of a heavy reinforced plastic line not conducive for installation of a measuring device. We would think either IDWR or the watermaster could estimate the amount of water this pump is capable of moving, then having our on-site seasonal employee record the total hours of use by day, week, month, or irrigation season.

We appreciate your consideration of our proposal, and feel confident this plan will meet the requirements contained in Section 42-701, Idaho Code. Please contact me at 334-8893 with any questions you may have regarding this correspondence.

Sincerely,

Mark A. Young
Airport Maintenance Manager
Idaho Division of Aeronautics
mark.young@itd.idaho.gov

4" 960 00

MC Propeller

CONFIGURATION SHEET
FLANGED END FLOWMETER

MODEL MF100

DESCRIPTION

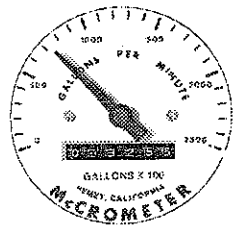
The Model MF100 is designed to provide high pressure rating and excellent meter accuracy in an inexpensive package. Model MF100 meters are manufactured to comply with the applicable provisions of the American Water Works Association Standard No. C704-92 and latest revision for propeller type flowmeters. The impeller and drive assembly are easily accessed through the open end of the mete tube. As with all McCrometer propeller flowmeters, standard features include a magnetically coupled drive, instantaneous flowrate indicator and straight-reading, six-digit totalizer

Impellers are manufactured of high-impact plastic, capable of retaining their shape and accuracy over the life of the meter. Each impeller is individually calibrated at the factory to accommodate the use of any standard McCrometer register, and since no change gears are necessary, the MF100 can be field-serviced without the need for factory recalibration. Factory lubricated, stainless steel bearings are used to support the impeller shaft. The sealed bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.

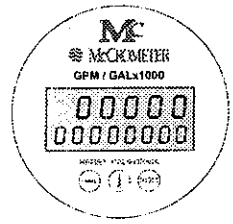
An instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liters per second and other units. The register is driven by a flexible steel cable encased within a protective vinyl liner. The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.

INSTALLATION

Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory. A straight run of full pipe the length of five diameters ahead and one diameter behind the meter is the minimum normally recommended.



The McCrometer Propeller flowmeter comes with a standard instantaneous flowrate indicator and straight-reading totalizer. An optional electronic register is also available. *Typical face plates.*



APPLICATIONS

- Center pivot systems
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Commercial nurseries
- Water and wastewater management

Lit#24517-10 Rev 1 1/7-01

McCROMETER
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Web Site: http://www mccrometer com

FLANGED END FLOWMETER MODEL MF100

SPECIFICATIONS

PERFORMANCE

ACCURACY/REPEATABILITY: ±2% of reading guaranteed throughout full range ±1% over reduced range Repeatability 0.25% or better.
MAXIMUM TEMPERATURE: (Standard Construction) 160°F constant.
PRESSURE RATING: 150 psi

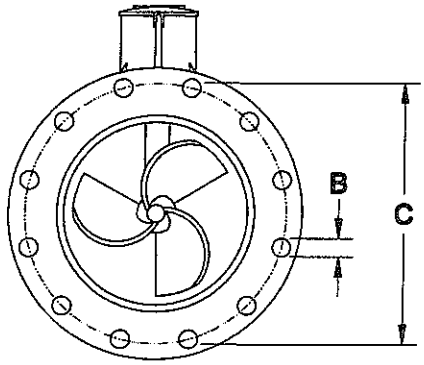
MATERIALS

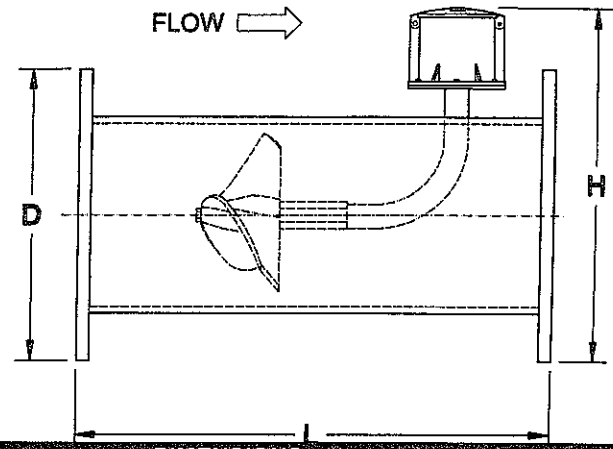
BEARING ASSEMBLY: Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel.
MAGNETS: (Permanent type) Cast or sintered alnico
BEARING HOUSING: Brass; Stainless Steel optional
REGISTER: An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged lens cover with locking hasp

IMPELLER: Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.
FLOW TUBE: Fusion-bonded epoxy-coated carbon steel.

