BEFORE THE DIVISION OF WATER RIGHTS

In The Matter Of: **David G. Ovard** **RESPONDENT**	**MEASURING DEVICE AND CONTROL STRUCTURE NOTICE** SEAA No. 2138 WATER RIGHT: 35-8283 DISTRIBUTION ACCOUNT: 103251

I. AUTHORITY

The Division of Water Rights ("Division") issues this Notice under UTAH CODE ANN. § 73-5-4, and in accordance with UTAH ADMIN. CODE R. 655-15.

U.C.A. § 73-5-4 states in part :

(1) To assist the state engineer or water commissioner in the regulation, distribution, and measurement of water, a person using water in this state,... shall construct or install and maintain controlling works and a measuring device at:

(a) each location where water is diverted from a source; and

(b) any other location required by the state engineer.

(2) A person using water in this state shall make the controlling works and measuring device accessible to the state engineer or water commissioner.

(3) The state engineer shall approve the design of:

(a) the measuring device; and

(b) controlling works so that the state engineer or a water commissioner may regulate and lock the works. ...

(6) If a water user refuses or neglects to construct or install the controlling works or measuring device after 30 days' notice to do so by the state engineer, the state engineer may:

(a) forbid the use of water until the user complies with the state engineer's requirement; and

(b) commence enforcement proceedings authorized by Section 73-2-25.

II. STATEMENT OF FACTS

1. Respondent diverts surface water from Lost Creek located within the Weber River Distribution System operated under the direction of the Water Commissioner appointed by the Utah State Engineer.

2. Based on a preliminary review, Respondent diverts water and/or owns or uses water under Water Right Number 35-8283. Respondent also pays the annual distribution assessment for flow regulation associated with Account 103251 on the Weber River System.

3. Many water users contract with Weber Basin Water Conservancy District to receive project storage water in addition to natural flow water. Water Measurement Requirements also apply to storage water deliveries.

4. Respondent diverts water into what is commonly known as the Eddington Ditch. For location reference, the Point of Diversion (POD) is located near 41.176 degrees latitude and -111.407 degrees longitude.

5. In recent years, Respondent installed a control structure and a Parshall flume located near 41.174 degrees latitude and -111.408 degrees longitude. The control gate enables some regulation of flow into the flume and ditch, and also enables the bypass of some of the excess flow back to Lost Creek.

6. The new water measuring device (Parshall flume) doesn't function properly due primarily to high entrance velocity.

7. The new flow control structure works only if or when small flows enter the diversion. In 2018 there was more flow entering the structure than it was able to control, so flow into the ditch was largely uncontrolled, which is not acceptable operation.

8. A beaver dam in the creek at the diversion location caused higher flows to enter Respondent's ditch. A control structure is required at the upstream location where the flow enters the ditch to regulate the flow even when a beaver dam exists.

9. If reducing the flow entering the ditch doesn't resolve the flow measurement concerns, there are methods to slow or reduce the entrance velocity at the flume. They include:
    - Elevate the flume higher so water enters the flume slower.
    - Move the flume downstream where higher velocities have dissipated.
    - A combination of both of the above. The flume must remain level.

10. Respondent is responsible for maintaining an operable control structures and a suitable measuring device at all ditches where Respondent diverts water. Respondent is not responsible for, or obligated to maintain diversion structures and/or flumes at POD locations where Respondent doesn't divert or receive water.

III. ACTIONS REQUIRED

1. Respondent must maintain a reliable measuring device and an operable control gate structure on all the ditches where water is diverted by Respondent. The measuring device must enable a continuous flow record. A stilling well is one method to meet this recording requirement. A stilling well, when properly constructed, enables a recording of the water level at the staff gage location, which translates into a flow record when the flume and stilling well are functioning properly.

2. The measuring device must measure the quantity of water diverted, and must be located upstream of all turnouts to enable an accurate flow measurement record.

3. Headgate control structures should not leak when closed. The control gate must have a gate stem wheel or handle that can be locked with a chain when necessary to regulate the flow. The gate stem wheel should have reasonable access and be safe to operate or regulate the flow as needed.

