

MEMO

To: 84-12147 Woodland Meadows Subdivision

From: Sandy Hemenway

Date: 1/25/2011

REF: Licensing Review Memo

The Permit to Appropriate was approved on 4/2/2004, for 7-acres Irrigation of lawns and gardens, and Domestic internal for 14-homes. Proof of Beneficial Use was due on or before 3/1/2005, with Proof being received on 6/11/2005, with a \$50 fee (receipt C074171).

ArcMap Tax Lot information **confirmed individual ownership of the 14-lots** involved in the POU known as Woodland Meadows Subdivision. The original 1981 plat showed 8-lots, but later there was additional splitting of some lots. Contact information in the file shows Brent and Traci Telecky (secretary of Woodland Meadows Water) at (208)476-5173, and Gerry Davis (208) 476-7655. A letter in the file dated 2/10/2004, indicates the Officers of the Water Board as: Brent Telecky, Gerry Davis, and William Connor (208) 476-3745. The POD is located on Lot 1 owned by Marvin Lyness, but on the original 1981 plat for Woodland Meadows Subdivision there is a 50 ft radius easement around the well.

A field exam was conducted on 7/20/2005, finding D-14 (14 lots stubbed), and 7-acres irrigated (allowing ½-acre irrigation per lot for lawn, landscaping around houses, and garden areas, but the location not individually identified per lot). The well was drilled on 2/1981. It has an 8-inch casing, 600 ft deep well, 3-Hp (12 gpm aeromotor pump) 456 ft static, 43 psi, 1-inch discharge to 1-inch galvanized buried pipe going 300 ft to a 5000 gallon storage tank then gravity flow out to the distribution system for the 14-lots. At the time of the 7/20/2005 field exam, Traci Telecky (secretary of Woodland Meadows Water) submitted a copy of the original 1981 plat of Woodland Meadows Subdivision which showed the original 8-lots (prior to additional splitting of some lots). Lot 1 indicates the location of the well with a 50 ft radius easement around the well, and the location of the storage tank.

The only **POU Overlap** is Permit 84-12146, which is a spring source, utilizing the same distribution system, but is listed as being a back-up source on the application. No field exam has been conducted on 84-12146 to date, but the proof of B/U was submitted on 11/4/2004. There is **no POD Overlap**.

A note on the 7/20/2005 field exam, indicated that on 10/4/2005 Traci Telecky (secretary of Woodland Meadows Water) was contacted. Traci indicated that there were **a total of 14-lots stubbed, and that each lot is able to irrigate ½-acre**. According to the Tax Lot information that was updated on 8/4/2010, there are 4-lots in the NWSW (that would consist of 2-acres irrigation), and 10-lots in the SWNW (and that

would consist of 5-acres irrigation).

On 1/4/2011, a letter was mailed to Traci Telecky **requesting the exact location for the ½-acre per lot irrigation for the PPU**, if the Irrigation component was to be used.

On 1/20/2011, a letter was received from Traci Telecky, secretary for Woodland Meadows Subdivision, **requesting that the irrigation component be removed** since they are unable to determine the actual location for each lots ½-acre irrigation. She requested that domestic internal/external use be the only component, and stated that no one lot will exceed the ½-acre per lot irrigation limit.

Per management approval on 1/20/2011, the irrigation component was removed and only domestic internal/external use is shown on the license. For this reason, the shapefile contains the entire Woodland Meadows Subdivision, limiting each lot to ½-acre irrigation. The actual ½-acre per lot was hard to determine utilizing ArcMap, due to numerous trees. Tax Lot information confirmed 14-individual lot owners. By approving domestic internal/external, it approves irrigation of up to ½-acre per lot, and does not cause the owners to be in violation if the shapefile were drawn incorrectly by IDWR in our determination of the location of the ½-acre per lot irrigation.

RECOMMENDATION:

CFS

At the time of the 7/20/2005 field exam no physical measurement was collected. According to the Administrative Memo Permit Processing No. 16, it states that a theoretical computation is an acceptable substitute for measurement of rate of flow, according to Appendix 1: Groundwater, diversion rate less than 0.20 cfs (no measurement is required).

(1) Theoretical: $(8.8 \times 3 \text{ Hp} \times 0.7) / [456 + (2.31 \text{ C } 43 \text{ psi})] = 18.48 / 555.33 = 0.03 \text{ cfs}$

(2) Pump Information from Ford Creek Pumps invoice: $(12 \text{ gpm} \times 0.133681) / 60 = 0.026 = 0.03 \text{ cfs}$

(3) 1-inch discharge, and 1 inch galvanized pipe (pipe conversion): 1-inch = 0.03 cfs
 $Q = 5 \times (3.1416) R\text{-squared} \quad (R = (\text{diameter}/12)/2)$

RECOMMEND FOR LICENSING: 0.03 cfs

VOLUME

Irrigation Use was removed (approved by management 1/20/2011). If Irrigation use had been used, it would be as follows: $\text{Vir} = 7 \text{ acres} \times 3.5 = 24.5 \text{ af}$,
 $\text{Vdr} = 0.03 \text{ cfs} \times 1.9835 \times 245 \text{ days} = 14.5 \text{ af}$, $V = 14.5 \text{ af}$. Domestic internal only would have been $0.6 \times 14 = 8.4 \text{ af}$, with Irrigation and Domestic not being additive,

since the total volume would have been limited to 21.7 af (0.03 cfs X 1.9835 X 365).

