IDAHO DEPARTMENT OF
WATER RESOURCES

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Governor Brad Little **Director Mathew Weaver**

April 11, 2024

Re: Preliminary Order Requiring Measuring Devices for Ground Water Diversions in Water District No. 120 Area of Expansion, American Falls Area

Dear Water User,

The Idaho Department of Water Resources ("IDWR") has issued the enclosed Preliminary Order ("Order") requiring installation of measuring devices for ground water rights and diversions within the Water District 120 ("WD120") area of expansion. The enclosed Order is a preliminary order pursuant to Section 67-5243, Idaho Code. Any party may file a petition for reconsideration of a preliminary order as explained in the enclosed information sheet.

Please note that flow meters must be installed on ground water irrigation diversions by the start of the 2026 irrigation season and on non-irrigation diversions by January 1, 2026. The Order waives the measurement requirement for the following ground water uses and diversions unless further notified by IDWR:

a. Domestic and stockwater uses as defined by Section 42-111, Idaho Code;
b. Diversions for irrigation uses less than or equal to five (5) acres; and
c. Non-irrigation uses with a total rate of diversion less than or equal to 0.24 cubic feet per second (approximately 108 gallons per minute).

Please refer to the enclosed document *"Minimum Acceptable Standards for Open Channel and Closed Conduit Measuring Devices"* for information on types of IDWR acceptable measuring devices. These documents and other information on the topic are available on IDWR's website: www.idwr.idaho.gov → Water Data → Water Measurement → Guidelines.

If you have questions concerning this Preliminary Order or IDWR's water measurement standards, please contact the IDWR State office (208-287-4800) or Eastern Regional office (208-525-7161).

Respectfully,

Brian Ragan

Brian Ragan
Water Compliance Bureau

Encl: *Preliminary Order; Explanatory Information to Accompany a Preliminary Order; Minimum Acceptable Standards for Open Channel and Closed Conduit Measuring Devices*

C. Blake Jordan IDWR Eastern Region Water Right Supervisor and WD120 Watermaster

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF REQUIRING MEASURING DEVICES FOR GROUND WATER DIVERSIONS IN THE WATER DISTRICT NO. 120 AREA OF EXPANSION (AMERICAN FALLS AREA)	)))))	**PRELIMINARY ORDER**

BACKGROUND

On February 19, 2002, the Director ("Director") of the Idaho Department of Water Resources ("Department") issued a final order[1] creating the American Falls Area Water District, also known as Water District 120 ("WD120") to include ground water rights in Administrative Basins 35 and 41 overlying the East Snake Plain Aquifer ("ESPA"). The boundary of WD120 has been revised four times by the Department since February 19, 2022, and now includes portions of Administrative Basins 25, 27, 29 and 41.

On January 3, 2024, the Department issued a final order[2] modifying the boundary of WD120 to include ground water rights located between the existing WD120 and the East Snake Plain Aquifer Ground Water Management Area boundaries ("ESPA GWMA") overlying portions of the Department's Administrative Basin Nos. 25, 27, 29 and 41. The final order excluded those ground water rights used for domestic and stockwater purposes as defined by Idaho Code §§ 42-111 and 42-1401A (11), and ground water rights administered by the Shoshone Bannock Tribes and the United States pursuant to the 1990 Fort Hall Indian Water Rights Agreement. The area included in WD120 as per the January 3, 2024, final order is referred to hereinafter in this document as the Expansion Area.

LEGAL PROVISIONS

Idaho Code § 42-701 states, in pertinent part:

42-701 INSTALLATION AND MAINTENANCE OF CONTROLLING WORKS AND MEASURING DEVICES BY WATER APPROPRIATORS – PROCEDURE UPON FAILURE TO INSTALL AND MAINTAIN – MEASURING AND REPORTING OF DIVERSIONS – PENALTY FOR FAILURE TO COMPLY – REPORT FILING FEE.

(1) *The appropriators or users of any public waters of the state of Idaho shall maintain to the satisfaction of the director of the department of water resources suitable*

[1] *Final Order in the Matter of Creating the American Falla Area Water District for the Administration of Rights to the use of Ground Water from the Eastern Snake Plain Aquifer in Administrative Basins 35 and 41* (February 19, 2002).

[2] *Final Order in the Matter of the proposed Modification of the Boundary of Water District No. 120, American Falls Area* (January 3, 2024)

headgates and controlling works at the point where the water is diverted. Each device shall be of such construction that it can be locked and kept closed by the watermaster or other officer in charge, and shall also be of such construction as to regulate the flow of water at the diversion point. Each such appropriator shall construct and maintain, when required by the director of the department of water resources, a rating flume or other measuring device at such point as is most practical in such canal, ditch, wellhead or pipeline for the purpose of assisting the watermaster or department in determining the amount of water that may be diverted into said canal, ditch, wellhead or pipeline from the stream, well or other source of public water. Plans for such headgates, rating flumes or other measuring devices shall be approved by the department of water resources.