4. **The above work must be completed on or before May 1, 2019.**

IV. ADDITIONAL AGENCY ACTION

1. The Respondent is encouraged to diligently attend to the work required by this Notice. If the work is satisfactorily completed in a timely manner, the Division will conclude this agency action.
2. If the work is not satisfactorily completed in a timely manner, the Division may issue an Order forbidding the use of water until the Respondent has complied, or may commence an enforcement action as allowed under Utah Code Ann. § 73-5-4 (6).
3. If an Order forbidding the use of water is issued and is violated by the Respondent, the Division may commence an enforcement action in accordance with Utah Code Ann. § 73-2-25.
4. If determined to be in violation an Order, Respondent may be subject to administrative penalties in accordance with Utah Code Ann. § 73-2-26, including fines not to exceed $5,000 per day for knowing violations or $1,000 per day for unknowing violations and replacement of up to 200% of water diverted without right. In addition, Respondent may be liable for expenses incurred by the Division in investigating and stopping the violation."

V. FURTHER INFORMATION

If Respondent has questions concerning this Notice, state laws and rules, or the required and recommended action, please discuss them with:

Michael Drake
Regional Engineer, Weber River Office
Utah Division of Water Rights
1594 W North Temple Ste 220
Salt Lake City, UT 84114-6300
(801) 538-7240

or

Ben Anderson
Distribution Engineer

Utah Division of Water Rights
1594 W North Temple Ste 220
Salt Lake City, UT 84114-6300
(801) 538-7240

Dated this 17th day of October, 2018

Ben Anderson, P.E.
Distribution Engineer
Utah Division of Water Rights

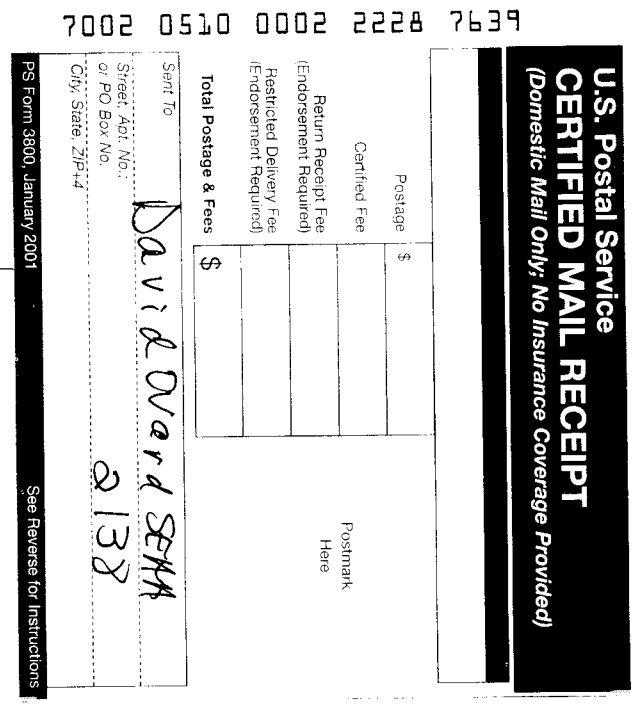
cc: Michael Drake, Regional Engineer
Cole Panter, Weber River Commissioner
Aaron Waldron, Deputy Commissioner

