ORO VALLEY WATER UTILITY COMMISSION ANNUAL REPORT APRIL 2015

TOWN OF ORO VALLEY
WATER UTILITY COMMISSION ANNUAL REPORT
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ORO VALLEY TOWN COUNCIL

Satish I. Hiremath, D.D.S., Mayor
Lou Waters, Vice Mayor
Brendan Burns, Councilmember
William Garner, Councilmember
Joe Hornat, Councilmember
Mary Snider, Councilmember
Mike Zinkin, Councilmember

ORO VALLEY WATER UTILITY COMMISSION

Rick Davis, Chair
Rick Reynolds, Vice Chair
Javier Arriaga, Commissioner
Anne Campbell, Commissioner
Winston Tustison, Commissioner
Shanna Weagle, Commissioner

TOWN STAFF

Greg Caton, Town Manager
Philip C. Saletta, P.E., Water Utility Director
David Ruiz, Engineering Division Manager
Shirley Seng, Water Utility Administrator

Special recognition to OVWU staff that provided graphics, data, photos and their time to assist in the preparation of this report:

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Charles Soper
Adam Pence

ABOUT THE WATER UTILITY COMMISSION

In March of 1996 the Oro Valley Town Council (Mayor and Council) created the Oro Valley Water Utility Commission (Commission) to act as the official advisory body to the Mayor and Council. The first Commission was appointed in October of 1996. The Commission is composed of five to seven members appointed by the Mayor and Council. Commission members serve a term of three years, and are limited to a maximum of two successive terms. The Commission makes recommendations to Council on items such as water policies, water rates and fees, renewable water supplies and water conservation.

The Commission meets the second Monday of each month to discuss and review matters pertaining to the Water Utility. The Commission welcomes the public to attend its meetings. In addition to the regular Commission meetings, there were several meetings conducted by three standing Subcommittees: the Finance Subcommittee, the Conservation Subcommittee and the Water Resources Subcommittee.

Notable actions taken by the Commission in 2014 include:

- Election of officers
- Recommendation for acceptance of the Annual Report
- Recommendation for an increase in water rates and fees
- Recommendation for a decrease in the groundwater preservation fees
- Recommendation for an offer to purchase long-term storage credits
- Recommendation to apply for 2017 Hoover power reallocation

Notable issues that will be addressed in 2015 include:

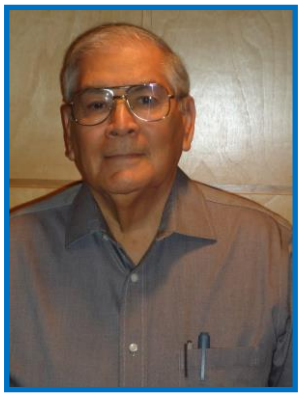
- Continued planning for long-term CAP water delivery
- Review of water rates analysis and developing a Preferred Financial Scenario
- Review of reclaimed water IGA
- Review possible acquisition of Groundwater Extinguishment Credits
- Review of cash reserve policy and the Groundwater Preservation Fees

The Commission and staff would like to thank and acknowledge Robert Milkey, Elizabeth Shapiro, and Richard Verlaque for their dedication and service on the Water Utility Commission through December of 2014.

WATER UTILITY COMMISSION 2015

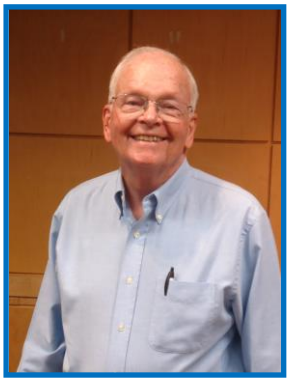
Richard Davis, Chair

Richard Reynolds, Vice Chair



Javier Arriaga, Commissioner

Anne Campbell, Commissioner



Winston Tustison, Commissioner

Shanna Weagle, Commissioner

EXECUTIVE SUMMARY

TOWN OF ORO VALLEY
WATER UTILITY COMMISSION
ANNUAL REPORT
APRIL 2015

This report is intended as a resource for both the Council and the public. The goals of the report are to fulfill Town-mandated reporting requirements as well as to provide clear information on the ways the Utility operates and ensures present and future availability and delivery of quality water. It includes topics on customer service, water quality, water supply, water resource planning, conservation and capital improvements. This report covers information and activities primarily for calendar year (CY) 2014 ending on December 31, 2014. However, some information is only as of fiscal year ending June 30, 2014 and is noted as such in the report.

OVERVIEW OF THE TOWN OF ORO VALLEY WATER UTIITY

The Town of Oro Valley Water Utility was established in 1996 as a municipally-owned self-supporting enterprise that is overseen by the Town Council. It is financially separate from the Town's General Fund. Revenues are generated from rates and fees and no tax dollars are used to fund the Utility.

The Utility's primary goal is to provide a safe and reliable water supply for our community. It operates two potable water systems: one serving the Oro Valley Water Service Area (OVWSA) and one serving customers outside Town boundaries in the Countryside Water Service Area (CSWSA). The Utility also operates a non-potable reclaimed water system for irrigation purposes.

The Utility is organized into the following main Divisions: Administration Division which includes the Customer Service Section and the Meter Operations Section, the Engineering and Planning Division, the Production Division and the Distribution Division. Currently there are 37 full-time employees and one part-time employee at the Utility.

The following describes some of the Utility's resources and infrastructure as of December 31, 2014:

Resources:

Groundwater Supply (Assured Water Supply):	13,384	acre feet per year
Reclaimed Water:	2,227	acre feet per year
Effluent Water:	1,773	acre feet per year
CAP Water Allocation:	10,305	acre feet per year
Long Term Storage Credits:	11,248	acre feet
Groundwater Allowance Account:	14,150	acre feet

Infrastructure:

Water Distribution Storage Reservoirs:	19
Potable Water Reservoir Capacity:	11,600,000 gallons
Reclaimed Water Reservoir Capacity:	1,500,000 gallons
Potable Water Mains:	350.2 miles
Reclaimed Water Mains	13.8 miles
Potable Water Booster Stations:	25
Reclaimed Water Booster Stations:	2
Operating Wells:	22

In 2014, the Utility had 19,107 customer connections serving a population of 41,884. Approximately 2.284 billion gallons (7,010 acre feet) of potable water was delivered to our customers. In addition, approximately 719 million gallons (2,206 acre feet) of reclaimed water was delivered.

CUSTOMER SERVICE SECTION

In 2014 the Utility experienced a 1.01% growth rate in customer connections, with 191 new meters installed. Customer service staff responded to 34,387 customer contacts, averaging 138 contacts per day. Technology such as computer tablets and advanced metering software are used to improve communication and increase efficiencies. Customer Service processed 227,317 bills, collecting a total of $25.5 million which includes billing and collection for Pima County Wastewater Reclamation and the Town of Oro Valley Storm Water Utility. Payments were posted as follows:

- Oro Valley Water Utility $15,971,000
- Pima County Wastewater Reclamation $ 8,768,000
- Town of Oro Valley Storm Water Utility $ 761,000

METER OPERATIONS SECTION

During 2014, the meter operations team completed Phase II and began Phase III of the Utility's Advanced Metering Infrastructure (AMI) project and meter replacement program. Phase III is expected to be completed in July of 2015. The final phase, Phase IV, is expected to be complete in March of 2016. The new meters provide more accurate measurements of water, automate meter readings, increase customer service capabilities and can help customers better manage their water.

WATER QUALITY SECTION

For the thirteenth consecutive year, the Utility is proud to report that it did not experience any water quality violations. In 2014 the Utility received 1,360 analytical results for required water sampling and operational data.

Over the course of a year the Utility collects hundreds of water samples from approximately 19 "point of entry" sites. These sites include groundwater wells, reservoirs and pumping stations. The Utility also samples from 58 sampling stations on our water system as required by the Arizona Department of Environmental Quality. Our water quality was in compliance with all standards established by federal and state agencies.

The Utility remains up-to-date with testing protocol and in 2015 expects to phase in five proposed and pending regulations related to monitoring rules. As a precaution against bacterial growth, the Utility continues to disinfects its water source by adding sodium hypochlorite solution at a level of 0.2 to 0.8 parts per million. In addition, the Utility continues its Backflow Prevention Program-installing, testing, repairing and replacing equipment that keeps the water supply safe from contaminants that could be introduced into the distribution system through backflow or back pressure from customer plumbing systems or internal processes.

CURRENT WATER SUPPLY

Oro Valley currently delivers water from three sources of supply: groundwater, Central Arizona Project (CAP) water and reclaimed water. Groundwater is pumped from wells in the aquifer below the water service areas and delivered through the potable water distribution systems. In CY 2014, the Utility pumped 5,612 acre feet (1.83 billion gallons) of groundwater from its wells: the Oro Valley Water Service Area (OVWSA) wells produced 5,029 acre feet (1.64 billion gallons) and the Countryside Water Service Area (CSWSA) wells produced 583 acre feet (190 million gallons). The total pumped from our wells was 381 acre feet (124.15 million gallons) less than in 2013. This reduction is due to the continued and additional delivery of CAP water as well as continued use of reclaimed water and water conservation efforts.

In 2014, groundwater declined in the Oro Valley aquifer, but less in CY 2014 than in CY 2013. Well water levels in OVWSA declined an average of 1.58 feet in CY 2014 compared to 2.76 feet in CY 2013. Water levels in CSWSA rose an average of 0.70 feet in CY 2014 compared to an average decline of 2.21 feet in CY 2013.

Reclaimed water is delivered through a separate reclaimed water distribution system that supplies irrigation for golf courses, athletic fields, parks and construction. In 2014, the Utility delivered 2,206 acre feet of reclaimed water. The reclaimed water system was extended to deliver reclaimed water to Naranja Park.

Central Arizona Project (CAP) water is delivered to the Utility's potable water system through the Tucson Water Distribution System. In 2013, our CAP water delivery totaled 1,530 acre feet.

An additional 500 acre feet was developed in 2014, raising the Utility's CAP water delivery capacity to 2,000 acre feet. In 2014, the Utility delivered 1,828 acre feet (595.54 million gallons) of CAP water. The Utility also uses CAP water indirectly by storing it at various recharge facilities to obtain groundwater storage credits within the Tucson Active Management Area. In 2014, the volume stored increased to 9,000 acre feet; in 2013 the Utility stored 7,000 acre feet. In 2014, some of these credits were used to replace groundwater depletions and the remainder were stored as Long-Term Storage Credits for future use.

WATER RESOURCE PLANNING AND MANAGEMENT

The Utility plans to reduce water demands through conservation efforts and increase supply through further development of renewable sources to preserve groundwater and serve growth. An additional 1,500 acre feet of CAP water will be developed for delivery of potable water to serve new growth in the next 10 years. The Utility will continue to look for opportunities to expand the customer base of the reclaimed water system. Over the next several years, the Utility also plans to continue purchasing all of its CAP water (10,305 acre feet), to deliver to our customers and storing the remainder to build up Long Term Storage Credits. It is anticipated that an additional 10,000 acre feet could be stored in our Long-Term Storage Credit accounts over the next four to five years. If current drought conditions in the Colorado River Basin persist and no other action is taken, projections suggest that CAP deliveries to municipal water providers may be reduced in the 2026 to 2030 time frame. If our CAP deliveries are reduced in the future, the Utility plans to use these Long-Term Storage Credits and also utilize some of the water that has been stored by the Arizona Water Banking Authority.

WATER CONSERVATION

An important component of resource planning for the Utility is the Water Conservation Program. This program saves our customers money, serves the community's stated environmental conservation values and stretches existing water supplies by reducing average customer water demand. The Utility primarily encourages water conservation by informing and educating our customers. Specifically in 2014,

- 564 students participated in our Youth Water Conservation Education Program for elementary schools in Oro Valley
- 113 customer water audits were performed. These on-site reviews identify specific ways the customer can reduce water use. According to data based on audits performed in 2013, the average water savings was 14.5% in the first year after the audit
- AquaHawk is now available to those customers with AMI meters as an online service that shows hourly water use and will send personalize alerts to help customers better manage daily water use and detect leaks
- Community outreach activities such as speaking engagements, conservation presentations at homeowner associations and participation at other community events. These include National Night Out, a local wellness fair and the Oro Valley Water Harvesting Tour

PRODUCTION DIVISION AND DISTRIBUTION DIVISION

The Production Division staff continues to be proactive in the implementations of facility upgrades and a preventative maintenance program; 49 facility sites are maintained and evaluated annually to determine necessary upgrades. They are also responsible for the installation and maintenance of security devices; baseline security installations are complete.

In 2014 they responded to more after-hours calls (675, up from 359 in 2013) and completed more work hours related to assigned work orders (5,342, up from 4,772 in 2013). Other notable highlights in 2014 include building 22 site chlorine storage sheds, deactivating two wells, changing-out all well and booster air relief valves and constructing parking areas at the reclaimed water reservoir site.

Distribution Division staff are responsible for the operation and maintenance of 350.2 miles of potable water mains, 13.8 miles of reclaimed water mains for a combined total of 364 miles of water mains. There are 2,147 fire hydrants and 7,844 valves on the water distribution system. Special projects in 2014 include the installation of water mains and conduit for cable at Naranja Park, installation of the water service and fire service lines at the Wellness Clinic, installation of the water service line for a drinking fountain and the installation of a water meter and by-pass valve for delivery of CAP water to the Countryside Water Service Area.

SECURITY AND EMERGENCY RESPONSE PLAN

In 2014 Utility personnel, with the assistance of a security consultant, reviewed, refined and updated its security program, Emergency Response Plan and the Business Continuity Plan. Emergency response training classes and exercises were also completed by Utility staff. In 2014 the Utility installed 45 new hydrant defenders and locks to protect the water system.

ENGINEERING AND PLANNING DIVISION

In 2014, the Utility inspected and approved 14 new development projects, 4 capital projects and 6 projects constructed by Utility personnel. The completion of these new development projects together with capital projects added approximately 4.5 additional miles of pipeline to the existing potable water distribution system. In 2014, two design projects began. One for a new potable main on Lambert Lane west of La Cañada and the other for relocation of portions of the reclaimed water main on Tangerine Road. Several construction projects were continued, completed and/or started, including a valve replacement project, a CAP interconnect project on Calle Buena Vista, a system connection project on Glover Road, a potable water main installation on Naranja Road, improvements and upgrades at Countryside Well CS2 and an extension of the reclaimed water line on Naranja Road.

FINANCIAL HIGHLIGHTS, WATER RATES AND FEES

The Utility continues to be fiscally sound. It met all revenue requirements, exceeded the debt service coverage ratio requirements and maintained adequate cash reserves. On April 9, 2014, Fitch Ratings affirmed the Utility's AA- bond rating with a stable outlook.