(2) [T]*he appropriator may, upon approval of the director, execute an agreement with the director and submit to the director such information and technical data concerning the diversion and pumping facilities as the director determines necessary to establish the relationship of power usage to water withdrawal by any pump used to divert public water.*

(3) *Any appropriator or user of the public waters of the state of Idaho that neglects or refuses to construct or maintain such headgates, controlling works, or measuring devices..., upon receiving ten (10) days' notice from the director of the department of water resources within which to begin and diligently pursue to completion the construction or installation of the required device or devices or to begin and diligently pursue to completion a remedy to such defects as exist in accordance with said notice, then the director of the department of water resources may order the duly qualified and acting watermaster of the water district to shut off and refuse to deliver at the point of diversion, the water owned by such appropriator or user until the user does construct and maintain such headgates, controlling works or measuring devices or remedy the defects which exist or the director may take action pursuant to section 42-1701B, Idaho Code, to enforce the requirement to construct, install or maintain such devices.*

(4) *The appropriators or users of the public waters of the state of Idaho shall be given a reasonable time within which to complete construction of such headgates, controlling works or measuring devices, depending upon the size and extent thereof, when due diligence has been used in the prosecution of such work.*

CONCLUSIONS OF LAW

1. Idaho Code § 42-701(1) authorizes the Director to require installation and maintenance of suitable lockable headgates and controlling works, and measuring devices at the point where the water is diverted.

2. The Director has a "clear legal duty to distribute water" according to the partial decrees issued by the Snake River Basin Adjudication ("SRBA") District Court. *City of Blackfoot v. Spackman*, 162 Idaho 302, 309 (2017). The SRBA District Court issued the *Final Unified Decree* on August 26, 2014. *Final Unified Decree*, In re SRBA, Case No. 39576 (Fifth Jud. Dist. Ct. Aug. 26, 2014).

3. The control and measurement of diversions within WD120 is necessary for the Director to comply with his clear legal duty to distribute water according to decreed, licensed, and permitted water rights. Adequate control and measurement of diversions ensure:

    a. The regulation of diversions within the water district or sub-district is consistent with the legal requirements of the prior appropriation doctrine, thereby protecting senior priority rights during times of water scarcity;

    b. The diversion of water associated with a valid water right does not exceed the legal limits of the right; and

    c. The assessments of individual water users within the water district can be calculated based on the amount of water delivered.

4. The Director should require the installation of suitable measuring devices at points of diversion within WD120.

ORDER

IT IS HEREBY ORDERED that:

1. The holders of ground water rights within the Expansion Area of WD120, except those ground water rights, uses and diversions identified in item 5 of this section, shall install and maintain on each point of diversion or well a measuring device of a type acceptable to the Department.

2. The requirements of this order apply to new ground water diversions authorized after the date of this order, except those ground water uses or diversions identified in item number 5a. through 5c. of this section.

3. The Director or watermaster may require the installation of lockable controlling works on any diversion if such works are determined to be necessary for adequate administration and control of the diversion.

4. Owners of irrigation wells or diversions that are required to be measured shall install acceptable measuring devices by the start of the 2026 irrigation season. Owners of non-irrigation diversions that are required to be measured shall install acceptable measuring devices by January 1, 2026.

5. The measuring and reporting required by this order is waived until further notification by the Department for the following ground water uses and diversions:

    a. Domestic and stockwater uses as defined by Idaho Code §§ 42-111 and 42-1401A(11);

    b. Diversions of ground water or water systems with multiple diversions irrigating less than or equal to five (5) acres;

c. Diversions of ground water or water systems with multiple diversions delivering ground water for any purpose other than irrigation that divert less than or equal to 0.24 cubic feet per second (approximately 108 gallons per minute).

6. Measuring devices acceptable to the Department are identified in the Department's *Minimum Acceptable Standards and Requirements for Open Channel and Closed Conduit Measuring Devices* ("Minimum Acceptable Standards"), attached herein.