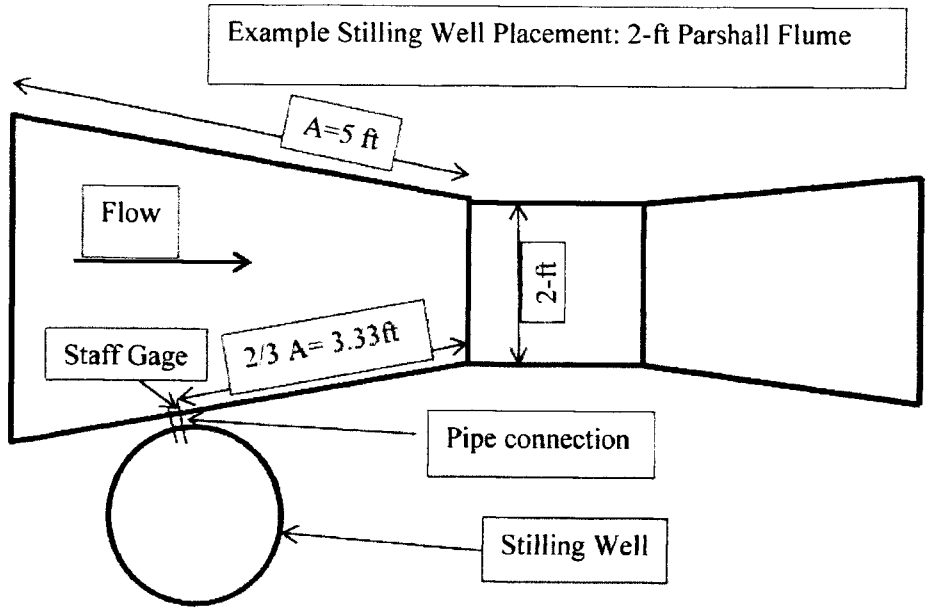
CERTIFICATE OF MAILING

I, the undersigned, certify that on this 17th day of October, 2018, I mailed a copy of the foregoing Notice by regular U.S. Mail, delivery confirmation receipt requested, to the following:

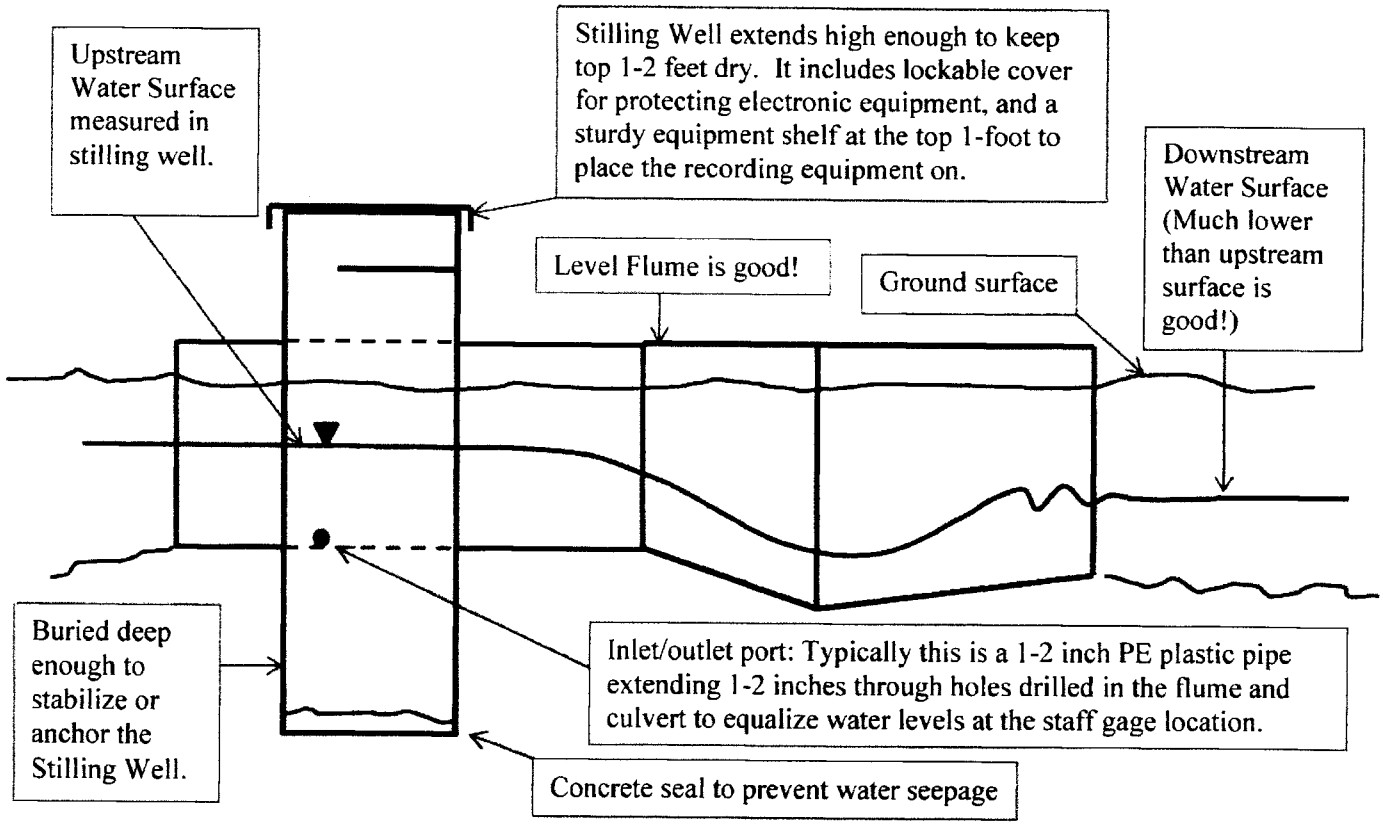
David G. Ovard
893 North 1500 East
Layton, UT 84040