The Water Utility Commission and Town Staff annually review and develop recommendations for water revenue requirements, water rates and fee structures. In 2014, recommendations regarding water rates, fees and charges were provided in the Water Rates Analysis Report. The recommendations included a slight increase in the water commodity rates and a slight decrease in the groundwater preservation fee. Both of these water rate recommendations were approved by Council on January 7, 2015.

New water impact fees were developed in accordance with statutory requirements and approved by Council on April 2, 2014. The new impact fees became effective on July 1, 2014. The water impact fees will fund expansion of the water delivery system and will be collected to ensure that growth pays its fair share.

CONCLUSION

The Oro Valley Water Utility Commission is proud to serve the Mayor and Council of the Town of Oro Valley and its residents and customers. We are pleased to present this Annual Report to the Mayor and Council for their consideration.

Any questions regarding this report should be directed to Philip Saletta, Director, Oro Valley Water Utility at 229-5010. Additional information for the Oro Valley Water Utility can also be found on the Town website at *www.orovalleyaz.gov/Town_Government/WaterUtility*.

CUSTOMER SERVICE

Customer service responsibilities range from handling a payment to responding to questions or problems related to billing, opening or closing an account, water quality or pressure and flow problems. Customer Service Representatives (CSRs) work closely with field personnel to respond in a timely manner to customer concerns. CSRs are generally the first and sometimes the only contact our customers may have with the Utility. Providing professional and courteous service is paramount to the successful operations of the Water Utility. In 2014, Customer Service staff received numerous compliments from our customers thanking them for the high quality level of service.

Customer Service personnel include CSRs and Utility Operators. This staff is responsible for meter reading, meter installation, billing, collection and customer service for 19,107 water service connections serving 41,884 residents. The Utility has grown over the past year and in 2014 an additional 191 meters were installed for a growth rate of 1.01%. Over 5,439 customer accounts were changed in 2014 primarily due to opening and closing of accounts for new move-ins and winter residents.

In 2014 the Utility delivered:

- 2.284 billion gallons (7,010 acre feet) of potable water
- 719 million gallons (2,206 acre feet) of reclaimed water for irrigation to five golf courses and a school athletic field.
- Combined total of 3.003 billion gallons (9,216 acre feet) of water delivered and billed to our customers.

The Customer Service Division mailed and processed 227,317 bills and 11,534 delinquent notices to our customers during calendar year 2014. The Customer Service Division responds to customer concerns that arise from the operation and management of the water system and in 2014 responded to 34,387 customer contacts averaging 138 contacts per day.

Customer Service generates monthly bills for the Water Utility, Pima County Regional Wastewater Reclamation Department and the Town's Storm Water Utility. The Water Utility is separate from the Oro Valley Storm Water Utility as well as from Pima County Wastewater Utility and only bills and collects for those entities under existing agreements. In 2014, the Utility collected a total of $25,500,000 and posted payments as follows:

- Oro Valley Water Utility $15,971,000
- Pima County Wastewater Reclamation $ 8,768,000
- Town of Oro Valley Storm Water Utility $ 761,000

In 2014 the Water Utility began collecting donations for the Youth Roundup Program sponsored by the Parks Department. Donations are accomplished by "rounding up" their water bill to the nearest dollar amount, donating a specific amount monthly or a one-time donation. The Water Utility also collects taxes on water use that are imposed by the State of Arizona and the Town of Oro Valley. These taxes are distributed to the State, Pima County and the Town. The Water Utility receives all of its revenues from water rates and fees and does not receive any funding from taxes.

The customer account information on the Water-on-the-Web site includes the ability to view the current water bill, a two year history of billing, payments and water usage information.

Customers may also pay their water bill online from this website. The Utility provides convenient alternative payment methods for our customers. During 2014, the Utility received $2.29 million in credit card payments. Payment options are listed below:

- Credit cards
    - By telephone using a toll free number
    - Online at the Water-on-the-Web site
    - In person at the Utility office
- Automated Clearing House (ACH)
    - The bill amount is automatically transferred from the customer's bank account to the Utility's bank account on the bill due date.
- Electronic Funds Transfer
    - A bank to bank transfer of funds to pay their bill when requested by the customer through their own online banking services on the date of their choice.

The Utility also offers a "paperless" E-bill feature. After the bill has been generated, the customer receives an electronic notification that their current water bill is available on the Water-on-the-Web site. Utility customers may request e-billing on the Utility's website.

The FlexNet, software associated with the Advanced Metering Infrastructure (AMI) project is a valuable tool that enables Customer Service staff to view customer consumption data and accurately determine high water use on their computers while communicating directly with the customer in person or on the telephone.

Where AMI equipment is installed, FlexNet software continues to facilitate the monitoring of leaks on a daily basis. Utility staff provides early leak notification to our customers that conserves water by reducing the amount of water wasted by leaks and also saves our customers money. This new technology monitors water use on an hourly basis, can trigger alerts and allows for better utilization of resources with the least amount of waste. Since the installation of AMI, the lost and unaccounted for water has decreased from as high as 9.86 % to 5.16%.

AquaHawk, the customer web portal launched in 2013, utilizes the water usage data from FlexNet. Once a customer is enrolled in this on-line service, they are able to view their individual water use on an hourly, daily, weekly or monthly basis. Customers can tailor personal notifications based on their individual preferences and receive alerts by e-mail, text or telephone. The web portal is available for customers once their meters are replaced with AMI equipment.

As the Customer Service Division looks to the future they will continue to use new technology to streamline procedures and increase efficiencies. Utilizing computer tablets, staff electronically sends and distributes work orders, service requests, and new and closed account paperwork from the office to field staff. Employing this technology has reduced staff travel time, wear and tear on vehicles and gasoline and has resulted in higher efficiency and productivity.

Utility statistics including meter installations, the number of customer contacts, and water deliveries for CY 2014 may be found in **Appendix A**.

METERS OPERATIONS

During 2014, the meter operations team continued with Phase II and Phase III of the AMI project and meter replacement program in the Oro Valley Water service area. The meter operations team worked closely with external contractors and took the lead role in organizing, planning, and scheduling work. The contractor is responsible for replacing all residential meters ranging in sizes from 5/8-inch through 1-inch. Meters staff are responsible for installation of commercial and irrigation meters and the programming of smartpoint transceivers. Remaining phases of the project will be completed as shown in the table below.

Service Area	Number of Meters	Date Completed	Estimated Completion Date
Countryside	2,244	12/31/11	
Oro Valley Ph. I	2,477	06/30/13	
Oro Valley Ph. II	4,067	08/31/14	
Oro Valley Ph. III	5,374		06/30/15
Oro Valley Ph. IV	4,950		03/31/16

The AMI and meter replacement program provides for more accurate measurements of water usage and also assures that the volume of water used and billed is accurate. Additionally, using AMI technology provides increases customer service with accurate and complete water use information. With AMI software, Utility staff and customers can review water use history on an hourly, daily, weekly and monthly basis. This is extremely valuable in assisting our customers. Utility staff are able to troubleshoot potential leaks, usage from irrigation systems and overall water consumption at the home. Experiencing the benefits and efficiencies gained by using AMI, meter operations staff is excited about expansion of this technology throughout the Oro Valley Water Service Area.

The AMI and meter replacement program will continue to provide human resource and technological benefits in the future to increase productivity. AMI technology provides an opportunity to use existing human resources more efficiently by eliminating the need for labor intensive manual meter reading. The meters team will be able to redirect their focus and capabilities to other areas of responsibility including customer work orders, meter box cleaning, angle meter stop repairs, meter testing procedures, new meter installations and assisting the Water Distribution Division.

The technological advancement with the AMI project prompted the Water Utility to incorporate the use of computer tablets. These tablets provided the meter operations team new capabilities that include the ability to generate or close work orders, receive and send reports, view real time customer usage and verify delinquent account payments in the field. The team will operate more efficiently and increase productivity by significantly reducing travel time since there will no longer be a need to return to a central location to get the required information.

WATER QUALITY

There is a complex and extensive framework of regulatory requirements and sampling methodology in place to ensure clean, safe drinking water is served by every public water system in Arizona. Protection of drinking water quality starts with an assessment of the drinking water source quality and continues through regulations that govern water system design and construction. Finally, drinking water quality is assured through scheduled tests required of all public water systems for a wide variety of potential contaminants. As a result of these regulations and continued testing, drinking water supplies in Oro Valley and in many areas throughout the United States are among the cleanest and safest in the world.

Water Quality Testing

The Water Utility operates two separate potable water systems. The Oro Valley Water Service Area (OVWSA) that has a Public Water System Number of AZ0410164. It also operates a potable system that is not located within the Town boundaries, known as the Countryside Water Service Area (CSWSA) that has a Public Water System Number of AZ0410175.

In 2014 the Utility received 1,360 analytical results for required water sampling and operational data. Over the course of a year the Utility collects hundreds of water samples from approximately 19 "point of entry" sites. These sites include groundwater wells, reservoirs and pumping stations. The Utility also samples from 58 sampling stations required by the Arizona Department of Environmental Quality (ADEQ). These stations are located in neighborhoods throughout the water distribution system specifically selected to represent the water quality that is delivered to our customers. The Utility has an additional twenty-nine sampling stations that can be used during emergencies and to meet future testing requirements. Water samples are taken from 50 private residences within the Oro Valley area and tested for lead and copper. The Utility provides all water quality testing results to ADEQ and works closely with that agency to ensure all Federal and State standards are met. The website for ADEQ is www.azdeq.gov. The Town's water system is in full compliance with all State and Federal regulations.

The Utility's state-certified water operators are responsible for the health and safety of our customers. The operators meet this responsibility by maintaining a daily vigilance over the system's production, distribution, and water quality.

The Water Utility has 19 water operators that are licensed by ADEQ and attend continuing education and training through Personal Development Hours required by ADEQ.

Drinking water standards are regulations that the Environmental Protection Agency (EPA) sets to control the level of contaminants in the nation's drinking water. These standards are part of the Safe Drinking Water Act's "multiple barrier" approach to drinking water protection which includes, assessing and protecting drinking water sources; protecting wells and collection systems; making sure water is treated by qualified operators; ensuring the integrity of distribution systems and making information available to the public on the quality of their drinking water. Community water suppliers throughout the country are required to provide an annual water quality report to their customers. The OVWSA and the CSWSA Consumer Confidence Reports are annually distributed to all customers. The report is also available in the Utility's office and on the website.

Detection of a contaminant in drinking water does not necessarily represent a threat to public health. Due to current technology, water utilities are now able to detect extremely low levels of contaminants in drinking water. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants and are well below the MCL (Maximum Contaminant Level) required by EPA. Oro Valley's groundwater contains naturally occurring dissolved minerals and organic compounds, which have been leached from the rock, sediments, and plant materials through which the water traveled.

Other contaminants that may be present in source water are microbial contaminants, such as viruses and bacteria. The Utility disinfects its water source by adding sodium hypochlorite at a level of 0.2 to 0.8 parts per million as a precaution against bacterial growth. The Total Coliform bacteria group is used as an indicator to more closely monitor the distribution system for possible unwanted bacteria. During 2014, the Utility collected 696 samples for analysis of Total Coliform bacteria, all samples were negative for bacteria. This is a direct result of a successful disinfection program, effective system monitoring, proficient sampling methods, and routine maintenance.

Water hardness is also tested and is a measurement of the concentration of calcium and magnesium. During CY 2014, the hardness levels in Oro Valley range from 1.8 to 9.0 grains per gallon. On average our water quality is in the soft to moderately hard range, which is considered acceptable.

The Utility is in compliance with all Disinfectants and Disinfection By-Products Rules. The Utility's also meets the Ground Water Rule requirement for disinfection and the EPA's rules for lead and copper.

Proposed and Pending USEPA Regulations:

- Third Unregulated Contaminant Monitoring Rule — Currently sampling February 2015
- Revised Total Coliform Rule — January 2015
- Fourth Unregulated Contaminant Monitoring Rule — January 2015
- Revised Long-Term Lead and Copper Rule — September 2015
- Carcinogenic Volatile Organic Chemicals Rule — 2015
- Epichlorohydrin and Acrylamide — TBD

Oro Valley is a growing community in an arid environment. The future of drinking water quality will require continued attention by everyone involved with water supply for the community. Water quality compliance requirements will continue to increase in both complexity and cost, requiring the support and resources needed to ensure regulatory compliance and to provide a safe and reliable water supply to our customers.

BACKFLOW PREVENTION PROGRAM

Backflow prevention is an important component of water quality. The Town of Oro Valley Water Utility implemented the Backflow Prevention Program in response to requirements set forth in the Arizona State Drinking Water Regulations. The Backflow Prevention Program is administered in accordance with the Town of Oro Valley Ordinance No. (O) 07-21, ADEQ Administrative Code, section R18-4-B115, the International Plumbing Code and the guidelines of the University of Southern California Foundation for Cross Connection Control and Hydraulic Research.

The Backflow Prevention Program is designed to protect the public water system from high risk service connections which include, but are not limited to, commercial, fire and irrigation. By state statute single family residences are exempt unless a known hazard exists on the premises.

There are 1,452 backflow prevention assemblies under the program that are located in our water service areas. The Utility is required to notify each customer on an annual basis to have each active assembly tested. An initial notification letter is mailed followed by a second and final letter. The backflow prevention assemblies must also be tested if they are replaced, relocated or repaired. Test data must be kept by the Water Utility for 3 years and all assemblies are surveyed on a 3 year cycle. The backflow assemblies that are owned by the Town and in service are maintained, tested and inspected by the Water Utility Backflow Prevention Section.

The following are some of the major activities and accomplishments that were performed by the Backflow Prevention Section in 2014:

- 197 backflow assemblies owned by the Town of Oro Valley were tested
- 76 repairs on in-ground and construction water backflow prevention assemblies
- 127 permits for new and replacement backflow prevention assemblies

The program works to keep the water supply safe from contaminants that could be introduced into the distribution system through backflow, back siphoning or back pressure from our customers plumbing systems or internal processes.

CURRENT WATER SUPPLY

The Town has Developed Water Resources and Undeveloped Water Resources. Developed Water Resources are those sources of water supply that have infrastructure in place to deliver the water directly. These directly delivered supplies are sometimes referred to as "wet" water. Undeveloped Water Resources are those sources of water supply that do not have infrastructure developed to deliver them directly at this time. These undeveloped supplies are reserved for future use. The undeveloped supplies can also be stored as groundwater credits. These credits can be used indirectly through recovery wells in accordance with state regulations to replace groundwater depletions. The use of these credits to replace groundwater usage is referred to as "paper" water when the infrastructure to produce the groundwater is not located near to where the credits are stored.