7. On a case-by-case basis, the Department will consider a request for variance from the requirement to install measuring devices listed in the Department's Minimum Acceptable Standards. Requests for variance must be sent to the WD120 watermaster at least 90 days prior to the applicable deadline and must use made using the Department's *Request for Variance of IDWR Approved Flow Meter Requirement"* form available on the Department's website or upon request. Acceptable variances may include the following methods or devices:

- Development of a PCC, which is a ratio of power usage to water withdrawal. Acceptance of the PCC method may be provided *only for irrigation diversions that consist of one (1) well and one irrigation discharge point or one distinct flow and demand condition, and water levels do not change significantly during the irrigation season (example: a well diverting water to one center pivot only with no end gun, a well diverting water to one wheel line, or multiple wheel lines as long as the same multiple wheel lines are always on at the same time)*;

- Timing diversion with an hour meter (time clock) *for one well that discharges to an open ditch or pond where a) discharge is constant and not controlled by valves, b) ground water levels do not change significantly during the annual season of use, and c) the rate of flow is measured annually by a ground water district hydrographer*;

- Measurement with a properly functioning flow meter that was installed *prior to the date of this order, and determined as acceptable by the Department* (meters installed prior to the date of this order and included in the current version of the Department's *List of Approved Closed Conduit Flow Meters* are deemed acceptable and do not require a variance); and

- Measurement with a standard open channel measuring device installed in an open channel or ditch for measuring multiple wells in a well field and the measuring device is read daily, or daily flows are recorded by use of a continuous recorder or data logger.

8. Existing meters that do not satisfy the established standard for accuracy or do not meet the manufacturer installation requirements must be replaced with a meter on the Department's *List of Approved Closed Conduit Flow Meters* available at: https://idwr.idaho.gov/wp-content/uploads/sites/2/water-measurement/IDWR-flow-meter-list_2023.pdf.

9. If a user cannot meet the deadlines in item number 4 above, the Department may grant an extension of time. An extension of time request for each diversion must be submitted to the WD120 watermaster at least 90 days prior to the applicable installation deadline and must be made using the Department's *Requests for Extension of Time to Install IDWR-Approved Flow Meter* available on the Department's website or by request. A water right holder may request an extension

because of non-use required by a federal land set aside program, or the water user may be temporarily not diverting as authorized by the water right.

10. The watermaster shall shut off and refuse to deliver water to any ground water user who does not have, or who fails to maintain, an adequate measuring device on a diversion after the start of the 2026 irrigation season for irrigation diversions, or after January 1, 2026, for non-irrigation diversions, unless an extension or exemption has been provided by the Department.

11. The WD120 watermaster shall be responsible for the collection and annual reporting of all measurement data for the diversions within water district boundaries subject to this order. All diversions shall be reported to the Department using the Department's Water Management Information System ("WMIS") online database application.

Dated this 11 day of April, 2024

Brian Ragan

BRIAN RAGAN
Water Compliance Bureau

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES (IDWR)

MINIMUM ACCEPTABLE STANDARDS AND REQUIREMENTS FOR OPEN CHANNEL AND CLOSED CONDUIT MEASURING DEVICES

The water source, diversion structure and conveyance system must be adequately evaluated prior to selection of a measuring device. Surface water sources such as streams, springs and drains are commonly diverted into open channels, ditches or canals. Closed conduits such as pipes or culverts are also used to convey surface water. Ground water is more commonly diverted into pipes (closed conduits) which convey water from the well to system discharge points such as irrigation sprinkler systems. Ground water may also discharge from a well through a short section of pipe to open channels, ditches or ponds. When required by IDWR, measuring devices must be installed at or very near the point of diversion to ensure the watermaster can accurately determine the amount of water diverted from the public water source. The standards below are intended to qualify measuring devices that are "acceptable to the Department", and to assist water users and watermasters in the proper selection and installation of such devices when required pursuant to Section 42-701, Idaho Code.

I. MEASUREMENT IN OPEN CHANNELS

The following requirements are applicable to diversions from surface water sources. Measurement of a ground water diversion with an open channel measuring device must be specifically approved by IDWR.

A. Industry Standard Open Channel Measuring Devices

All open channel surface water diversions must be measured using one of the following industry standard (standard) open channel flow measuring devices:

- **Weirs:** contracted or suppressed rectangular weirs, Cipolletti weir, 90 degree V-notch weir
- **Submerged Orifices:** submerged rectangular orifice, constant head orifice
- **Flumes:** Parshall flume, trapezoidal flume, ramped flume (ramped, broad-crested weir)
- **Current Meter/Acoustic Profiler:** acoustic Doppler flow meter (ADFM), acoustic Doppler current profiler

Construction, installation and operation of these devices must be consistent with water measurement guidelines, published by the United States Bureau of Reclamation[1] or the United Stated Geological Survey[2]. Measuring devices, associated rating tables and specifications contained in these publications are considered by IDWR to be industry standard.

B. Non-Standard Open Channel Devices Including Rated Structures or Rated Sections

Any weir, flume or other measuring device that has not been constructed, installed or maintained to measure flow consistent with industry standard rating tables or curves shall be considered non-standard. IDWR may authorize the use of non-standard devices or rated channel sections on a case by case basis, upon the submittal and approval of a measurement plan. A measurement plan must contain an acceptable proposal, using industry standard procedures for developing a rating curve, or document that a rating curve has been fully developed for the device or section. Proposed rating plans must include provisions for periodic re-measurement and maintenance of the rating. The established rating must achieve the desired accuracy standard of plus or minus ten percent (±10%), the equivalent accuracy of a standard open channel device. All rating measurements must be conducted by a qualified individual (eg. engineer, hydrologist, certified examiner), using a standard portable open channel measuring device. If a measurement plan is not approved by IDWR, a standard device must be installed and maintained.