Not using Irrigation, and only using Domestic (14 homes) internal external use = 1.2 af/home X 14 homes = 16.8 af.

RECOMMEND for Licensing: Domestic (14) internal/external = 16.8 af

CONDITIONS

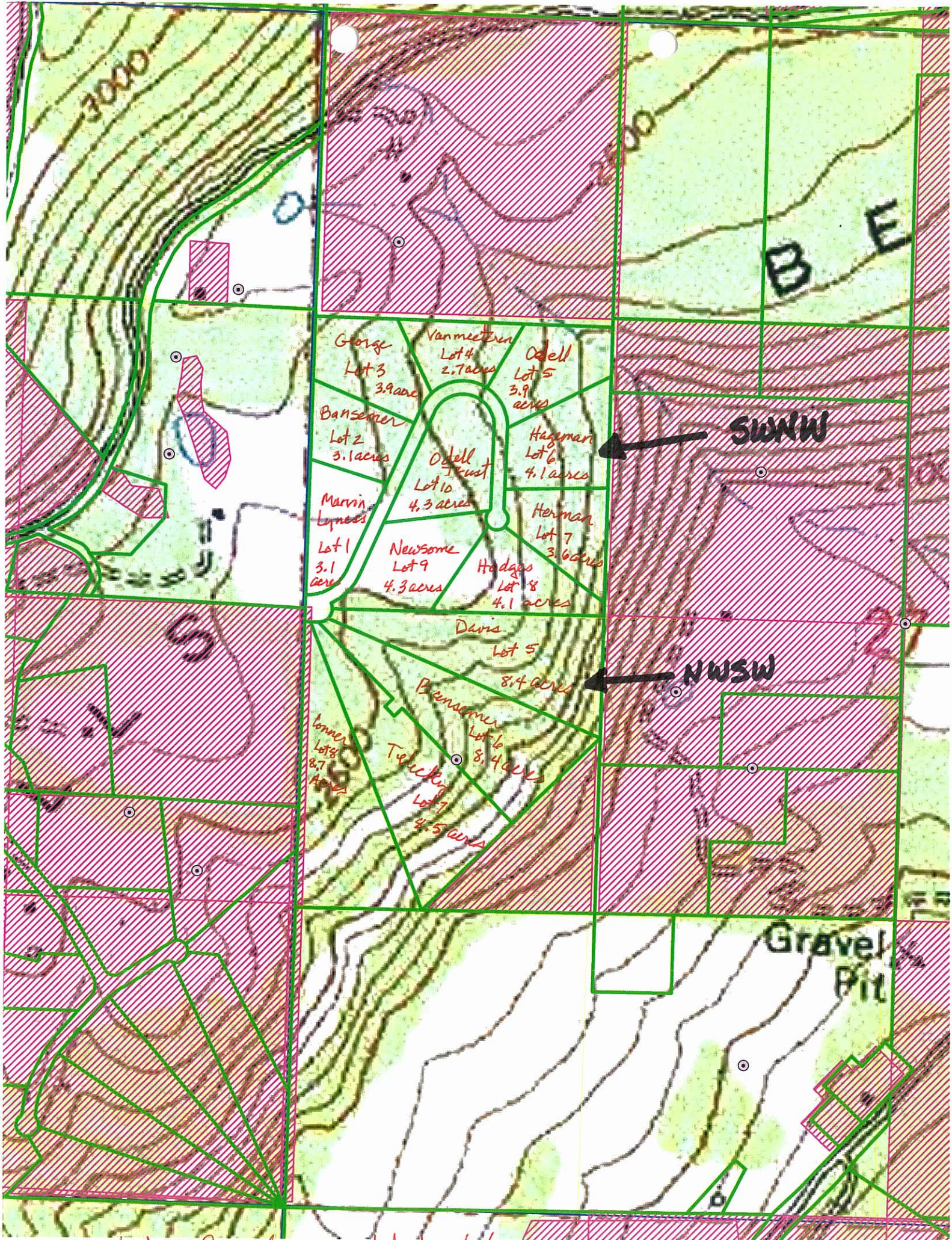
X01 – Domestic (14-homes)

070 – Domestic irrigation of ½-acre per lot, & not irrigation of a common area.