Developed Water Resources

- **Groundwater: 13,384 acre feet per year**
- **CAP Water: 2,000 acre feet per year**
- **Reclaimed water: 2,227 acre feet per year**

The Town of Oro Valley has a groundwater supply of 13,384 acre feet per year based on its Designation of Assured Water Supply (DAWS) from ADWR. Under our DAWS, for each calendar year, our groundwater pumping cannot exceed this amount. We pump significantly less than this amount annually. Regardless of the amount of groundwater pumped we are required to replace or replenish the total amount pumped under Arizona Department of Water Resources regulations. This replacement/replenishment can occur anywhere within the Tucson Active Management Area, which is a state-regulated groundwater basin in Southern Arizona. Development of our renewable water supplies has reduced our replacement requirements and has decreased our groundwater level declines protecting and preserving our aquifer.

The two ways the Utility can meet its replacement/replenishment obligation are to recover our stored long-term storage credits and replace our groundwater depletions or to pay the Central Arizona Groundwater Replenishment District (CAGRD) to replace or replenish our groundwater depletions. The Town has a Member Service Area Agreement with CAGRD that was approved by Resolution (R) 97-06. Through this agreement, the Utility has paid CAGRD to meet all or part of its replacement/replenishment obligations in the past. However, over the last two years the Utility replaced all of its obligations since all of our wells have been permitted as recovery wells and we have utilized our groundwater storage credits to meet all of our replacement/replenishment obligations. This has eliminated the need to make costly payments to CAGRD for replenishment. The Utility plans to continue storing more CAP water to meet its annual replacement/replenishment obligations and also increase its long-term storage credits. It is less expensive for the Utility to buy CAP water and then store and recover it than to pay CAGRD to replenish groundwater for us. However, we will still remain a Member Service Area with CAGRD to keep that replacement/replenishment option available into the future.

The Water Utility operates in two water service areas: the Oro Valley Water Service Area (OVWSA) and the Countryside Water Service Area (CSWSA).

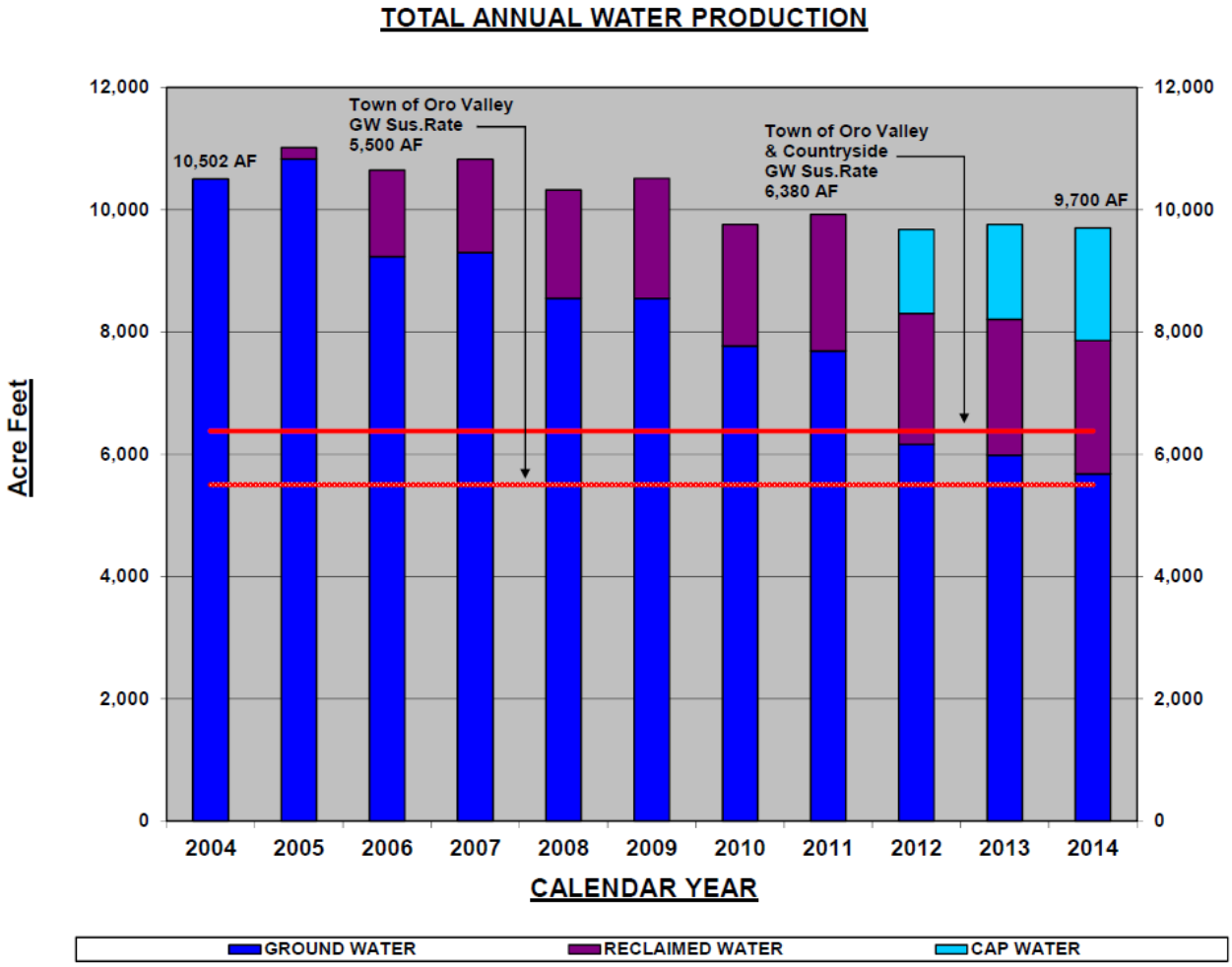
The table below provides the total water delivery capacities and water demands for both water service areas. The maximum daily usage occurred on June 27, 2014 for the OVWSA and on June 29, 2014 for the CSWSA.

Water Service Area	Well Capacity (MGD)*	CAP Capacity (MGD)	Average Demand (MGD)	Maximum Demand (MGD)
Oro Valley (OVWSA)	13.44	1.77	5.83	8.25
Countryside (CSWSA)	2.23	0.94	0.65	0.79

*MGD = million gallons per day

In 2014, Oro Valley pumped 5,612 acre feet of groundwater from our wells and aquifer. This total is 381 acre feet less groundwater pumping than 2013 due to our use of CAP water, reclaimed water, and water conservation. The wells in the Oro Valley Water Service Area produced 5,029 acre feet and the wells in the Countryside Water Service Area produced 583 acre feet.

The following table graphs water usage from 2004 through 2014 depicting our reduction of overall water use, reduction of groundwater usage and increase use of our renewable reclaimed and CAP water.



The following table lists all production wells, the amount of groundwater pumped and their water level changes as measured in January of 2015:

Well Water Level Change Summary

WELL #	Annual Pumped Acre - Feet	1 YEAR CHANGE 2015	5 YEAR CHANGE 2010 to 2015	5 YEAR AVERAGE 2010 to 2015
CS-1	278	-0.6	-9.8	-2.0
CS-2	305	2.0	-11.3	-2.3
C-4	56	-3.4	-11.8	-2.4
C-5	292	-2.0	-6.9	-1.4
C-6	334	-1.6	-3.6	-0.7
C-7	75	1.5	-8.7	-1.7
C-8	283	0.2	-7.8	-1.6
C-9	450	-0.8	-8.2	-1.6
D-1	75	-1.9	-1.8	-0.4
D-4	52	-4.4	-17.7	-3.5
D-5	1	-0.8	-1.9	-0.4
D-6	295	-1.3	-6.9	-1.4
D-7	179	0.8	-5.5	-1.1
D-8	324	-1.8	-24.1	-4.8
D-9	527	-3.4	-16.8	-3.4
E-1B	345	-2.5	**NA**	**NA**
E-2	260	-1.8	-3.6	-0.7
E-3	71	0.9	-3.0	-0.6
E-5B	256	-1.1	-0.8	-0.2
E-6B	366	-3.8	-1.5	-0.3
E-7B	264	-4.4	-6.2	-1.2
F-1	523	0.0	-5.5	-1.1

Groundwater studies indicate that the Oro Valley aquifer has a sustainable groundwater production rate of approximately 5,500 acre feet per year for the OVWSA and 880 for the CSWSA. In 2014, Oro Valley pumped 471 acre feet less than the sustainable groundwater production rate for the OVWSA wells and 297 acre feet less than the sustainable groundwater production rate for the CSWSA wells. In the OVWSA, the average annual well water level decline for the last 5 years is 1.50 feet and for calendar year 2014 there was an average well water level decline of 1.58 feet. For wells in the CSWSA, the average annual well water level decline for the last 5 years is 2.11 feet and for calendar year 2014 there was an average well water level rise of 0.70 feet. For all wells, water level changes in CY 2014 varied from a rise of 2.0 feet to a decline of 4.4 feet.

It is important to note that groundwater levels in our area are impacted by our pumping and the pumping from other nearby wells. Natural recharge from precipitation can also impact water levels annually and seasonally.

The continued use of our renewable water resources in 2014 has reduced our reliance on groundwater. The use of reclaimed water since October of 2005 has helped to reduce the impact on the Oro Valley aquifer. The Town of Oro Valley currently has a reclaimed water supply of 2,227 acre feet per year as designated in our Assured Water Supply. In 2014, the Utility delivered 2,206 acre feet of reclaimed water. The reclaimed water system supplies irrigation for five golf courses, athletic fields at one elementary school and Naranja Park.

In 2014, the Utility extended the term of the Reclaimed Water Intergovernmental Agreement with Tucson Water for an additional year through October of 2015. This extension will allow for time to evaluate if interruptible reclaimed water service from Tucson Water is feasible. The Reclaimed IGA will also be reviewed for any other potential changes.

Groundwater pumping was further reduced this year through the continued delivery of our CAP water under a wheeling agreement with Tucson Water. This intergovernmental agreement (IGA) currently allows for the nominal delivery of 2,000 acre feet per year of our CAP water. In 2014, the Utility delivered 1,828 acre feet of our CAP water under the wheeling agreement and through the connections to the Tucson Water system.

Future development of these renewable water resources will further reduce our groundwater production. This diversification of our supply has benefited our aquifer by preserving and protecting our groundwater.

The Town currently has undeveloped water resources that consist of our CAP water allocation, Long-Term Groundwater Storage Credits, Groundwater Allowance Account and effluent water.

Undeveloped Water Resources

- **Central Arizona Project (CAP) Water: 8,305 acre feet per year**
- **Long-Term Storage Credits: 11,248 acre feet**
- **Groundwater Allowance Account: 14,150 acre feet**
- **Effluent Water: 1,773 acre feet per year**

Development of our reclaimed water system and our CAP water provide renewable "wet water" supplies to our community reducing groundwater use. The Long-Term Groundwater Storage Credits are used indirectly through recovery wells as "paper water" credits that offset groundwater usage. In 2014 using these renewable supplies and credits eliminated any obligations to the CAGRD and protected and preserved our groundwater.

The Town currently has a total allocation of CAP water in the amount of 10,305 acre feet per year under a Municipal and Industrial (M&I) subcontract with Central Arizona Water Conservation District (CAWCD). Of this amount, 2,000 acre feet are developed under the IGA with Tucson. The remaining 8,305 acre feet of our CAP M&I subcontract water is critical to the Town to store credits and for future water supply.

After use in the reclaimed water system, the remaining amount of undeveloped wastewater effluent is used for obligations to Pima County and for the Southern Arizona Water Rights Settlement Act (SAWRSA) obligations.

In 2014, an additional 500 acre feet of our CAP water was developed to further reduce our reliance on groundwater and to protect and preserve our aquifer. At this point there is no infrastructure in place to directly deliver or directly recover the remaining amount of our CAP water. The infrastructure to deliver our remaining CAP water will be developed based upon our water demands, aquifer conditions and new growth.

The Utility has obtained permits to store CAP water at various recharge facilities. In 2014, a total of 9,000 acre feet of our CAP water was stored at the locations and in the amounts listed below:

- Kai Farms 4,000 acre feet
- Lower Santa Cruz Replenishment Project 2,000 acre feet
- Central Avra Valley Storage and Recovery Project 2,000 acre feet
- Pima Mine Road Recharge Project 1,000 acre feet

The Utility will continue to recharge CAP water for our recovery wells and to build long-term storage credits until such time that our CAP water is needed for future delivery.

In addition to our long-term storage credits, our Groundwater Allowance Account (GWA) must be used wisely and carefully managed over the next several years. Additional purchases of Groundwater Extinguishment Credits will be evaluated and considered in the future to increase the balance of the Groundwater Allowance Account.

Under our Designation of Assured Water Supply, we are required to comply with the Third Management Plan in the Tucson Active Management Area. In 2014, we have been in compliance with all the requirements under our DAWS and fully expect to meet all the requirements in 2015.

WATER RESOURCE PLANNING AND MANAGEMENT

The Water Utility continues its water resource planning efforts to assure a safe and reliable water supply for our customers. Water resource planning will involve technical, financial, legal, political, institutional and environmental issues. Involving the public will be a key aspect of a successful program for future water supply. Water resource planning will involve investigating alternatives for future water supply and delivery and will include the following:

- Water Conservation (see page 24)
- Groundwater development
- Reclaimed water system expansion
- CAP water planning and development
- Long-Term Storage Credits

Groundwater Development

Future groundwater development is included in the Fifteen Year Capital Projects Program for the potable water system improvements. The demand on our wells has been significantly reduced due to use of reclaimed water for irrigation and the delivery of our CAP water through the Tucson Water system. The use of reclaimed and CAP water preserves and protects our aquifer and valuable groundwater.

All groundwater depletions must be replaced through the use of our recovery wells, our Groundwater Allowance Account and/or our Long-Term Storage Credits. We are no longer reliant on the Central Arizona Groundwater Replenishment District (CAGRD) for replenishment.

Our aquifer has benefited from the development of our renewable water and our well water levels are declining less.

Reclaimed Water

The use of reclaimed water for turf irrigation has a beneficial impact on the Town's aquifer. The Utility will continue to look for opportunities to expand the customer base of the reclaimed water system for turf irrigation. In addition, non-turf irrigation uses such as landscape irrigation, construction water, dust control and street cleaning uses may also be served with reclaimed water to help reduce demands on the groundwater aquifer. The Development and Infrastructure Service Department is currently using reclaimed water for street cleaning and other approved maintenance purposes. This saves the Town both water and money. In 2014, the reclaimed water system was extended to deliver reclaimed water to Naranja Park for irrigation of athletic fields.

Central Arizona Project Water

The Town has executed an Intergovernmental Agreement (IGA) with the City of Tucson to deliver a portion of the Town's CAP water wheeled through the Tucson Water system via a connection to the Oro Valley Water Utility system. Phase I of the IGA with Tucson allows for up to 2,000 acre feet per year of Oro Valley's CAP water to be delivered (wheeled) through the Tucson Water system.

This is a mutually beneficial project in that Tucson Water (TW) uses its excess capacity and receives revenues that shares in operations and maintenance costs. Oro Valley benefits in that it receives "wet" water deliveries of renewable CAP water and reduces its reliance on groundwater and the Central Arizona Groundwater Replenishment District. In 2014, an additional capacity of 500 acre feet per year was added for a total delivery capacity of 2,000 acre feet per year of our CAP water.

