

POLICIES AND PROCEDURES FOR WATER WELL FLOWMETER CALIBRATION

1. Flowmeter Testing and Calibration Requirements

A. General Procedures

Flowmeters are required for all new wells that extract more than 2 acre feet of groundwater per year, and flowmeters must be installed prior to operation of the well.

All new, replaced or refurbished groundwater extraction flowmeters shall demonstrate accuracy within a range of plus or minus 5% and shall be installed at the well head per manufacturer's specifications.

Installed flowmeters shall be subsequently tested for accuracy every three years to demonstrate accuracy within a range of plus or minus 5%.

After the initial demonstration of accuracy, a time extension can be granted to those well owners whose well has a pump motor of less than or equal to 10 horsepower and that extract less than or equal to 2 acre-feet of groundwater per year, averaged over the number of years requested for the extension.

An initial time extension can be approved three years after the flowmeter's first accuracy testing for a period not to exceed two years. At five years after the flowmeter's first testing a second time extension can be granted for a period not to exceed five years. In no case shall the flowmeter be calibrated less than every 10 years.

To obtain the time extension, the well owner must notify the County and submit acceptable proof of meeting time extension requirements. Acceptable proof consists of a photo of the pump motor rating label, pump invoice or manufacturer's data sheet and flowmeter data spreadsheet or summary table data in electronic or hard copy format.

Written certification of water meter accuracy by a qualified flowmeter testing company or person approved by the Director of Public Works, or designee, shall be submitted within 120 days notification. Notification to the well owner from the County shall be sent by regular U.S. Mail to the address on file within the County records.

The Director of Public Works, or designee, may, on a showing of good cause, grant additional time to comply with flowmeter calibration requirements.

B. Approved Methods of Testing and Testing Requirements

Method(s) of accuracy testing and calibration shall be determined by the Director of Public Works, or designee, and may be changed at any time to accommodate technological improvements or better methods.

Some flowmeter tests may require a pipe tap or access fitting on either the upstream or downstream side of the well flowmeter, or both. If such portals are not available, the well owner shall provide them at his or her own expense.

In cases where more than one flowmeter is required to measure groundwater extractions from the wellhead, every flowmeter in that configuration must be tested and calibrated to required tolerances during the same time interval when the order to test has been received from the County.

C. **Testing Option via Southern California Edison (SCE)**

If the well pump motor is tested for electrical demand efficiency by Southern California Edison (SCE) arrangements may be made to check flowmeter accuracy during the same visit at which time a SCE flowmeter test report will be generated. A copy of the SCE Efficiency Report may be submitted to the County in-lieu of the required flowmeter calibration report.

Submitted SCE Efficiency Report(s) must not be older than one year from the date of the flowmeter calibration test notification letter. If the SCE test results indicate that the flowmeter exceeds the plus or minus 5% accuracy range, the flowmeter must be repaired or replaced and retested at the owner's expense.

Special Note: Failure to obtain passing test results within the County specified time frame due to SCE's workload or backlog schedule is not justification for a time extension request. However, if a letter from SCE confirming a scheduled test date after the County specified time frame is submitted to the County within the original 120 day testing window, the Director of Public Works, or designee, may authorize a test date time extension.

D. **Flowmeter Installations**

When any owner installs a new or refurbished flowmeter on the discharge piping of a well, proof of flowmeter accuracy shall be submitted to the County within 30 days of the installation date.

Flowmeters must be tested for accuracy after any activity that takes the flowmeter out of service and prior to return to service.

Malfunctioning flowmeters must be repaired/replaced within thirty days of discovery of malfunction.

E. **Required Documentation to Certify Calibration Accuracy Standards**

Documentation to indicate that existing flowmeters meet accuracy or calibration standards (without flowmeter replacement, repair, or refurbishment) shall be provided to the County by submitting a copy of the successful test/calibration results that are provided to the flowmeter owner by either a County approved flowmeter tester or SCE.

Acceptable documentation must be submitted as proof that a new or repaired/refurbished flowmeter meets plus or minus 5% accuracy and is installed according to manufacturer's specifications. Acceptable proof shall include a signed certification from the manufacturer or repair facility attesting that the flowmeter meets plus or minus 5% accuracy, name of meter manufacturer; meter serial and model numbers; unit of measure for the meter; photographs of the flowmeter installation that

show beyond a reasonable doubt that the installation meets the manufacturer's specifications; an invoice, and/or work order indicating the date of installation or repair/refurbishment.

If the new or refurbished flowmeter was **not** installed per the flowmeter manufacturer's specifications, the well owner shall obtain a flowmeter test for accuracy, and if necessary, re-calibrate the new or refurbished flowmeter to reflect actual in-place conditions. The passing test results shall be submitted to the County within 30 days of new or refurbished flowmeter installation.