071 – Domestic, not to exceed 13,000 gpd/home.

004 – Does not grant easement (POD is located on Lot 1, not owned by the subdivision, but is individually owned)

X59 – POD located on Lot 1 of Woodland Meadows Subdivision.



 Check Administrative Area Results



Click On Item For More Information

Season Of Use 3/15 - 11/15 ✓
Season Of Use 4/1 - 10/31
Headgate Requirement 3.5
Consumptive Use 2.5
msf_upstream Whiskey Creek (84-12215)
msf_upstream
Source Water Plumes
Source Water Plumes USFW D'WORSHAK NATIONAL FISH HATCHERY
Source Water Plumes RIVERSIDE INDEP WATER DIST
Source Water Plumes KONKOLVILLE
Source Water Plumes CORPS FREEMAN CREEK CAMPGROUND





No Details Available For This Record



DIRECTOR'S MEMORANDUM

TO: Regional Offices, Water Allocation Bureau and
Adjudication Bureau

FROM: R. Keith Higginson *R. K. Higginson*

RE: Rate of Flow and Volume for Water Rights With Source
of Ground Water

DATE: May 7, 1991 Application Processing No. 51
Permit Processing No. 16
Adjudication Memo No. 31

A review of field examination procedures relative to measurement of rate of flow for diversions from ground water has resulted in the identification of certain water uses for which a theoretical computation is an acceptable substitute for measurement of rate of flow. The purpose of this memorandum is to describe situations where utilization of the theoretical computation is permissible.

The determination of which situations require measurement of rate of flow for a ground water right is outlined in Appendix 1. The procedure for determining rate of flow is described in Appendix 2. This memorandum shall be the authority for removal of flow measurement requirements from water right permits that are shown by Appendix 1 not to require measurement.

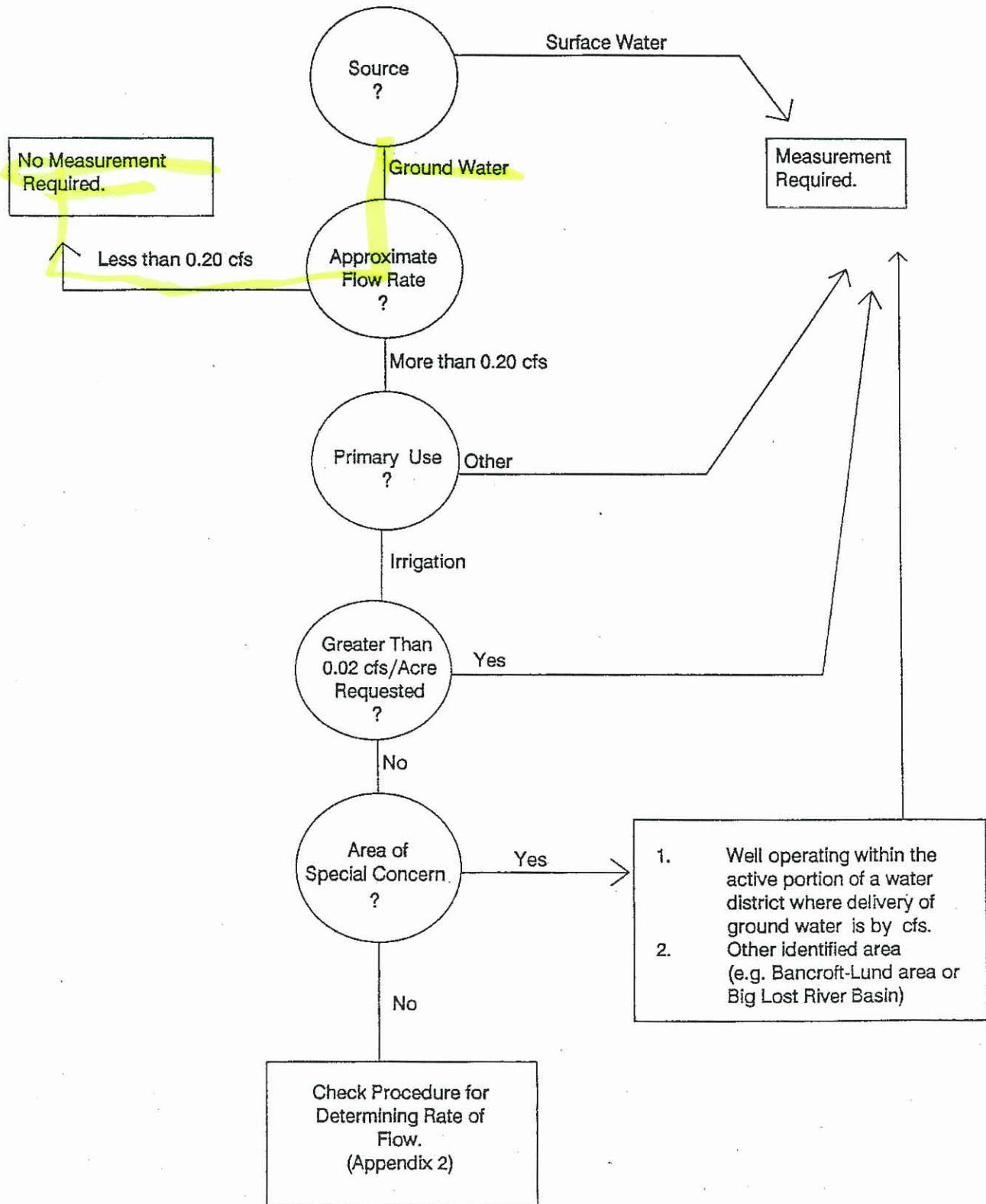
This procedure applies to rate of flow determinations for the preparation of water right licenses and adjudication Director's Reports.