Oro Valley's CAP water is delivered from the CAP canal to Tucson Water's recharge facilities at the Central Avra Valley Storage and Recovery Project and/or the Southern Avra Valley Storage and Recovery Project. The water is then pumped into the Tucson Water distribution system and then delivered to the Oro Valley water system near Naranja and Shannon through TW's Naranja Reservoir and Booster Station.

In 2014, an additional 400 acre feet per year of our CAP water delivery capacity was added to the south end of the Oro Valley Water Service Area through a pipeline connection between TW and OVWU on Calle Buena Vista south of Calle Concordia. An additional 100 acre feet per year of our CAP water delivery also was added to the Countryside Water Service Area on Camino de Oeste just north of Linda Vista Blvd.

Up to an additional 2,000 acre feet of our CAP water can be developed under the IGA with City of Tucson subject to approval by to the respective Councils. As part of our long-term planning an additional 1,500 acre feet of renewable CAP water will be developed for new growth in the next 10 years. This will increase our total renewable CAP water deliveries to 3,500 acre feet per year. The cost for this future development of our renewable CAP water for new growth was included in the Infrastructure Improvements Plan for the determination of the Alternative Water Resources Development Impact Fee.

This development of a portion of our CAP water through the Tucson Water IGA provides financial benefit to our customers in that it defers significant expense to develop a major capital project. Oro Valley Water Utility will continue to plan for the development of the remaining portion of our CAP water. Long-term plans for recharge and recovery and/or treatment and direct delivery of our CAP water will be developed to determine the best alternative and plan for delivering our CAP water in the future.

The Town of Oro Valley is committed to the use and future delivery of our CAP water to meet the demands of new growth. We will continue to work regionally to deliver our CAP water to our community.

Long-Term Storage Credits

The Water Utility will increase its Long-Term Storage Credits by purchasing all of its CAP water over the next several years. The portion of CAP water not used for direct delivery or for recovery wells will build up our accounts for future water delivery. It is anticipated that an additional 10,000 acre feet could be stored in our Long-Term Storage Credit accounts over the next four to five years. In addition to our storage accounts, the Arizona Water Banking Authority is storing water in the Tucson Active Management Area on behalf of Municipal and Industrial CAP water subcontractors to protect against drought and shortages on the Colorado River.

Colorado River

The Colorado River basin has experienced extended drought due to decreased precipitation and snowpack. This has decreased flow in the river creating significant declines in the water levels in Lake Mead and Lake Powell. These reservoirs supply water to the Central Arizona Project, other water projects in the lower basin states of Arizona, California and Nevada. In addition these reservoirs also provide required water deliveries to Mexico. In 2007, shortage guidelines were approved by the Secretary of the Interior and accepted by all seven states within the Colorado River basin. Those guidelines specify three different water levels in Lake Mead associated with a Tier 1, Tier 2, and Tier 3 shortages. In addition, the guidelines specify the shortage sharing and associated reductions of deliveries to each state for each of the tiers.

A Tier 1 shortage of CAP water is now predicted to occur in 2017. A Tier 1 shortage will not reduce the quantity of CAP water delivered to municipal water providers within the Central Arizona Project. Water deliveries from the CAP canal to Agricultural users will be curtailed.

In accordance with the 2007 guidelines, a Tier 1 shortage will be declared when Lake Mead water levels are at an elevation of 1,075 feet. This elevation of 1,075 is expected to occur in 2017 and a declaration of shortage would occur initiating the implementation of the shortage sharing guidelines.

The 2007 shortage sharing guidelines outline further reductions in delivery of Colorado River water to the lower basin states if and when higher-tier shortages are declared. As such, if the drought persists and no action is taken, it is expected that a portion of CAP deliveries to municipal water providers could be reduced in the 2026 to 2030 time frame. Any CAP water deliveries would be replaced with CAP water previously stored underground.

Over the last decade, the Arizona Water Banking Authority (AWBA) has taken steps for the state to guard against the impacts of drought and shortage by storing water underground. A significant amount of water has been stored underground and this water will be made available to municipal water providers to mitigate any curtailments of CAP water deliveries to municipal water users.

In addition to the AWBA storing water, Oro Valley Water Utility continues to store its CAP water and build up its long-term storage credits. This water will also be available to mitigate any curtailments of CAP water deliveries.

The Arizona Department of Water Resources and the Central Arizona Project are currently in discussions with the other Colorado River Basin states to investigate opportunities to keep water in Lake Mead to prevent a shortage from occurring or reduce the amount of a potential shortage.

The above actions combined with a diverse water portfolio can reduce the impacts of drought and shortages. In addition, reducing demands through conservation and better water management can help to preserve water supplies for the future.

WATER CONSERVATION PROGRAM

Water conservation is an important factor in balancing our current and future water supply needs. Climate and the demands on our water supply place a significant impact on our water resources. Combine the state's arid climate with persistent drought conditions and the importance of managing our water resources effectively becomes even greater. The Utility recognizes the complexity and importance of sustained reliability.

The Water Conservation Program is an important element in the overall water resource management efforts of the Utility. The following are services we provide to educate and inform our customers through the Conservation Program.

- **AquaHawk Alerting**

AquaHawk Alerting is a free service for Oro Valley Water Utility customers that will assist them in efficiently managing their water usage and lowering their monthly bills. The AquaHawk program is multidimensional. It allows us to serve our customers at an operational level by direct contact from office or field staff depending on the severity of the high water use. It also allows customers to be proactive in monitoring their water use. In the past, customers were alerted to a water problem typically upon receiving their water bill. With AquaHawk, the customer is notified of high use within 72 hours of the actual usage.

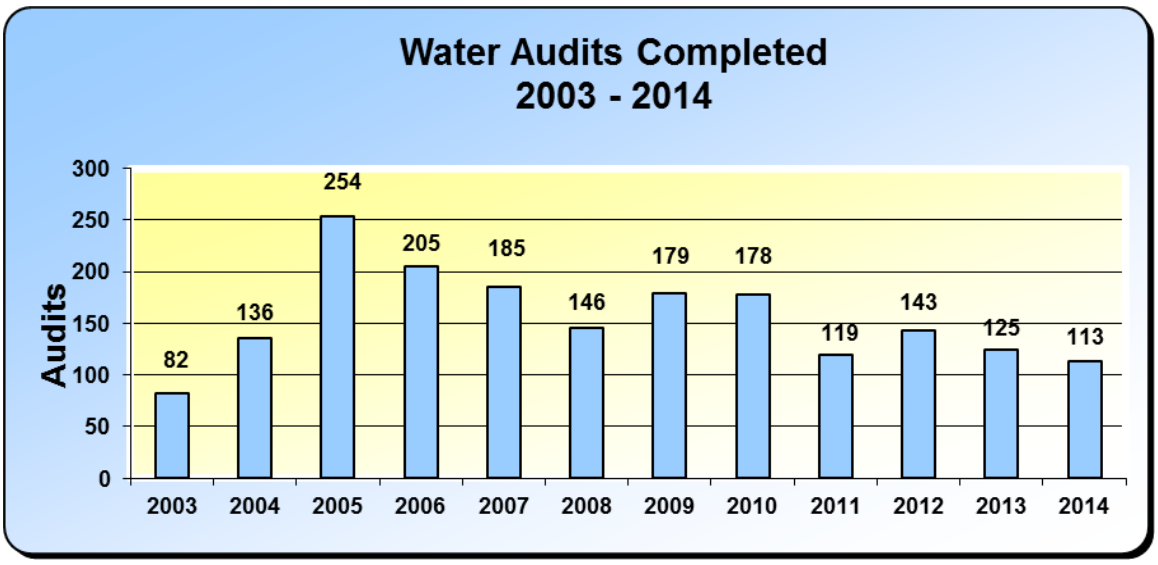
The features and benefits of AquaHawk Alerting include:

- Timely leak alerts that can be sent to a cell phone, home phone or email
- Reduction of water loss
- Water use monitoring to identify problems quickly
- Water expense monitoring

- **Water Audits**

Water audits are the assessment of water use both inside and outside the home or business and include residential, commercial, and neighborhood common areas. Water audits are provided free of charge to utility customers.

- 113 audits were performed in 2014
- 1,865 audits have been performed since the program began in 2003
- Water savings of 14.5% in the first year after the audit for audits performed in 2013



- **Conservation Resources**

  A wide variety of conservation literature is available to Oro Valley customers at no cost and is offered at the library and our main office. In addition to traditional literature, the Utility provides public outreach efforts with the following:

  - Oro Valley Water Education Booklet for children
  - Water-Wise Landscaping for Southern Arizona CD
  - Water Ways Newsletter posted on our web site

- **Youth Water Conservation Education Program**

  As part of our water conservation education efforts, the Water Utility, with the help of Environmental Education Exchange developed a youth water conservation education program for Oro Valley schools called Conservation Kids. Conservation Kids is an interdisciplinary program that has been specifically designed for first through third grade learners and focuses on the water cycle, water supply, and water conservation in Oro Valley and the Tucson Basin. This program meets state education requirements. In 2014, 564 students were reached by this program.

To view the Conservation Kids video go to the following website:
http://www.youtube.com/watch?feature=player_embedded&v=2zDNyEHTNA

- **Community Outreach**
  Conservation staff participated in the following community outreach opportunities:

  - Speaking Engagements
    - Sun City Governmental Affairs
    - Conservation training at various regional water providers
  - Water Conservation Program presentation at Homeowner Associations (HOA)
    - Puerto Perdiz HOA
    - Villages of La Canada HOA
    - Carmel Pointe HOA
  - Participation and attendance at other events
    - Annual HOA Forum
    - National Night Out
    - Sun City Health and Wellness Fair
    - Oro Valley Water Harvesting Tour

- **Incentives**
  The current incentive program includes irrigation system rain sensors which are sold at a reduced rate to our customers. It also includes low-flow shower heads and low-flow sink aerators at no cost to our customers.

  - 672 rain sensors have been sold to date
  - A Rain Sensor Installation Guide is distributed by the Utility and is also available on our website. The Guide is available in English and Spanish.

WATER UTILITY OPERATIONS - PRODUCTION AND DISTRIBUTION

All Production Division and Distribution Division personnel are operators licensed and certified by the Arizona Department of Environmental Quality (ADEQ). The operators have the direct responsibility to operate the water system(s) according to the regulations and rules set forth by the EPA (40CFR141) and ADEQ (Arizona Administrative Code Title 18). Water systems are classified by the level of operator certification required by ADEQ. Operator certifications are classified into one of four grades with Grade 1 being entry level and Grade 4 being the most advanced. For more information please visit the ADEQ website at www.azdeq.gov.

Production and Distribution personnel work very closely to address any water system problems. The Production and Distribution Divisions also provide on-call staffing to respond to water system problems 24-hour 7 days per week. This on-call staffing utilizes a tiered level after-hours response protocol that is in accordance with the developed Emergency Response Plan.

Production Division

Water Utility personnel in the Production Division are responsible for the operation and maintenance of the wells, booster pumps and reservoirs on two potable water distribution systems and the booster pumps, metering stations and reservoir on the reclaimed water delivery system. There are a total of 49 sites that are maintained by the Production Facilities staff.

The two potable water systems are chlorinated systems controlled and monitored by the Production Facilities Division. Chlorine dosage rates and residuals are monitored on a daily basis. The potable system located within the Town of Oro Valley Water Service Area (OVWSA) is a Grade IV Water Distribution and a Grade II Water Treatment system and currently delivers water to twenty pressure zones and a consecutive system located at La Cholla Air Park. The Public Water System Number for the OVWSA system is AZ0410164. The potable system that is not located within the Town boundaries, known as the Countryside Water Service Area (CSWSA), is a Grade III Water Distribution system that currently delivers water to a single pressure zone at the Countryside development. The Public Water System Number is AZ0410175 for CSWSA.

The groundwater production capacity within the OVWSA is currently 13.435 million gallons per day (9330 GPM) with a storage capacity of 10.6 million gallons. The groundwater production capacity within the CSWSA is currently 2.23 million gallons per day (1548 GPM) with a storage capacity of 0.90 million gallons. The CAP delivery capacity into the OVWSA system is 1.8 million gallons per day (1250 GPM). The CAP delivery capacity into the CSWSA system is 0.094 million gallons per day (65 GPM).

The Production Facility Staff continues to be proactive in the implementation of facility upgrades and a preventive maintenance program. Facility sites are evaluated annually to determine necessary upgrades to ensure continued effective operation of the facilities.

The following are some of the major activities and accomplishments of the Production Facilities Division in CY 2014:

- Maintained disinfection injection pumps and tested disinfection residuals daily at well site injection points on systems AZ0410164 and AZ0410175.
- Performed mechanical and general maintenance at 18 wells, 27 booster stations and 19 storage tanks including follow-up electrical preventative maintenance.
- Performed the annual groundwater level survey and prepared the report.
- Assisted with seven reservoir exterior and interior inspections.
- Assisted with the well monitoring capital project and quarterly reports.
- Competently operated the potable and reclaimed systems utilizing the SCADA system.
- Responded to after-hours calls totaling 675 work hours.
- Completed 5342 work hours related to assigned work orders.
- Performed SCADA network system maintenance on forty-four Remote Terminal Units, two Master Controllers, two Human Machine Interfaces, and two Network Servers.
- Assisted with the install of new SCADA HMI software.
- Performed daily chlorine tests and routine site checks.
- Maintained operational balance for CAP water delivery to the 10-164 and 10-175 systems.
- Continued meter replacement program with the installation of 13 ultrasonic flow meters.
- Assisted Engineering with Energy Efficiency Program.
- Preformed and assisted with the installations specified by the Energy Efficiency Program.
- Electrical preventative maintenance cataloging of all production sites.
- Assisted with the interior recoat of the 800K Countryside reservoir.
- Built 22 site chlorine storage sheds.
- Installed 5 air temperature transmitters.
- Install pump 6 at reclaimed water booster.
- Deactivated well D5.
- Deactivated well C7, Linda Vista booster and storage.
- Assist with TW CAP Buena Vista commissioning.
- Set up communications and regulated blending at well D9 for TW CAP Buena Vista.
- Change-out of all well and booster air relief valves.
- Constructed parking areas at the reclaimed water reservoir site.

The Supervisory Control and Data Acquisition (SCADA) system is continuously updated, improved and programmed to streamline operational control, data trending, and alarm annunciation. The SCADA system, a centralized industrial network, currently monitors and controls all potable and reclaimed system facility sites. Utility staff monitors and operates all water systems via the SCADA system on a twenty four hour seven day a week (24/7) basis. The SCADA system has been upgraded with the latest Factory Talk View SE and Win 911 alarm software. XL Reporter report generation software has also been updated. Staff has been working with the Town of Oro Valley IT department to harden the SCADA security and secure HMI access. Production facilities staff is also responsible for the installation and maintenance of security devices at the Utility's facilities. All baseline security installations are now complete.