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[1] The BOR guidelines can be found at: https://idwr.idaho.gov/wp-content/uploads/sites/2/water-measurement/Water-Measurment-Manual-3rd-Ed-2001.pdf

[2] The USGS guidelines can be found at: https://pubs.er.usgs.gov/

II. Closed Conduit Measuring Devices

The following requirements are applicable to measurement of diversions from any water source that conveys water through a full pipe or conduit. Full pipe means that water within the pipe is under at least some positive pressure and contains insignificant amounts of air or gas.

A. Standard Closed Conduit Measuring Devices

Standard closed conduit measuring devices are flow meters that have been approved for use by IDWR based on independent third party testing. IDWR has developed and published a list of meters that have been tested and approved for use[3]. Tests were conducted for both accuracy and repeatability on all submitted models. The lab tested accuracy standard for flow rate is plus or minus two percent (± 2%). The *IDWR List of Approved Closed Conduit Flow Meters* (approved list) may be found at: https://idwr.idaho.gov/wp-content/uploads/sites/2/water-measurement/IDWR-flow-meter-list_2023.pdf

Approved full profile magnetic flow meters and spooled ultrasonic flow meters must be installed with a minimum straight pipe length equivalent of three (3) pipe diameters upstream and two (2) pipe diameters downstream measured from the center of the meter spool. Approved clamp-on and wetted ultrasonic flow meter transducers must be located with a minimum straight pipe equivalent of ten (10) pipe diameters upstream and five (5) pipe diameters downstream of the nearest transducer. All other manufacturer installation specifications (excepting up and down spacing) must be met. *Installation of an approved meter inconsistent with the requirements noted above, may be cause for IDWR to require reinstallation of the meter.*

B. Requests for Variance to Use Power Consumption, Hour Meter or Existing Meter

Requests for variance will be considered for qualifying diversions on a case by case basis only upon submittal of the appropriate "Request for Variance" form. If a water user can demonstrate that an existing flow meter or other method of measurement meets an equal standard of accuracy when compared to meters on the approved list, a variance may be granted. If a variance request is not granted, an approved meter will be required.

The following alternate measurement methods may be considered:

- Development of a Power Consumption Coefficient (PCC), which is a ratio of power usage to water withdrawal,
- Use of an hour meter (time clock), or
- Use of a flow meter that was *installed prior* to the date a measurement order was issued and *is not* on the IDWR approved list.

Any alternate measurement method will require field testing using a portable ultrasonic flow meter or other meter tested and accepted by IDWR (testing meter). Field testing may be performed by any of the following:

- IDWR staff,
- a water district watermaster,
- a ground water district hydrographer,
- an irrigation district hydrographer,
- a certified field examiner, or
- as otherwise approved by IDWR

Existing flow meters must be operational and installed consistent with applicable specifications. If the testing margin of error of an installed meter when compared to the testing meter exceeds plus or minus ten percent (±10%) for mechanical type meters, or plus or minus five percent (±5%) for magnetic or ultrasonic type meters, the installed meter must be replaced with a new meter from the approved list. The owner or operator of any diversion system which requires a field measurement must provide a testing section of unobstructed straight pipe 15 pipe diameters in length.

[3] Testing was conducted at the Utah Water Research Laboratory (UWRL), a National Institute of Standards and Technology (NIST) traceable lab in Logan, Utah.

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was held)

The accompanying order is a **Preliminary Order** issued by the Idaho Department of Water Resources (Department) pursuant to section 67-5243, Idaho Code. **It can and will become a final order without further action of the Department unless a party petitions for reconsideration or files an exception and brief as further described below:**

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the hearing officer within fourteen (14) days of the service date of the order as shown on the certificate of service. **Note: the petition must be received by the Department within this fourteen (14) day period.** The hearing officer will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding to the Director. Otherwise, this preliminary order will become a final order of the agency.

If any party appeals or takes exceptions to this preliminary order, opposing parties shall have fourteen (14) days to respond to any party's appeal. Written briefs in support of or taking exceptions to the preliminary order shall be filed with the Director. The Director retains the right to review the preliminary order on his own motion.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, request for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with Rules of Procedure 302 and 303.

FINAL ORDER

The Department will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The Department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

> Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:
>
> (a) The petition for reconsideration is disposed of; or
> (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

i. A hearing was held,
ii. The final agency action was taken,
iii. The party seeking review of the order resides, or
iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.