



A Guide For Operating Shared Water Wells In Arizona

Gary Hix, RG & Janick F. Artiola Ph.D.

Introduction

Shared water wells serving two or more households are the sole source of water for many rural homes in Arizona. There are, however, very few rules, regulations or laws to permit, use, and manage shared wells. Most homeowners on shared wells are not fully aware that they are solely responsible for management and safety of their drinking water supply. There is very little literature available on the proper management of shared wells. This publication is intended to be a basic guide for homeowners and managers of these systems.

What Defines a Shared Well?

Most shared wells are simply “Exempt” wells (Arizona’s official classification of domestic water wells) as defined in the Arizona Groundwater Management Act (AGMA) of 1980 and regulated by the Arizona Department of Water Resources (ADWR). Exempt wells are not allowed to produce more than thirty-five (35) gallons per minute (GPM) (ARS 2019). Figure 1 shows an example of a shared well.

An accurate count of the total number of shared water wells in Arizona is not possible because they are mostly registered as exempt domestic water wells. There is not a separate designation for shared well systems. Public water systems are tightly regulated under the State of Arizona Department of Environmental Quality (ADEQ). All public water systems must have an ADEQ Licensed Water Plant Operator in charge of them. However, non-public private “Exempt” shared well systems are totally unregulated.



Figure 1. Shared Well storage and pressure tanks. Source: G. Hix.

Public water systems versus Shared wells

A public water system is officially defined as having a least 15 connections or serve 25 persons or more and operate for more than 60 days of the year. There are many shared well systems operating in Arizona today that are serving fewer than 15 homes, but they have more than 25 people living full time served by them. These are technically public water systems that have not been reported as such to the ADEQ. Once reported, these wells fall under the supervision the ADEQ and their management becomes far more complex and costly. Shared well managers should be aware of these differences and manage their systems accordingly.

Public water systems have vastly different rules of management and the expense of operating them is significantly greater. The rules regarding the drinking water quality being served by a public water supply falls under the Environmental Protection Agency (EPA) and there are some very hefty fines for violation of their rules. In contrast, **there are no water quality standards for shared water wells systems, so well managers must take on this responsibility.** The management of even modest sized shared well system and the quality of the water being delivered to everyone must be taken very seriously.

Identifying the Shared Well

All water wells in Arizona are required to be registered with the ADWR reflecting the current ownership of the land upon which the well is located, and the registrant must provide the ADWR with details of what pumping equipment is installed in it (ARS 2019). They were either Registered with the ADWR in the early 1980's or permitted and drilled by an ADWR licensed well drillers after that date. Registration of a well with the ADWR does not constitute ownership. It gives the owner of the well legal authority to extract groundwater. Water becomes private property once legally captured from a registered well and is then subject to the terms of the well share agreement.

What a Share Well Manager Should Do

First: log on to the ADWR's online 55- files and confirm that their shared well is registered in the name of either the owner of the land upon which the well is located or is registered in the name of a properly designated operator or operating agency of the well, see UA Extension publication AZ1663 (Artiola & Hix 2015) . The ADWR has a specific form 55-73 (ADWR 2019) "Landowner Authorization to Register a Well in a Third Party's Name" or in the name of an association, co-op, group name, or non-profit corporation. This will help to get a shared well manager's responsibility and/or liability for well management out of their personal name.

Second: count the number of connections to the system and how many people are living in each of the homes. If the shared well system has at least 15 service connections or serves an average of at least 25 people for at least 60 days a year, it may be classified as a public water supply.

Third: contact the local county Department of Environmental Quality (DEQ) and ask to have the shared well system inspected by them. It is better to admit to not knowing that your system was an unreported public water supply than to have them discover your water system and enforce their regulations upon you with little grace.



Figure 2. Shared well metered service connections with shutoff valves. Source: G. Hix.

Water Quantity Standards of Shared Wells

The most common productivity of a shared well is probably less than fifteen (15) GPM. For shared water wells, it isn't the productivity of the well measured in GPM that matters so much as is the total number of gallons per day that the well can produce. Arizona has no minimum well performance requirements for private or shared well productivity in GPM or gallons per day. A well can produce as little as a five GPM and still be serving several homes. What is important is that the well can produce a sufficient amount of water each day to **meet** the total demands of all the people on the system.

Wells with limited capacity must have storage tanks to hold a sufficient supply of water until it is needed. When it is needed, booster pumps provide the flow and pressure to meet system demands. Water demand typically peaks twice per day, once in the morning and again in the evening. Water delivery systems must meet the twice the daily peak demands typically for an hour or two. The booster pump(s) must provide sufficient flow rates to maintain adequate pressure for the two daily demands. The well must replenish the drawdown of water in the storage tank(s) between these daily peak demand periods.

Water Quality Standards of Shared Wells

Arizona has no minimum water-quality requirements for non-public shared well systems, yet no well manager would want to be in the position of having to explain how or why poor quality or contaminated water was served to neighboring water users. Periodic water quality testing may not be required by law, but it is certainly the prudent thing for the well manager to do for the health, safety and welfare of the entire group.



Figure 3. Author demonstrating proper well water sample collection.
Source: G. Hix.

At a minimum, shared wells should be tested by an ADHS (Arizona Department of Health Services) Certified laboratory as follows:

- **Twice each year for the presence of Total and Fecal Coliform (E. coli) bacteria**
- **Once each year for nitrate, nitrite, total dissolved solids (TDS), and pH**
- **And at least one time for arsenic, gross-alpha radiation, uranium, mercury, fluoride, and radon. Once tested, these elements are not likely to change much overtime, but should be retested every 2-3 years**

Additional water quality tests may be required in specific areas of the state that are known to have been impacted by human caused contaminants.