Distribution Division

Utility personnel in the Distribution Division are responsible for the operation and maintenance of 350.2 miles of potable water mains, 13.8 miles of reclaimed water mains for a combined total of 364 miles of water mains. There are 22,147 fire hydrants and 7,844 valves on the water distribution system. The staff conducts maintenance programs and repairs that keep the distribution system functioning properly and efficiently minimizing problems that are inherent to water distribution systems.

Documentation of maintenance and replacement of hydrants; pressure reducing valves, and air release valves are collected in a database. A valve exercising program that helps monitor equipment and develop maintenance cycles has been established. The program provides information and equipment history data that facilitate a proactive replacement program.

The Distribution Division also has significant direct customer contact and responds to customers regarding water quality and pressure or flow related problems in the field. The Distribution staff continues to provide a high level of professional performance and courteous service to our customers. The Division works closely with Customer Service and responds to complex customer work orders such as high/low pressure complaints, water quality, service line breaks, hydrant repairs, system pressure regulating valves, system air relief valves and system flushing.

Repair of water line leaks are always treated as an emergency and are repaired quickly to minimize impacts to our customers. The Distribution staff has also taken on more construction responsibilities by repairing more main line and service line breaks. The Division also is responsible for bluestaking all underground water mains. The Division is responsible for maintaining 32 pressure reducing valves, 796 air relief valves and 893 drain valve assemblies.

The following are some of the major activities and accomplishments that were performed by the Distribution Facilities Division in CY 2014:

- Maintained, replaced and/or repaired 68 fire hydrants
- Flow tested 60 fire hydrants to assure fire protection
- Performed 108 tests and/or repairs for the maintenance and operation of the 22 pressure reducing valves
- Maintained, replaced and/or repaired 27 air relief valves
- Maintained, replaced and/or repaired 2 drain valve assemblies
- Performed 3,929 bluestakes for underground pipeline and facilities locations
- Responded to and repaired 3 water pipeline break
- Responded to 249 customer inquiries in the field
- Responded to and repaired 5 service line breaks
- Responded to 124 after hour call outs
- Installed 45 new hydrant defenders
- Maintained 1,150 water valves/Replaced 6 main line valves

Special Projects constructed by the Distribution Division

Naranja Park Project

- Installed 1,919 Feet of 8-inch potable water main consisting of two 2-inch services and 1 fire hydrant.
- Installed 1,869 Feet of 12-inch reclaimed water main.
- Installed 268 Feet of 8-inch reclaimed water main.
- Installed 1,867 Feet of 2-inch conduit for communications cable.

Naranja Park Pipe Installation

Wellness Clinic

- Installed 72 Feet of 4-inch fire service line.
- Installed 41 Feet of 1-inch water service line.

Drinking Fountain on Tangerine Road

- Installed 34 Feet of 1-inch water service line.

Countryside CAP Project

- Installed 8-inch water valve by-pass and 2-inch water meter for CAP water.

SECURITY AND EMERGENCY RESPONSE

Under current Federal guidelines, water operations personnel are considered first responders. Though primarily mandated by State rules with public health responsibilities, water operators also have a public safety responsibility with relevance to the water systems they are charged with operating. First response staff and vehicles are placed in an after hours position to directly respond to an emergency in order to minimize any impact on the water system. Production Facilities and Distribution Facilities staffs coordinate their response actions and will respond with an appropriate level of personnel to mitigate the problem. Any facilities security situations also directly involve the Oro Valley Police Department as a first response action.

In 2014, Utility personnel, with the assistance of a security consultant, reviewed, refined and updated the security program, Emergency Response Plan, and the Business Continuity Plan (BCP). The ERP and BCP are currently up to date regarding the Utility operational or response situations, contact information and procedures. The changes are designed to protect and "harden" the facilities against potential threats from the acts of people who wish to do harm to the residents of Oro Valley.

In 2014, under the security program, a series of training classes and exercises were made available and completed by the Utility Staff. This training is done on an annual basis as per the guidelines from the Department of Homeland Security, FEMA, and the EPA. A town-wide security training table-top exercise involving Water Utility personnel was conducted this year by the Oro Valley Police Department. Operations personnel also receive emergency management courses provided by ADEQ. The Utility will continue to implement the elements defined in the VA, ERP and the BCP as well as those that may be identified through the course of business.

The hydrant lock program continues to be implemented through the new development process and all hydrants within Oro Valley systems are protected from illegal entry and use. In 2014, 45 new hydrant defenders and locks were installed. Security features, which include perimeter fencing, security walls, warning signage, motion sensors, and cameras at all active production facilities, were inspected to maintain integrity.

The Water Utility also has the equipment and capability to test water samples under a first response scenario. A continuing program has been initiated to chemically characterize ("fingerprint") the water produced. This will help identify anomalies during a suspected event involving water quality. These baseline data are taken on a monthly basis.

The Utility is kept abreast of local, regional and national security issues via weekly situation reports provided by Water Information Sharing and Analysis Center (Water ISAC). The Utility is also a member of the Arizona Water/Wastewater Agency Response Network (AZWARN) which mutually cooperates with other water and wastewater providers in an emergency.

ENGINEERING AND PLANNING DIVISION

The Engineering and Planning Division is responsible for planning and managing the design, construction and inspection of all new water infrastructures for the Town of Oro Valley as well as planning for the delivery of new water resources to the Town. New water infrastructure is constructed both through the Water Utility's capital improvement program and through the new development process whereby the developer builds and finances projects that are then conveyed to the Water Utility.

Geographic Information System (GIS)

The GIS section is responsible for managing and maintaining a Geographic Information System data base on all existing water system infrastructure in coordination with the Information Technology Department. Maps produced by GIS staff facilitate Operations and Planning and Engineering. In the development and implementation of our Energy Efficiency Program, GIS plays a very instrumental role by providing the baseline information for our recently calibrated distribution system model. The model will also interface with SCADA and the meter billing system to more accurately determine the amount and location of system demands.

New Development

The New Development Section is responsible for facilitating development by reviewing and approving water improvement plans for proposed new developments. In 2014, the New Development Section reviewed and approved 9 water improvement plans submitted by developers for construction. In addition, 14 plans, some of which were approved in a previous year, were constructed, inspected, approved as-built and placed into service. The completion of these New Development projects together with Capital projects added approximately 4.5 additional miles of pipeline to the existing potable water distribution system.

Construction Inspection

All new development and capital projects are inspected during construction for conformance with the approved design as well as material and installation standards. The Water Utility has two full time Construction Inspectors and when needed, utilize the services of a consultant inspector to assist when specialized inspections are required. In 2014, our inspectors inspected and approved 14 new development projects constructed by developers, 4 Water Utility capital projects constructed by a contractor and 6 projects constructed by Water Utility personnel.

CAPITAL PROJECTS

The Engineering and Planning Division manages the design and construction of capital projects identified in the capital improvement program and annual operating budget. These projects are designed to improve efficiencies to existing facilities and improve service levels. These capital projects are described below.

Design Projects

- Engineering design of a new 12-inch potable main on Lambert Lane west of La Cañada. This is part of the Oro Valley Roadway Improvement project that widens the road to four lanes. The design will be completed by June of 2015. Construction is expected to start January 2016.

- Engineering design for the existing 24-inch Reclaim Main on Tangerine Road. This is part of the RTA Road Improvement project from I-10 to the Town of Oro Valley. Tangerine Road will be widened to four lanes. Multiple box culvert and drainage structures will be installed that are conflicting with the existing reclaim main. Design is expected to be complete by June of 2015. Construction is expected to start January 2016.

Construction Projects

Valve Replacement Program

Replaced existing air release valves (ARV), drain valve assemblies and adjust valve boxes in the Copper Creek subdivision. This is expected to be complete by June of 2015

CAP Interconnect Project

CAP Connection on Calle Buena Vista

Construction was completed on the CAP interconnect on Calle Buena Vista to serve customers in the Oro Valley water service area, and another connection on Camino De Oeste near Linda Vista for the Countryside water service area. Tucson Water is wheeling our CAP allocation delivering 400 acre feet per year to the Oro Valley water service area and 100 acre feet per year to the Countryside water service area.

System Connection Project

System Connection Glover Road

A 12-inch pipeline connection between two existing potable 12-inch mains on Glover Road was installed to improve system reliability, water quality and reduce pressure fluctuations.

Naranja 12-Inch Water Main Crossing

A 12-inch potable water main was installed across Naranja Road just west of La Cholla Blvd. This project was completed in February of 2015. This pipeline will deliver water from a proposed future CAP water booster station to blend and improve system water quality. This pipeline crossing was installed in coordination with the Development Infrastructure Services Department road improvement project to save costs for future road cutting and repaving.

Naranja Road 12-Inch Water Main Crossing

Countryside Water Main Replacement

Construction will start February 2015 to install over 3,000 feet of 12-inch water main between Well CS1 and CS2 at the Countryside water service area to replace an existing and older undersized main. This project will reduce pressure loss and increase energy efficiency which will reduce pumping costs and conserve energy. Project completion is expected to be in June of 2015.

Wall Improvement and Upgrade at Countryside Well CS2

An existing chain link fence was removed and replaced with a block stucco wall at well CS2 on Hartman lane and completed on June of 2014. This project improved both security and aesthetics at the site.

Wall Improvement Well CS2

Naranja Road 12 – Inch Reclaimed Water Extension

A new 12-inch reclaimed water line was installed along Naranja Road to serve the newly constructed athletic fields at Naranja Park. The new reclaimed water line was connected to the existing 12-inch reclaimed water line 500-feet east of La Cañada Drive on the north side of Naranja Road and extended approximately 3,300-feet to the entrance of the park. This new pipeline will also allow for future extension and expansion of the reclaimed water system.

12-Inch Reclaimed Water Extension

Future Projects:
Capital improvement projects planned for FY 2015-16 include the following:

- AMI Meter Replacement Phase 4 (Final)
- Hydro-pneumatic Tank Replacement
- Steel Tank Safety Improvements
- Reservoir Water Quality Improvements for 5 reservoirs
- Main Valve Replacement Program
- Energy Efficiency Booster Station Upgrade Program
- Design of 12-Inch Main Relocation on West Lambert Lane
- System Connection Upgrades
- Tangerine Road Potable Water Main Extension
- Tangerine Road 24-Inch Reclaimed Water Main Relocation

The capital projects for existing system improvements FY 2015-16 are planned to be cash funded. It is proposed that projects in future years will be cash funded and/or debt financed through loan or bond proceeds.

Please see **Appendix B** for the 15-Year Capital Project Program.

FINANCIAL HIGHLIGHTS

The Utility is financially sound and continues to manage its revenues, control expenditures and reduce debt. A bond rating review for the Utility was performed and issued by Fitch Ratings, Inc. on April 9, 2014. Fitch affirmed a bond rating of AA- with a stable outlook for the Utility. The rating indicated that financial performance of the Utility has been steady and favorable, marked by sound debt service coverage and high liquidity ratios. The Utility has refunded bonds over the last several years but still has an above average debt burden. The Water Utility and Finance Department will continue to review outstanding bonds to look for opportunities to reduce debt.

Revenues and Expenditures

The Utility's revenue consists of potable and reclaimed water sales, groundwater preservation fees, miscellaneous service fees and charges, water development impact fees and interest income. The Water Utility has three funds:

- **The Operating Fund** provides funding for the Water Utility administration and operations as well as existing system improvements. The sources of revenue for this fund are water sales and service related charges. The Groundwater Preservation Fees are accounted for within this fund; however, the funds are dedicated to pay for debt or capital costs related to renewable water resources.

- **The Potable Water System Development Impact Fee Fund** (PWSDIF) provides funding for expansion related projects for new growth. The source of revenue for this fund is potable water development impact fees. These fees are paid at the time a meter is purchased. The funds collected ensure that the system expansion is paid for by new development.

- **The Alternative Water Resources Development Impact Fee Fund** (AWRDIF) provides funding for the development of renewable sources of water supply and any infrastructure required for delivery of those resources. The source of revenue for this fund is alternative water resources development impact fees. These fees are paid by new development for that portion of renewable water supply and infrastructure attributed to new growth.

The following table contains the actual revenue billed for FY 2013-14 for all funds within the Utility:

Revenue Source	Amount Billed (FY 13-14)
Potable Water Sales:	
Residential	$ 7,880,702
Commercial	$ 898,412
Irrigation	$ 1,148,497
Turf	$ 122,453
Construction	$ 284,857
Reclaimed Water Sales:	
Turf	$ 1,609,273
Construction	$ 815
Irrigation	$ 187,622
Misc. Service Fees & Charges	$ 716,142
Groundwater Preservation Fees	$ 2,598,639
Total Enterprise Fund	**$15,447,412**
Alternative Water Resources Development Impact Fees	$ 2,376,682
Development Impact Fees Potable Water System	$ 1,413,047
Interest Income (Loss)	$ 114,219
Total All Funds for FY 2013-14	**$19,351,360**

The budgeted expenditures (excluding depreciation and amortization) for the Operating Fund are compared to the actual expenditures for FY 2013-14 in the following table:

Expenditures	Budget FY 2013-14	Actual Spent FY 2013-14	Difference Under Budget	Percentage Under Budget
Personnel	$ 2,688,464	$ 2,640,661	($ 47,803)	2 %
O&M	$ 6,084,961	$ 5,452,992	($ 631,969)	10 %
Capital	$ 2,654,750	$ 2,412,438	($ 242,312)	9 %
Totals	**$11,428,175**	**$10,506,091**	**($ 922,084)**	**8 %**

The Utility's O&M expenditures were under budget as a result of CAGRD savings resulting from the efficient management of our water resources and not being able to purchase Groundwater Extinguishment Credits. Capital expenditures were also less than budgeted due to reductions in some of the capital projects.

Outstanding Debt

The following table is a summary of the outstanding debt and the annual debt service payments (principal and interest) for all funds within the Utility:

Fund	Bond Series	Outstanding Debt As of 12/31/14	Debt Service Payments FY 2014-15	Maturity Dates of Bonds / Loans
Operating	2005	$ 1,324,950	$ 152,516	07/01/2025
Operating	2007	$14,770,440	$ 1,255,948	07/01/2026
Operating (WIFA)	2008	$ 3,235,942	$ 316,526*	07/01/2027
Operating (WIFA)	2009	$ 1,777,300	$ 149,368	07/01/2029
Operating	2012	$ 4,417,910	$ 582,284	07/01/2028
Operating	2012	$ 8,052,849	$ 1,061,372*	07/01/2028
Operating	2013	$ 4,935,000	$ 1,046,558	07/01/2019
Operating (WIFA)	2014	$ 1,832,196	$ 405,961	07/01/2029
PWSDIF	2012	$ 2,484,241	$ 327,424	07/01/2028
Totals		**$42,830,828**	**$ 5,297,957**	

The debt service payments with the asterisk (*) notation are for the reclaimed water delivery system and are paid with revenues from Groundwater Preservation Fees. The debt for the reclaimed water system was originally accounted for in the Alternative Water Resources Development Impact Fee fund and was transferred to the Operating fund in 2014.

