

BEHIND THE METER



ORO VALLEY WATER UTILITY NEWSLETTER

FALL 2024

A MESSAGE FROM OUR DIRECTOR



Peter Abraham, P.E.
Water Utility Director

As we leave the Southern Arizona summer behind us and head into Fall the production demands placed on our water system begins to relax a little bit. There is a direct correlation between the average daytime temperature and the amount of water consumed. The hotter the average daytime temperature the higher the demand is for water and vice versa.

The month of June is typically when the Utility's water system experiences the highest average daily demand of about 7 million gallons a day of drinking water produced while the month of February the average daily demand is about 4 million gallons a day.

Thanks to designing our water system with the future in mind, a robust maintenance and capital improvement program, and our community's strong conservation ethic, our drinking water system operates at about 60% capacity even during the hottest months of the year.

While proper Engineering, system operation and maintenance are very important elements of a robust and reliable water system, it cannot be overstated how important the conservation component is.

The graph to the right shows the Utility's water resource delivery and the Town's population by year. The Utility began its conservation program in 2004, and our community listened. Since 2007, our community has continued to increase in population while our water resource utilization has decreased.

Without conservation every aspect of our water system would be larger, and more expensive to construct, operate and maintain. Unfortunately, the cost of water deliveries continues to increase annually but conservation ensures that our water system does not need to be grossly overbuilt to support a water wasting community.

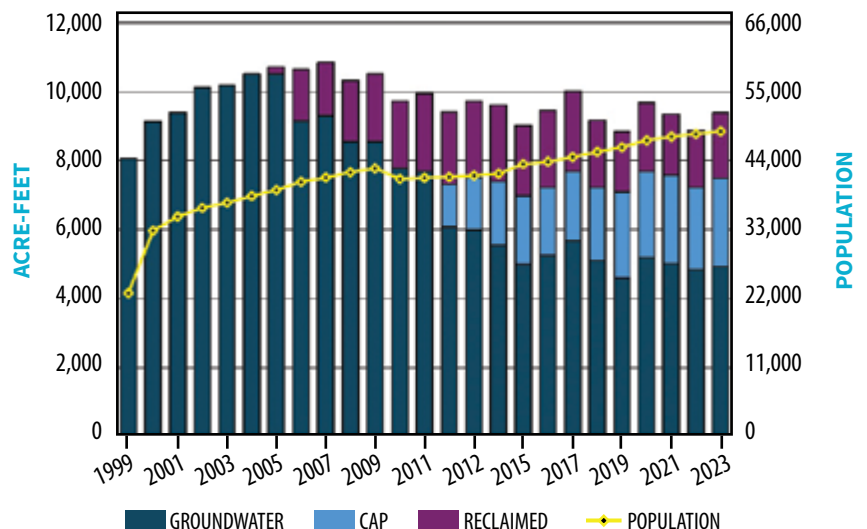
With our community's continued support and conservation mindset your Water Utility will continue to operate a robust, reliable, and efficient water system that will ensure our communities sustainability for generations to come.

Looking forward,

Peter Abraham

Peter A. Abraham, P.E. | Water Utility Director

WATER RESOURCE USE BY TYPE - ANNUAL COMPARISONS



THE WATER ENGINEERING BEHIND THE ORO VALLEY WATER UTILITY

The practices of the Water Engineering Department allow the Oro Valley Water Utility to effectively manage water resources, maintain infrastructure, and provide reliable water services to the community. Their dedication and expertise ensure that despite the challenges posed by our unique environment, our community can depend on a consistent and high-quality water supply.

WELLS

Developing a drinking water well involves careful site selection based on aquifer depth, water quality, and recharge rates, followed by preliminary water quality tests. Engineers select pumps based on well depth, yield, and required flow rate, ensuring safe and reliable water supply while protecting groundwater resources.

Pictured: Well D-10 being drilled (left) and Well D-10 flow test (right)



RESERVOIRS

Designing water storage reservoirs requires forecasting future water demand, accounting for emergency needs, and maintaining consistent supply pressure. Engineers consider hydraulic design, ensuring good circulation and avoiding dead zones, to meet community needs while ensuring water safety and reliability.



Pictured above: Northwest Recharge, Recovery and Delivery system - Shannon Road Reservoir and Booster Station construction of reservoir.



Pictured above: Interior of 500,000-gallon reservoir.

BOOSTER STATIONS

These facilities optimize water distribution using hydraulic modeling and energy-efficient technologies to reduce costs while meeting system demands, such as maintaining constant pressure and consumer demand during peak use periods.

Pictured: Rancho Vistoso Booster Station



DISTRIBUTION SYSTEMS

The Distribution System is an extensive network of pipelines that transport water from reservoirs and booster stations to homes and businesses across the community. The distribution system is engineered to ensure customer demands and fire flows are met. Durable and corrosion-resistant materials are used for pipeline construction to enhance longevity and reduce maintenance costs.

Pictured: Steam Pump 8" Mainline construction