Appendix 1 - Flow Chart for Determining if Flow Measurement is Required

Appendix 2 - Procedure for Determining Rate of Flow

APPENDIX I

FLOW CHART FOR DETERMINING IF FLOW MEASUREMENT IS REQUIRED



Appendix 2

Procedure for Determining Rate of Flow

(Use this procedure in conjunction with Appendix 1)

- A. Measure the rate of flow of the system whenever it is possible at time the examination is conducted, even if it is not required.
- B. The licensed or decreed rate of flow is not always determined by the system capacity. This is the case when the system capacity obviously exceeds the permitted or claimed flow rate. In such cases no significant effort needs to be made to determine system capacity.

C. An acceptable method of determining a rate of flow for licensing or the director's report for a system not requiring a measurement is as follows:

1. Evaluate whether system capacity is likely to be the limiting factor. If not, base the recommended rate for licensing or decree on the lessor of the permitted or claimed amount or the duty of water.

2. If the system capacity appears to be the limiting factor, make an acceptable estimate by refining the theoretical calculation. Compute the theoretical calculation as described below:

a. Basic equation:

$$Q = \frac{(8.8) \times (HP) \times (E)}{H}$$

Where Q = rate of flow in cubic feet per second,
HP = brake horsepower of the pump motor,
E = pump efficiency, and
H = total head.

b. For purposes of field calculations, parameters are determined in the following manner:

1. HP is obtained from the motor nameplate.
2. E is considered to be the highest operating efficiency of the system, which is assumed to be 70% unless a higher efficiency can be demonstrated by the operator.
3. H is computed as the sum of the dynamic lift (elevation distance between water surface during pumping and location of pressure reading) and the pressure head at the pump, computed as 2.31 times the pressure in psi.

Procedure for Determining Rate of Flow (Cont.)

c. Procedure:

1. Determine HP from motor nameplate.
2. Determine dynamic pumping level (water level during pumping), based on a combination of at least two of the following:
 - a. Discussions with well owner.
 - b. Measurement with a steel tape, pressure tube, or electric well probe (plus a drawdown factor).
 - c. Information from exams conducted on nearby wells, if in a homogeneous aquifer, (including the amount of anticipated drawdown).
 - d. Information provided on a well log, particularly where the well driller shows pump test data with discharge and draw down.
 - e. Information from water level contour maps, such as in the Snake Plain Aquifer.
3. Measure pressure of mainline near the pump, or estimate this pressure based on the type of operating system (high pressure pivot, open discharge, etc.).
4. Compute the theoretical rate of flow.

d. Example:

An irrigation system is found to have a 50 HP motor, a dynamic depth to water of 100 feet, and a pressure of 80 psi near the pump.

$$Q = \frac{(8.8) \times (HP) \times (E)}{H} = \frac{(8.8) \times (50) \times (.70)}{(100 + \{2.31 \times 80\})} = 1.08 \text{ cfs}$$

Procedure for Determining Rate of Flow (Cont.)

- e. Limitations: There are some situations where use of this equation is not applicable, for example where there is no means of determining even an estimate of the dynamic pumping level, and where artesian pressure creates a flowing well. In these situations either measurement is required or alternate techniques must be used to quantify estimated flow rates. Acceptable measurement techniques for these situations include (1) sprinkler measurements for pressurized systems, (2) timed fills of trapezoidal ditches for gravity flow systems, and measurement with a polysonic measuring device.

3. Refine the theoretical measurement by a variety of techniques, including reading the power meter if the system is operating to determine horsepower actually being used, evaluation of whether friction losses are relevant, review of pump design information to improve the estimate of efficiency, or obtaining information on measurements taken by pump installers, electrical companies, etc.

D. When developed in conformance with Appendices 1 and 2, the theoretical rate of flow is an acceptable substitute for a measured rate of flow.