Water Rates and Development Fees

The functions and duties of the Commission include annually reviewing and developing recommendations for water revenue requirements, water rates and fee structures. The Commission evaluates staff recommendations based on an annual water rates analysis to ensure the recommendations meet Town policies and bond covenants. The Utility bases its financial analysis on the American Water Works Association Cash Needs Approach.

The financial analysis for 2014 resulted in a recommendation to decrease the Groundwater Preservation Fees (GPF) and increase the commodity rates. These changes were offsetting and resulted in a slight decrease to monthly water bills for the majority of the utility's customers. There was a slight increase for the higher water use residential customers. This is consistent with conservation pricing through a tiered rate structure. Other fees and charges that were increased include the meter installation fees and landlord/tenant security deposits. The Town Council approved the new rates on January 7, 2015.

To meet the state statutory requirements regarding development impact fees, CH2M HILL performed an impact fee analysis on the Utility's Alternative Water Resources Development Impact Fee and Potable Water System Development Impact Fee. The revised impact fees were adopted by the Town Council on April 2, 2014 and became effective on July 1, 2014.

Based on the impact fee analysis, the revenue from the GPF is now being accounted for within the Operating Fund. This revenue is dedicated to paying for debt and capital costs related to renewable water resources. As such, the debt for the reclaimed water delivery system was also transferred to the Operating Fund.

All current water rates, fees and charges including impact fees are available to view on the Town website at *http://www.orovalleyaz.gov/Town_Government/WaterUtility/Water_Rates_and_Fees.htm*

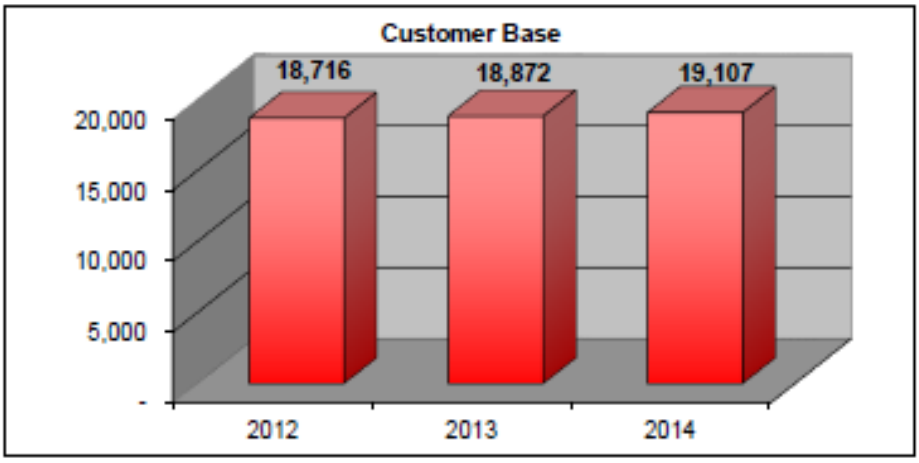
TOWN OF ORO VALLEY
WATER UTILITY COMMISSION

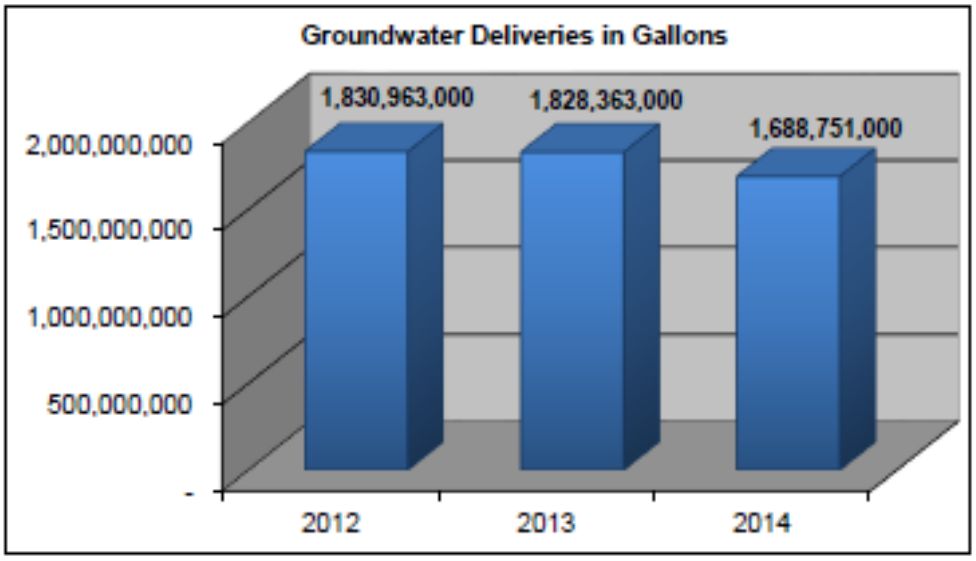
2015 ANNUAL REPORT

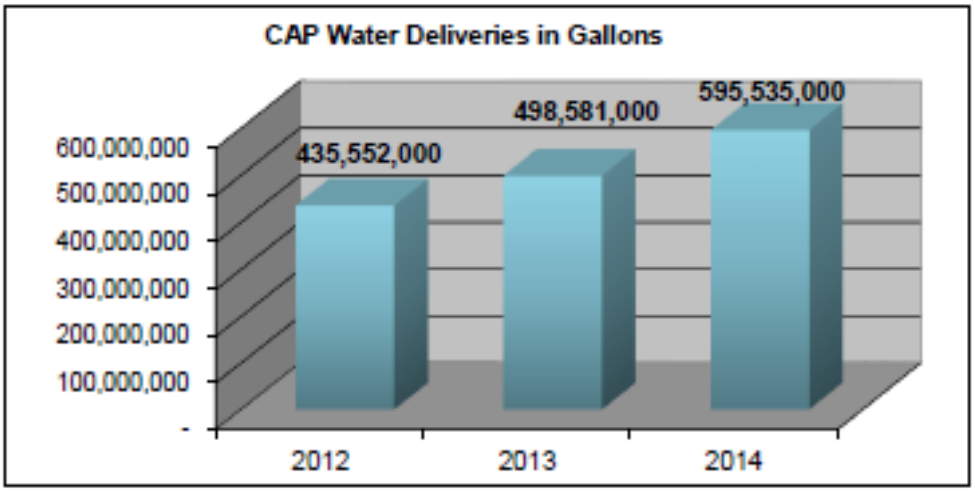
APPENDIX A

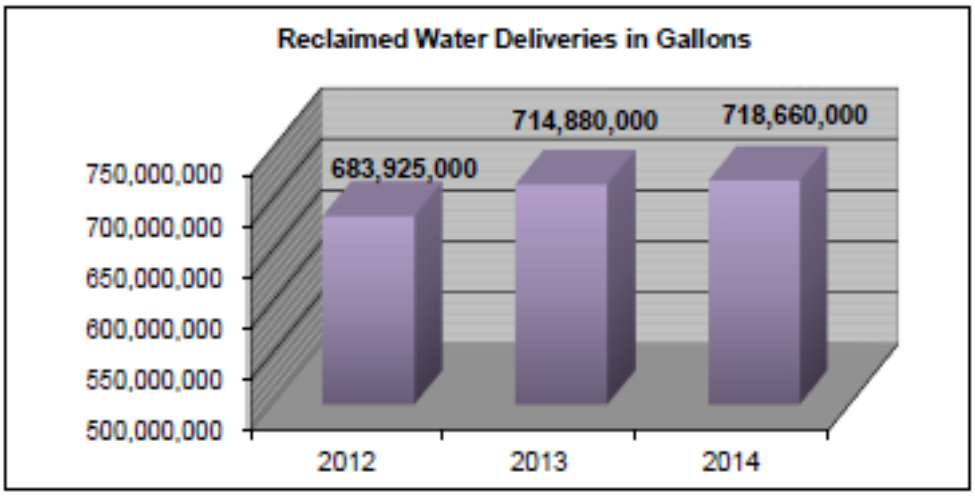
UTILITY STATISTICS

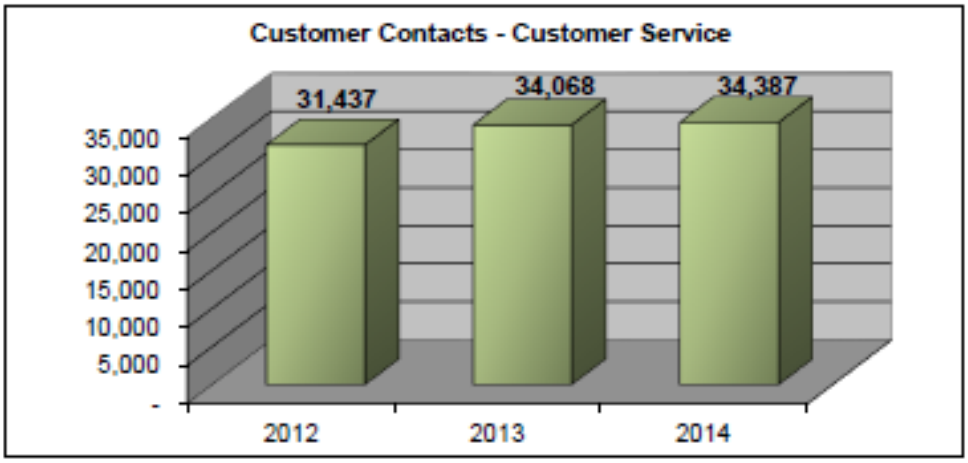
YEAR	2012	2013	2014
Customer Base	18,716	18,872	19,107
Potable Water Deliveries in Gallons			
Groundwater	1,830,963,000	1,828,363,000	1,688,751,000
CAP water	435,552,000	498,581,000	595,535,000
Total Potable Water Deliveries	2,266,515,000	2,326,944,000	2,284,286,000
Reclaimed Water Deliveries in Gallons	683,925,000	714,880,000	718,660,000
Bluestakes	3,537	3,589	3,938
Customer Contacts			
Customer Service	31,437	34,068	34,387
Field Operations	3,241	8,635	6,725
Water Conservation-Audits	143	125	113
Water Quality Samples	2,250	4,021	1,360
Billing Collection Rate	99.99%	99.99%	98.82%

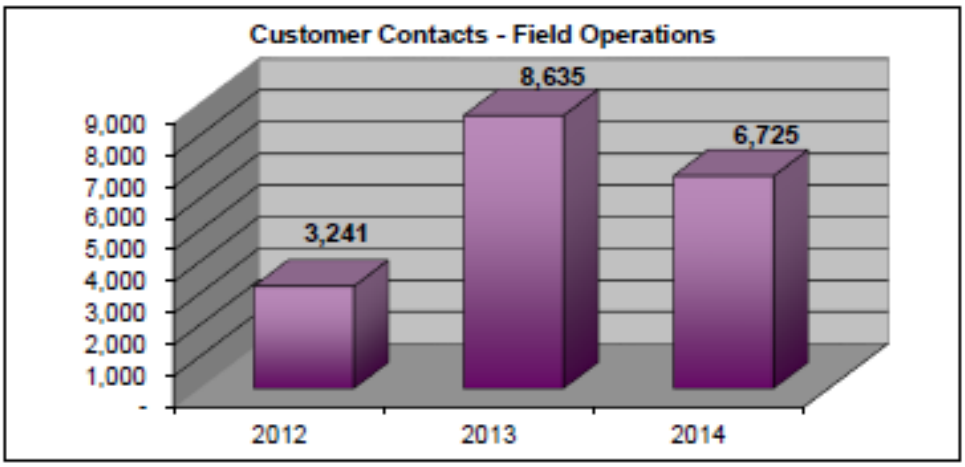


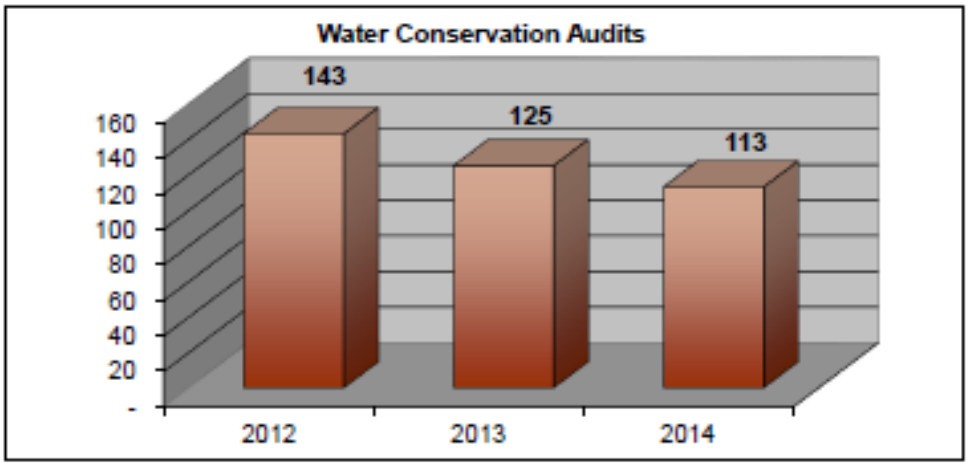

Groundwater Deliveries in Gallons
1,830,963,000
1,828,363,000
1,688,751,000
2,000,000,000
1,500,000,000
1,000,000,000
500,000,000
-
2012
2013
2014

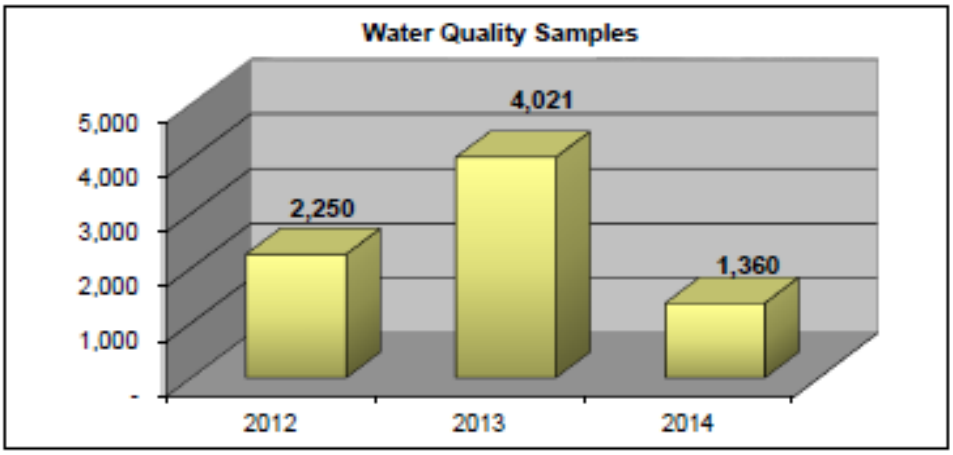

CAP Water Deliveries in Gallons
435,552,000
498,581,000
595,535,000
600,000,000
500,000,000
400,000,000
300,000,000
200,000,000
100,000,000
-
2012
2013
2014