OPTIONS

- Forward/reverse flow measurement
- Register extensions
- All stainless steel construction
- High temperature construction
- "Over Run" bearing assembly for higher than normal flowrates
- A complete line of flow recording/control instrumentation
- Flow straightening vanes
- Certified calibration test results





MF100	DIMENSIONS							
Meter and Nominal Pipe Size (inches)	**2**	**2 1/2**	**3**	**4**	**6**	**8**	**10**	**12**
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500
Minimum Flow U.S. GPM	35	35	35	50	90	100	125	150
Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23.00	17.00	6.75	3.75	2.75
Shipping Weight, lbs.	40	40	40	50	60	102	157	176
B (inches)	3/4	3/4	3/4	3/4	7/8	7/8	1	1
C (inches)	4 3/4	5 1/2	6	7 1/2	9 1/2	11 3/4	14 1/4	17
D (inches)	6	7	7 1/2	9	11	13 1/2	16	19
H (inches)	12.16	12.66	12.91	13.66	16.03	17.28	22.53	24.03
L (inches)	13	13	13	20	20	20	20	20
No. of Bolts Per Flange	4	4	4	8	8	8	12	12

Larger flowmeters on special order.

McCrometer reserves the right to change design or specification without notice.

FOR MORE INFORMATION CONTACT:

Lit#24517-10 Rev 1 1/7-01

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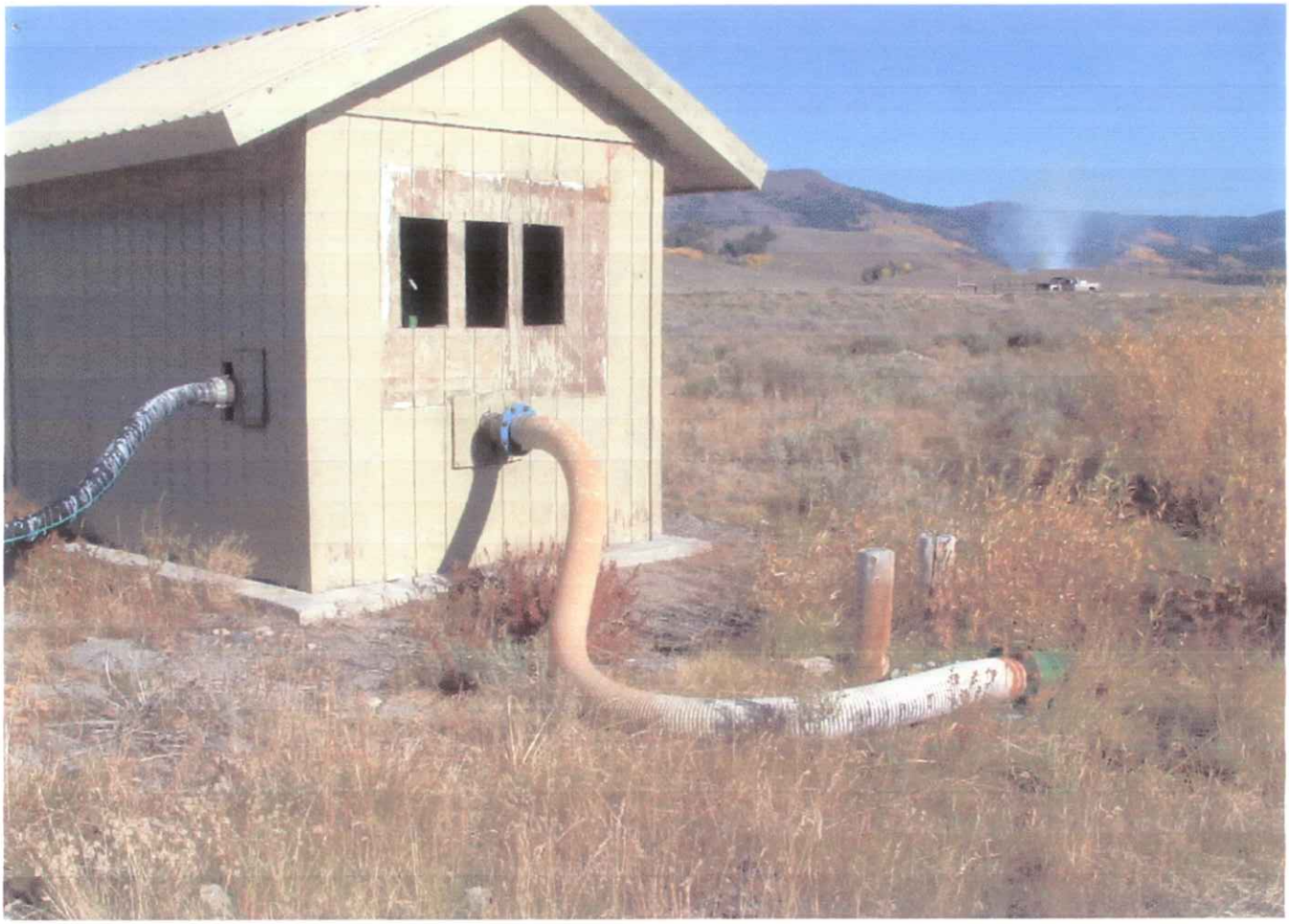

Pumphouse - suction and discharge lines

Diesel Powered engine

Point of diversion -
non-removable pipe runs
from here to Vertical
Culvert

Foot Valve on suction hose
@ vertical Culvert

Gate Valve on discharge Pipe - Point of lockable control