F. Flowmeter Maintenance between Required Calibration Testing Intervals

If the maintenance alters the piping diameters or configuration, the flowmeter shall be recalibrated and the results submitted to the County within 30 days of retesting.

2. Approved Flowmeter Testers

Any person, firm, or organization that demonstrates competence in flowmeter calibration for a given flowmeter may be approved as a flowmeter tester by the Director of Public Works, or designee. Potential test agents must submit a County qualification form (attached) to the Director of Public Works, or designee. The qualification form shall request such information deemed necessary to determine minimum competency as stated on the qualification form. Minimum competency includes but is not limited to the following:

- **BACKGROUND and QUALIFYING EXPERIENCE:** the total number of years of flowmeter testing and calibration experience including years apprenticing to a senior flowmeter tester, educational background and relevant experience regarding flowmeter testing and calibration.
- **PREVIOUS CLIENTS SERVICED:** list of agencies, corporations or water districts for which flowmeter testing or calibration has been performed.
- **FLOWMETER MAKE AND MODEL:** list of flowmeters, makes, and models and brief description of method of testing and calibration for each flowmeter.

The name, address, and telephone number of all such County approved testers shall be maintained at, and be available from, the County offices and shall be furnished upon request.

Re-qualification of approved flowmeter testers may be required at periodic intervals by the Director of Public Works, or designee, to ensure that approved testers remain qualified and are addressing any changes in technology and water flowmeter testing methods and procedures.

3. Use of Flowmeter on Temporary Basis

Temporary flowmeters shall be installed to provide flow measurement on operating wells with discharge lines greater than 2-inches in diameter. The use of temporary flowmeters shall not exceed 60 days.

4. Inspection of Flowmetering Equipment

County staff or their designated agents may inspect flowmeters for compliance with this Policy and Procedure document or the County Well Ordinance at any reasonable time. A minimum of 24-hour notice will be provided to the well owner prior to any well visit or inspection.

5. Non-Compliance

A well owner has 120 days from the receipt of notification to submit proof flowmeter accuracy. Failure to turn in proof of accurate flowmeter calibration within the allotted time will warrant the delivery of a second notice with compliance due in 60 days.

Non-compliance at the end of the second notice shall subject the owner to enforcement action including financial or other penalties and/or liens not to exceed the maximums described in the County Well Ordinance.

Any flowmeter for which the required proof of accuracy is not submitted shall be deemed a non-operating flowmeter.



**Ventura County
Watershed Protection District
Water and Environmental Resources
Groundwater Section**

800 South Victoria Avenue, Ventura, California 93009-1600
Phone: (805) 654-2024

**Applicant's Qualification Form
for Registration as a Flowmeter Tester**

TEST AGENT NAME _____

COMPANY NAME _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

PHONE (.) _____ FAX L) _____ E-MAIL _____

QUALIFYING EXPERIENCE (Provide the total number of years of flowmeter testing and calibration experience including years apprenticing to a senior flowmeter tester. Briefly describe your educational background and relevant experience regarding flowmeter testing and calibration.)

PREVIOUS CLIENTS SERVICED (Provide a list of agencies, corporations or water districts for which flowmeter testing or calibration has been performed. Attach additional sheets if necessary)

FLOWMETER MAKE AND MODEL (Provide a list of flowmeters tested and include make and model. Briefly describe method of testing or calibration for each flowmeter. Attach additional sheets if necessary.)

CERTIFICATION

I certify to the best of my knowledge that the information provided above is true and accurate. I also certify that I have reviewed Ventura County Ordinance No. 4184 and agree to comply with the provisions contained therein and any other state and local regulations pertaining to the testing and calibration of flowmeters. If approved by the County to conduct meter calibration, I will obtain and use the County's current meter calibration field sheet to record meter calibration testing data.

NAME OF APPLICANT _____

SIGNATURE OF APPLICANT _____ **DATE** _____

Revised 11/17/2015



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**BOARD MINUTES
BOARD OF SUPERVISORS, COUNTY OF VENTURA, STATE OF CALIFORNIA**

**SUPERVISORS STEVE BENNETT, LINDA PARKS,
KATHY I. LONG, PETER C. FOY AND JOHN ZARAGOZA
December 8, 2015 at 8:30 a.m.**

PUBLIC WORKS AGENCY - Receive and File the Report Back on Revised Appendix 1 Policies and Procedures for Water Well Flowmeter Calibration of the Ventura County Well Ordinance No. 4468; All Supervisorial Districts.

- (X) All Board members are present.
- (X) The following person is heard: Tully Clifford.
- (X) Upon motion of Supervisor Bennett, seconded by Supervisor Foy, and duly carried, the Board hereby receives and files the report.

By: 
Brian Palmer
Chief Deputy Clerk of the Board