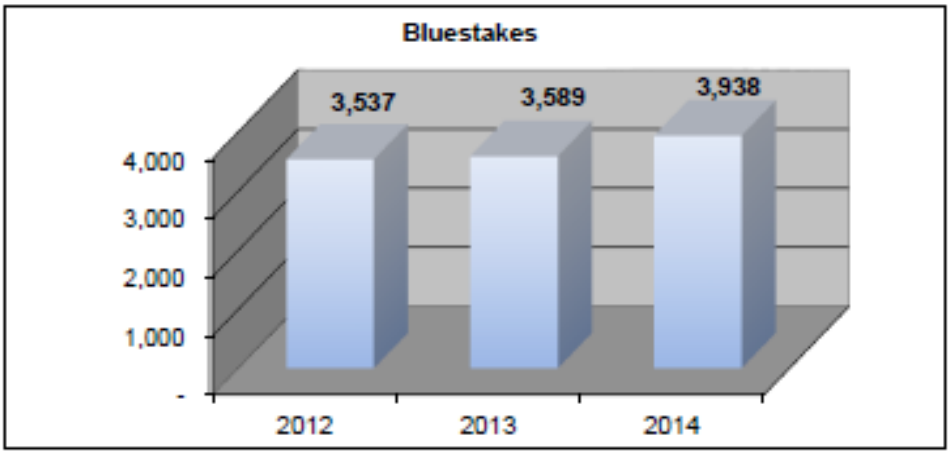

Reclaimed Water Deliveries in Gallons
683,925,000
714,880,000
718,660,000
750,000,000
700,000,000
650,000,000
600,000,000
550,000,000
500,000,000
2012
2013
2014

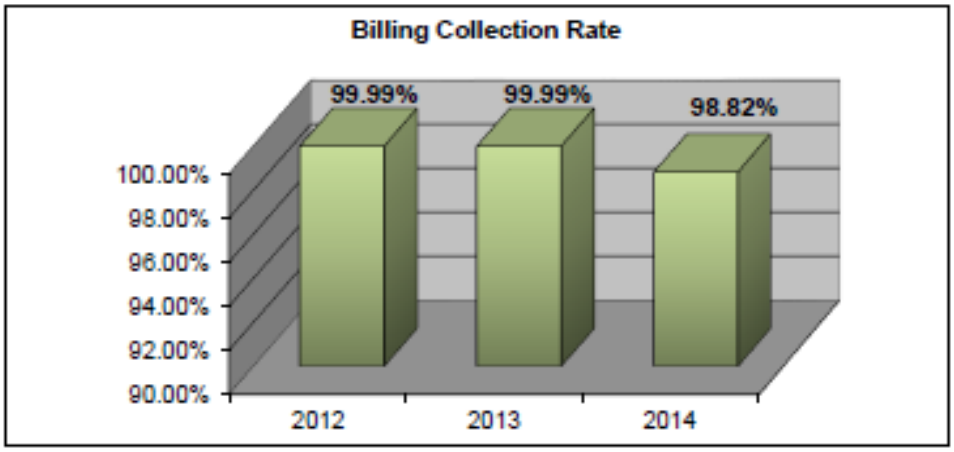

Customer Contacts - Customer Service
31,437
34,068
34,387
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
2012
2013
2014


Customer Contacts - Field Operations
8,635
6,725
3,241
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
2012
2013
2014

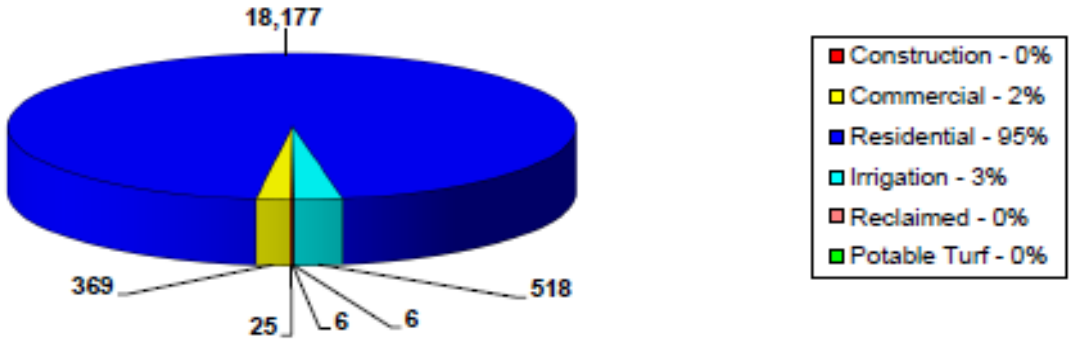

Water Conservation Audits
143
125
113
160
140
120
100
80
60
40
20
-
2012
2013
2014


Water Quality Samples
5,000
4,000
3,000
2,000
1,000
-
2,250
4,021
1,360
2012
2013
2014

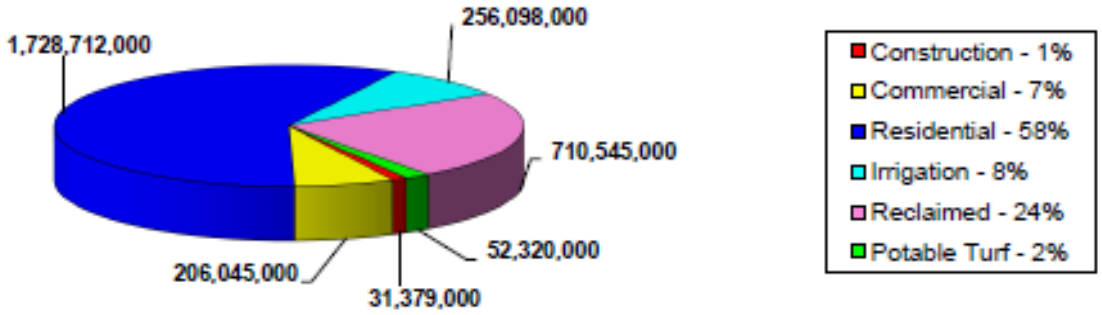

Bluestakes
4,000
3,000
2,000
1,000
-
3,537
3,589
3,938
2012
2013
2014


Billing Collection Rate
100.00%
98.00%
96.00%
94.00%
92.00%
90.00%
99.99%
99.99%
98.82%
2012
2013
2014

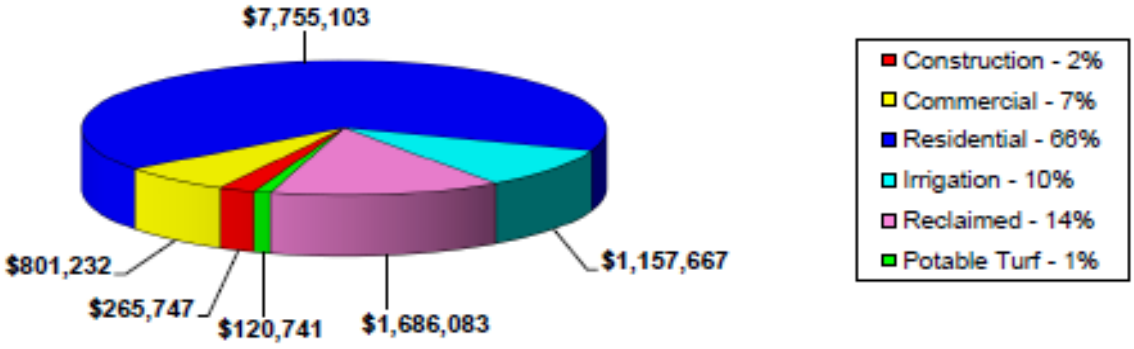
Accounts By User Type
As of December 31, 2014



Gallons Sold By User Type
January - December 2014



Revenue By User Type
January - December 2014



TOWN OF ORO VALLEY
WATER UTILITY COMMISSION

2015 ANNUAL REPORT

APPENDIX B

FIFTEEN - YEAR
CAPITAL IMPROVEMENT PROGRAM

Oro Valley Water Utility
Proposed Capital Projects Program
Prepared: December 2, 2013
Revised: January 23, 2015

Water Utility Operating Fund
Existing System Improvements

Project No.	Project Name	2016-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	15 YearTotal
	Wells																
1	Steam Pump Drill and Construct					$ 700,000	$ 900,000										$ 1,600,000
2	Steam Pump - Solar 10,000 Watt System						$ 50,000										$ 50,000
3	Well Meter Replacement							$ 200,000							$ 50,000		$ 250,000
4	Well E2 Upgrade		$ 100,000														$ 100,000
5	D Zone Well Replacement			$ 700,000	$ 900,000					$ 700,000	$ 1,000,000				$ 700,000	$ 1,000,000	$ 5,000,000
6	Hydropneumatic Tank Replacement	$ 50,000	$ 50,000	$ 50,000	$ 50,000												$ 200,000
7	Replace Well Pumps		$ 75,000		$ 75,000		$ 100,000		$ 100,000		$ 100,000		$ 100,000		$ 100,000		$ 650,000
Subtotal		**$ 50,000**	**$ 225,000**	**$ 750,000**	**$ 1,025,000**	**$ 700,000**	**$ 1,050,000**	**$ 200,000**	**$ 100,000**	**$ 700,000**	**$ 1,100,000**	**$ -**	**$ 100,000**	**$ -**	**$ 850,000**	**$ 1,000,000**	**$ 7,850,000**
	Reservoirs																
8	El Con Storage - Operational Improvements			$ 50,000													$ 50,000
9	Steel Tank Safety Railings	$ 80,000															$ 80,000
10	Water Quality System Improvement	$ 60,000	$ 60,000	$ 70,000													$ 190,000
11	Big Wash Reservoir Coating		$ 100,000														$ 100,000
Subtotal		**$ 140,000**	**$ 160,000**	**$ 120,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**		**$ 420,000**
	Boosters																
12	Energy Efficiency Booster Upgrades	$ 100,000															$ 100,000
13	Deer Run Booster PRV Installation		$ 40,000														$ 40,000
14	High Mesa E and F Zone Bstr. Enhancements					$ 50,000											$ 50,000
15	Deer Run D and E Zone Booster Station								$ 200,000	$ 1,300,000							$ 1,500,000
16	Replace Crimson Canyon Booster Station						$ 250,000										$ 250,000
17	Hydropneumatic (HP) Tank Replacement		$ 60,000	$ 60,000	$ 60,000												$ 180,000
18	Reclaimed Bstr. & Pump Replacements		$ 200,000														$ 200,000
Subtotal		**$ 100,000**	**$ 300,000**	**$ 60,000**	**$ 60,000**	**$ 50,000**	**$ 250,000**	**$ -**	**$ 200,000**	**$ 1,300,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**		**$ 2,320,000**
	Mains																
19	W. Lambert Ln. 12" Main Relocation (DIS)	$ 450,000															$ 450,000
20	Tangerine Potable Main Extension (DIS) RTA	$ 80,000															$ 80,000
21	Relocate 3 PRV'S OV Area		$ 100,000														$ 100,000
22	System Connection Upgrades	$ 100,000															$ 100,000
23	Rancho Verde Hydrants		$ 200,000														$ 200,000
24	Main Valve Replacements	$ 100,000	$ 50,000	$ 50,000	$ 50,000												$ 250,000
25	La Cholla -Lambert to Tangerine (RTA)						$ 100,000	$ 1,000,000									$ 1,100,000
26	24 Inch Reclaim Main Tangerine (DIS) RTA	$ 350,000	$ 700,000														$ 1,050,000
27	El Con. Patio Homes & Casitas Main Repl.				$ 100,000	$ 1,300,000											$ 1,400,000
28	El Con Tennis Club - La Canada Main Repl.					$ 600,000											$ 600,000
29	Linda Vista Citrus Tracts Main Repl. (note 1)						$ 250,000	$ 250,000	$ 250,000								$ 750,000
30	Pusch Ridge Estates Main Repl.									$ 500,000	$ 500,000						$ 1,000,000
31	Monte Del Oro Main Repl.										$ 600,000	$ 600,000					$ 1,200,000
32	Rancho Verde Main Repl.												$ 800,000	$ 800,000			$ 1,600,000
33	Rancho Felix Main Repl.													$ 800,000			$ 800,000
Subtotal		**$ 1,080,000**	**$ 1,050,000**	**$ 50,000**	**$ 150,000**	**$ 1,900,000**	**$ 350,000**	**$ 1,250,000**	**$ 250,000**	**$ 500,000**	**$ 1,100,000**	**$ 600,000**	**$ 800,000**	**$ 1,600,000**	**$ -**		**$ 10,680,000**
	Structures & Walls																
34	Wall Upgrades and Improvements				$ 75,000					$ 100,000				$ 100,000			$ 275,000
Subtotal		**$ -**	**$ -**	**$ -**	**$ 75,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 100,000**	**$ -**	**$ -**	**$ -**	**$ 100,000**	**$ -**		**$ 275,000**
	Meters & Equipment																
35	AMI Meter Replacement - Oro Valley	$ 1,800,000															$ 1,800,000
36	SCADA server and monitors				$ 50,000					$ 50,000					$ 50,000		$ 150,000
37	SCADA Legacy Replacement				$ 100,000					$ 100,000					$ 100,000		$ 300,000
38	Instrumentation Replacement							$ 250,000									$ 250,000
39	Golf Course Metering Stations Modifications				$ 50,000												$ 50,000
Subtotal		**$ 1,800,000**	**$ -**	**$ -**	**$ 200,000**	**$ -**	**$ -**	**$ 250,000**	**$ -**	**$ 150,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 150,000**		**$ 2,550,000**
	Vehicles																
40	Replacement Vehicles - Meter Operations		$ 45,000				$ 75,000	$ 50,000				$ 80,000	$ 55,000				$ 305,000
41	Distribution Vehicles	$ 33,000	$ 70,000		$ 50,000		$ 50,000		$ 70,000		$ 80,000		$ 80,000		$ 70,000		$ 503,000
42	Production Vehicles - Three per George K.	$ 146,000		$ 70,000		$ 70,000		$ 75,000		$ 75,000		$ 50,000		$ 50,000			$ 536,000
43	Director Vehicle		$ 35,000								$ 40,000						$ 75,000
44	Pool Vehicles		$ 25,000		$ 25,000							$ 30,000		$ 30,000			$ 110,000
45	Construction Equipment - Backhoe & Trailer														$ 140,000		$ 140,000
46	On Call Service Truck		$ 90,000									$ 110,000					$ 200,000
Subtotal		**$ 179,000**	**$ 285,000**	**$ 70,000**	**$ 75,000**	**$ 70,000**	**$ 125,000**	**$ 125,000**	**$ 70,000**	**$ 75,000**	**$ 120,000**	**$ 270,000**	**$ 135,000**	**$ 80,000**	**$ 210,000**		**$ 1,889,000**
Total Existing System Improvements		**$ 3,348,000**	**$ 2,000,000**	**$ 1,060,000**	**$ 1,585,000**	**$ 2,720,000**	**$ 1,775,000**	**$ 1,825,000**	**$ 820,000**	**$ 2,825,000**	**$ 2,320,000**	**$ 870,000**	**$ 1,035,000**	**$ 1,780,000**	**$ 1,210,000**	**$ 1,000,000**	**$ 26,984,000**