Buyers of real estate on shared water wells in Arizona are not protected by any state agency checking for their water rights, proper well construction, the condition of the pumping equipment, or the water quality they will be receiving. It is strictly a “buyer beware” situation. A buyer of a property served by a shared water well obtains their legal right to water through the wording of the recorded well share agreement. A true and exact copy of the operating well share agreement should be in the possession of all parties on the system, whether or not they are currently using their water right.

Shared Well Contracts

A well share agreement (WSA) is a legal contract between two or more parties; therefore, it must be properly signed, notarized and recorded in the county where the well is located. Because it is a part of the record of title for each individual landowner on the system, it is typically referenced in their deeds and mortgages. It must be kept current, all provisions in it should be followed, and the well and all supporting equipment properly maintained.

There is not a standard format for a well share agreement that works for all shared well systems. A properly written agreement should be tailored specifically for the well that is being shared, with easements described for the people and homes who must have water line access to it.

Home lenders today are quite concerned about the wording of shared well agreements whenever there are more than four homes on a single well. If there five or more homes on a single well, lenders would prefer that:

- **the well be registered in either a co-op, or a non-profit limited liability company (LLC)**
- **the recorded well share agreement be between the registered co-op or LLC and the parties served**
- **the power supply to the shared well system be a listed in the same name as the registered well owner**
- **a banking account be established in the name of the registered well owner for collecting monthly fees and paying for repairs**

In addition, most lenders insist that there be individual valves that can shut off each member’s water while leaving the other homes in service. Shared well systems not structured in this manner will not receive approval for Federal Housing Administration (HUD) and the Veteran Affairs (VA) supported loans, see HUD (2017).

Conclusion

The single most important asset in any home is water, and the source of that water may be from a shared water well. Clean, safe, potable water is an essential element for a habitable home. The quantity and quality of the water for a home is just as important as having a good roof or a working air conditioner. Well owners alone are responsible for managing and maintaining the quantity and quality of water delivered to their homes. Everyone who gets their drinking water from a private or shared water well share is responsible for protecting our most precious public resource, Arizona’s groundwater.

Answers to Common Questions

Should a lawyer be involved in setting up a WSA?

Yes, it is a legal document affecting the management of real estate and thus writing one and charging a fee for

preparing it constitutes the practice of law. However, there are a lot of WSA's out there have been prepared by lawyers with vastly different perspectives on what clauses should be included in (or excluded from) in them. After the collapse of the home lending industry a decade ago, lenders became owners of many properties with shared wells. Since then they have become more particular about the wording of WSA's.

Proceed with caution when making changes to older and poorly written and structured agreements (those with more than four homes on them).

Are there any templates available for WSAs?

Yes, there are some written very generally and intended to apply to all 50 states. They are not AZ specific. For more information, see Hix (2016), Chapter 5.

Is there an inspection checklist for managers of shared wells?

Inspecting a shared well is complicated because there are no state, local, or industry standards for inspection of private or shared wells. Most well inspections are performed by well and pump contractors who are familiar with the equipment and local construction codes, where these exist. Some well owners have their water well equipment inspected once a year, while other inspections are performed only when the property is being sold or refinanced. For more information see the National Ground Water Association (NGWA.org) white paper with best suggested practices for performing annual maintenance inspections of shared wells. Two additional articles about well inspections appear in past issues of the NGWA's trade magazine, Water Well Journal written by one of the authors (Hix 2013 & 2015).

References

- Artiola, J.F. and G. Hix. 2015. Arizona Guide to Domestic Well Registration and Record-keeping. The University of Arizona Cooperative Extension publication AZ1663.
- ADWR 2019. Well Permitting and Notice of Intent Forms. <http://www.azwater.gov/azdwr/WaterManagement/NOI/documents/PermitsFormsApplicationsNOI.htm>
- ARS 2019. Tile 45-Water. Arizona Revised Statutes ARS §45-402 (8), ARS §45-593 C, and ARS §45-600 B. <https://www.azleg.gov/arsDetail/?title=45>
- Hix, Gary. 2016. Domestic Water Wells in Arizona. A Guide for Realtors and Mortgage Lenders. Kindle Edition. https://www.amazon.com/Domestic-Water-Wells-Arizona-Realtors-ebook/dp/B01LXMTLNG/ref=sr_1_1?keywords=Domestic+water+wells+in+arizona.&qid=1570737462&sr=8-1

Hix, Gary. 2013. Well Inspection Contracts. Water Well Journal. April 2013.

Hix, Gary. 2015. Ethical Issues Surrounding Well Inspections. Water Well Journal, June 2015.

HUD 2017. Department of Housing and Urban Development Handbook 4150.2, VA Circular 26-17-19, Chapter 12. https://www.benefits.va.gov/HOMELOANS/documents/circulars/26_17_19.pdf



THE UNIVERSITY OF ARIZONA
Cooperative Extension

THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
TUCSON, ARIZONA 85721

GARY HIX RG

Retired well driller and past president of the Arizona water well association

JANICK F. ARTIOLA Ph.D.

Associate Professor and Water Quality Specialist, Department of Environmental Science

CONTACT:

JANICK F. ARTIOLA

jartiola@email.arizona.edu

This information has been reviewed by University faculty.

extension.arizona.edu/pubs/az1810-2020.pdf

Other titles from Arizona Cooperative Extension can be found at:

extension.arizona.edu/pubs

Any products, services or organizations that are mentioned, shown or indirectly implied in this publication do not imply endorsement by The University of Arizona.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Extension & Economic Development, Division of Agriculture, Life and Veterinary Sciences, and Cooperative Extension, The University of Arizona.

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information in its programs and activities.