Kelly Horne
Division of Water Rights
Field Services Secretary





Plan View (not to scale)



Elevation View (not to scale)

STILLING WELLS ON MEASURING DEVICES

Stilling Wells are wide short "wells" that "still" the water surface by removing waves, enabling an accurate water level to be recorded. They are a key part of measuring devices whenever a reliable flow record is needed. They hydraulically connect the water level in the Stilling Well to the water level in the measuring device using one or two small diameter pipes. When the measuring device and its Stilling Well are both working properly, a rating table or equation allows the user to obtain flow in cubic feet per second (cfs) based on a measured water level height in feet.

A Stilling Well is a vertical pipe or conduit extending vertically from below the lowest anticipated water level at the base or floor to 1-2 feet above the highest anticipated flood stage water level at the lid or top. Stilling Wells are usually constructed of steel, but are sometimes constructed of formed concrete as part of the flume or precast concrete pipe. Most Stilling Wells are constructed of galvanized corrugated metal pipe (culvert) with a locking steel lid or cap. Plastic pipe is not ideal due to its high thermal expansion in sunlight.

Properly-installed Stilling Wells must:

1. Be a minimum diameter of 18-inches to allow room for equipment. In some existing situations smaller diameters may work, but 24-inch diameter stilling wells are ideal.
2. Extend at least 1 foot below the low water level to measure zero flow and allow adequate space for some sediment accumulation.
3. Extend at least 2 feet above the highest anticipated water level to keep electronic equipment dry, and include a sturdy shelf for equipment in the top 1-foot of the stilling well. Stilling Well. The shelf should cover about ¾ of the area to leave space for equipment and cleaning access.
4. Be installed vertical. We typically often use a sensor that is a "float and counterweight" hanging from a wheel connected to an electronic recorder. If the stilling well leans, the float or weight bumps the sides, causing errors.
5. Be anchored. It can be buried into the ground far enough to prevent excess movement or it can be securely fastened to a stabile structure for stability, which is very important.
6. Be sealed if buried. The floor of the stilling well, if buried underground, must not allow water to seep out, creating a false low water level. Ready mix concrete may be poured in the stilling well (dry or mixed), which usually makes a good seal even if the surface is not smooth.
7. Be hydraulically connected to the measuring device. The locations of the connection(s) are important. The goal is to replicate a water level in the stilling well. If the water level drops lower than the connection, it cannot record the water level. The lower connection must be lower than the lowest measurable water level. These interconnections vary in size and material. In most situations, polyethylene flexible sprinkler pipe (1-2 inch) and a large drill bit work great. If the drill bit is larger than the pipe, seal the space with a waterproof sealant to prevent leakage.
8. Be strong. The strength (wall thickness) of the CMP or culvert is usually not a major design concern on most measuring devices. However, if the culvert wall thickness is too thin it may rust or corrode and need replacement. Selection of strength may determine the useful service life.