B-1

Oro Valley Water Utility
Proposed Capital Projects Program
Prepared: December 2, 2013
Revised: January 23, 2015

Existing System - Reclaimed Water Improvements

Project No.	Project Name	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	15 YearTotal
	Booster Pumps																
1	New Metering Station Hilton 9-hole GC									$ 250,000							$ 250,000
Subtotal										**$ 250,000**							**$ 250,000**
	Reservoirs																
Subtotal																	**$ -**
	Mains																
2	12-Inch Main Ext./Riverfront Park/7,000 FT.						$ 1,100,000										$ 1,100,000
3	12-Inch Main Ext./Hilton 9-hole GC/2.75 Miles								$ 300,000	$ 2,900,000							$ 3,200,000
4	12-Inch Main Ext./Pusch Ridge HS/5,280 FT.													$ 100,000	$ 924,000		$ 1,024,000
5	12-Inch Main Ext./James Krieg Park/2,640 FT.													$ 60,000	$ 462,000		$ 522,000
Subtotal		**$ -**	**$ -**				**$ 1,100,000**		**$ 300,000**	**$ 2,900,000**				**$ 160,000**	**$ 1,386,000**		**$ 5,846,000**
Total Reclaimed Water Capital Improvements		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,100,000**	**$ -**	**$ 300,000**	**$ 3,150,000**	**$ -**	**$ -**	**$ -**	**$ 160,000**	**$ 1,386,000**	**$ -**	**$ 6,096,000**

Oro Valley Water Utility
Proposed Capital Projects Program
Prepared: December 2, 2013
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Aternative Water Resources Development Impact Fee Fund
CAP Water Improvements

Project No.	Project Name	Category	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	15 Year Total
1	CAP La Cholla D-E Blending Booster Sta	CAP				$ 700,000												$ 700,000
2	CAP Wheeling TW Naranja **1000** AF/Yr	CAP			$ 400,000	$ 400,000												$ 800,000
3	24" pipe Naranja/ La Cholla/Tangerine	CAP				$ 1,600,000	$ 1,200,000											$ 2,800,000
4	TW Naranja Booster Station Upgrade	CAP				$ 1,200,000												$ 1,200,000
5	E-C PRV Naranja Reservoir	CAP					$ 100,000											$ 100,000
6	TW Oasis Booster Station Upgrades	CAP				$ 30,000	$ 100,000											$ 130,000
7	TW 12" Pipe	CAP				$ 80,000	$ 800,000											$ 880,000
8	TW 16" Pipe Oasis Rd.	CAP				$ 100,000	$ 1,000,000											$ 1,100,000
																		$ -
9	Wheeling TW Naranja **500** AF/Year	CAP						$ 400,000	400,000									$ 800,000
10	24" pipe La Cholla/Tangerine to La Cana	CAP								$ 2,500,000								$ 2,500,000
11	Steam Pump C-D Booster Station	CAP							$ 1,200,000									$ 1,200,000
12	Big Wash D-E Booster Station	CAP								$ 800,000								$ 800,000
13	Inlet/Outlet Mod. at Allied Signal Res.	CAP								$ 50,000								$ 50,000
																		$ -
	5,000 AF/Year	CAP											$ 500,000					$ 500,000
15	16" pipe 1st Ave Tangerine	CAP											$ 1,500,000	$ 1,500,000	$ 700,000			$ 3,700,000
16	PRV Feed to E Zone Tangerine/La Can.	CAP												$ 50,000				$ 50,000
17	PRV Feed to E Zone Tangerine/1st. Ave	CAP												$ 50,000				$ 50,000
18	E-F Booster Station La Canada Res.	CAP												1,400,000				$ 1,400,000
19	**Lower Santa Cruz R&R** (1,500 AFY)	CAP											$ 900,000					$ 900,000
20	3-Recovery Wells & Delivery to WTP	CAP												4,000,000	500,000			$ 4,500,000
21	Water Treatment RR, Chlorination	CAP											$ 200,000	1,200,000	1,000,000			$ 2,400,000
22	Delivery, Storage, A-C Bstr, C-E Bstr	CAP											$ 3,000,000	13,000,000	10,000,000	10,000,000		$ 36,000,000
																		$ -
	9,500 AF/Year (completion 2029-2030)	CAP																$ -
	Lower Santa Cruz R&R (4,500 AFY)	CAP																$ -
23	7 - Recovery Wells	CAP												$ 500,000	$500,000	$ 5,000,000		$ 6,000,000
24	Water Treatment and RO	CAP													$1,000,000	$ 5,000,000		$ 6,000,000
25	Concentrate Management	CAP													$3,000,000	$ 5,000,000	$ 5,000,000	$ 13,000,000
26	16" pipe Naranja/ La Cholla to Reservoir	CAP													$ 300,000	$ 2,000,000		$ 2,300,000
Total Alternative Water Capital Improvements			**$ -**	**$ -**	**$ 400,000**	**$ 4,110,000**	**$ 3,200,000**	**$ 400,000**	**$ 1,600,000**	**$ 3,350,000**	**$ -**	**$ -**	**$ 6,100,000**	**$ 21,700,000**	**$ 17,000,000**	**$ 27,000,000**	**$ 5,000,000**	**$ 89,860,000**

Carollo CAP Delivery Cost Study 2011
CH2MHILL CAP Water Distribution & Delivery Study 2011

Oro Valley Water Utility
Proposed Capital Projects Program
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Potable Water System Develoment Impact Fee Fund
Expansion Related Improvements

Project No.	Project Name	Category	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	16 Year Total
1	Property Acquisition	Potable						$ 500,000										$ 500,000
3	Booster Station	Potable							$ 150,000	$ 300,000								$ 450,000
2	1.0 MG Reservoir	Potable							$ 150,000	$ 1,000,000	$ 500,000							$ 1,650,000
4	New 16" Pipe Main	Potable								$ 150,000	$ 1,500,000							$ 1,650,000
	Arroyo Grande State Land																	
5	N. Oracle Reservoir Property Acquisition	Potable											$ 250,000					$ 250,000
6	16" N. Oracle F-Zone Main	Potable												$ 300,000	$ 3,000,000			$ 3,300,000
7	N. Oracle 1.0MG F-Zone Reservoir	Potable													$ 250,000	$ 1,500,000	$ 1,000,000	$ 2,750,000
8	N. Oracle H-Zone Booster Station	Potable													$ 150,000	$ 600,000		$ 750,000
9	12" Sun City H-Zone Main	Potable													$ 150,000	$ 1,000,000	$ 500,000	$ 1,650,000
10	16" G-Zone Main	Potable														$ 200,000	$ 2,000,000	$ 2,200,000
11	E. Tortolita Property Acquisition	Potable													$ 250,000			$ 250,000
12	Chalk Creek Property Acquisition	Potable														$ 200,000		$ 200,000
13	E. Tortolita 2.0MG G-Zone Reservoir	Potable														$ 250,000	$ 2,000,000	$ 2,250,000
14	G-H Zone Booster Station	Potable														$ 150,000	$ 400,000	$ 550,000
15	Chalk Creek 0.5 MG H-Zone Reservoir	Potable														$ 150,000	$ 1,000,000	$ 1,150,000
16	16" H-Zone Main	Potable														$ 200,000	$ 2,000,000	$ 2,200,000
17	16" Chalk Creek H-Zone Main	Potable													$ 100,000	$ 100,000	$ 1,000,000	$ 1,200,000
	Foroast beyond 2029																	
18	State Land 0.5MG I - Zone Reservoir	Potable																
19	State Land Property Acquisition	Potable																
20	I - Zone Interconnect	Potable																
21	K&J Zone Booster Station	Potable																
Total Expansion Related Capital Improvements			$ -	$ -	$ -	$ -	$ -	$ 500,000	$ 300,000	$ 1,450,000	$ 2,000,000	$ -	$ 250,000	$ 300,000	$ 3,900,000	$ 4,350,000	$ 9,900,000	$ 22,950,000

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CH2MHILL CAP Water Distribution & Delivery Study 201
Westland Potable Master Plan 2006

TOWN OF ORO VALLEY
WATER UTILITY COMMISSION

2015 ANNUAL REPORT

APPENDIX C

ACRONYMS AND GLOSSARY

ACRONYMS

ACH	Automated Clearing House (automatic payment program)
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AF	Acre-Feet
AMI	Advanced Metering Infrastructure
AWBA	Arizona Water Banking Authority
AWS	Assured Water Supply
AWWA	American Water Works Association
AWRDIF	Alternative Water Resources Development Impact Fee
AZWARN	Arizona Water and Wastewater Agency Response Network
BCP	Business Continuity Plan
CAGRD	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAVSRP	Central Avra Valley Storage and Recovery Project
CAWCD	Central Arizona Water Conservation District
CCR	Consumer Confidence Reports
CPP	Capital Projects Program
CSWSA	Countryside Water Service Area
CY	Calendar Year
DAWS	Designation of Assured Water Supply
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
FEMA	Federal Emergency Management Act
FY	Fiscal Year
GIS	Geographic Information System
GPF	Groundwater Preservation Fee
GPM	Gallons per Minute
GWA	Groundwater Allowance Account
IGA	Intergovernmental Agreement
IOC	Inorganic Compound
ISAC	Information Sharing and Analysis Center
LSCRRP	Lower Santa Cruz Replenishment Project
LTSC	Long-Term Storage Credit
MGD	Million Gallons per Day
MCL	Maximum Contaminate Level
M&I	Municipal and Industrial
OVWSA	Oro Valley Water Service Area
PDEQ	Pima County Department of Environmental Quality
PWSDIF	Water Resources Development Impact Fee
SCADA	Supervisory Control and Data Acquisition
WaterCASA	Water Conservation Alliance of Southern Arizona
WOW	Water on the Web

GLOSSARY

Aquifer – An underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, or silt) from which groundwater can be extracted using a water well.
Central Avra Valley Storage and Recovery Project - An approved Underground Storage Facility operated by Tucson Water located in the Tucson Active Management Area located approximately one mile west of Sandario Road and just south of Mile Wide Road, in the Avra Valley, Pima County, Arizona.

Colorado River Basin – The drainage basin of the **Colorado River** located in the Southwestern United States and northwest Mexico. The 1,450-mile (2,330 km) river drains an expansive, arid watershed that encompasses parts of seven U.S. (Wyoming, Colorado, Utah, New Mexico, Arizona and California) and two Mexican states (Sonora and Baja). Rising in the central Rocky Mountains in the U.S., the river flows generally southwest across the Colorado Plateau and through the Grand Canyon before reaching Lake Mead on the Arizona–Nevada line, where it turns south toward the international border at Yuma, Arizona. After entering Mexico, the Colorado approaches the large Colorado River Delta where it naturally empties into the Gulf of California.

Developed Water Resources – Water resources and supply that are owned by a water provider for which infrastructure has been constructed to deliver the water directly to a water service area. For Oro Valley Water Utility this includes a portion of our groundwater rights, CAP water allocation and reclaimed water. Undeveloped water resources are those water supplies that do not have associated infrastructure but used indirectly by transfer or exchange, such as a portion of our Long-Tern Storage Credits.

Effluent – Generally refers to wastewater that is treated and discharged to a natural water course. For Oro Valley Water Utility its effluent is treated at facilities owned and operated by Pima County. This treated wastewater effluent is the source of Oro Valley's reclaimed water

Fifteen Year Capital Projects Plan – A long-term plan for the future development of water related projects to develop and deliver water supply to our community. It includes existing system improvements and expansion related projects to meet future demands for both the potable water system(s) and the reclaimed water system.

Groundwater – The water located in an aquifer beneath Earth's surface in soil pore spaces and in the fractures of rock formations. The depth at which soil pore spaces or fractures and voids in rock become completely saturated with water is called the water table.

Groundwater Extinguishment Credits – Credits that are generated when a grandfathered groundwater right is extinguished or retired and never be used again. The credits are issued a certificate from the Arizona Department of Water Resources. Ownership of the credits can be transferred from the owner to another entity within the same Active Management Area.

Infrastructure Improvements Plan (IIP) – A plan required that identifies projects that will be built for new growth and development within a governmental jurisdiction. An IIP is required to be developed for the inclusion of associated costs when calculating development impact fees.

Kai Farms – An approved Groundwater Savings Facility located at a farm near Redrock, Arizona that Oro Valley Water Utility uses to build up storage credits by selling a portion of our CAP water to the farm for irrigation use. Credits are built up because the farm uses our CAP water and does not use groundwater for irrigation. The groundwater not used becomes a credit to Oro Valley Water Utility for future use.

Lake Mead – The largest water storage reservoir in the United States with a capacity of 25,900,000 acre feet. It is located on the Colorado River about 24 mi southeast of Las Vegas, Nevada. Hoover Dam forms the lake and provides hydro-electric power.

Lake Powell – A water storage reservoir located on the Colorado River near Page, Arizona with a capacity of 24,300,000 acre feet. Glen Canyon Dam forms the lake and provides hydro-electric power.

Long-Term Groundwater Storage Credit – A credit for storing CAP water or wastewater effluent that is accrued when this water is delivered to and recharged into an approved underground water storage facility. Once the water is recharged and stored and a deduction is made for losses to the aquifer, it becomes a credit that can be used in the future either by direct delivery or used as credits to replace groundwater pumped from recovery wells.

Lower Santa Cruz Replenishment Project – An approved Underground Storage Facility operated by the Central Arizona Project located in the Tucson Active Management Area near Marana, Arizona.

"Paper" Water – A term used to describe water that is not directly delivered and is recovered through credits. Recovery of these credits occurs through pumping from permitted recovery wells in a location that is of more than one mile from the recharge and storage facility where the credits were originally stored.

Pima Mine Road Recharge Project – An approved Underground Storage Facility operated by the Central Arizona Project located in the Tucson Active Management Area near Sahuarita, Arizona.

Tucson Active Management Area – One of five Active Management Areas in Arizona established under the 1980 Groundwater Code to manage groundwater usage through the Assured water Supply Program.

"Wet" Water – A term used to describe water that is directly delivered from a source of supply such as directly off of a canal or from recovery wells that are located within one mile of recharge and storage facilities where the recovered credits were originally stored.