CITY OF PHOENIX



WATER SERVICES DEPARTMENT 2019/2020 BUSINESS PLAN



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The City of Phoenix Water Services Department provides water and wastewater services to the United States' fifth largest city in an area of approximately 540 square miles and for a population of approximately 1,660,000. This is accomplished through the hard work of nearly 1,500 employees, who carefully manage our major assets, including 8 water treatment plants, nearly 300 pump, well, lift, and pressure stations, 7,000 miles of water main, 5,000 miles of sewer main, 54,000 fire hydrants, and 94,000 manholes. We are owned by and accountable to the people of our community through the community's elected officials on the Phoenix City Council.

This Is What We Do:

We provide excellent customer service

We respond to nearly 800,000 calls, web requests and emails each year, to turn utilities on and off and to ensure proper billing. We assist customers with water pressure, water quality, and wastewater odor questions. We repair problems in the water distribution and wastewater collection systems.

We ensure the availability of sustainable water supplies

Drinking water is provided from three general sources: the Salt and Verde Rivers, the Colorado River, and groundwater wells. The City also treats wastewater to a very high standard and delivers it for cooling purposes at the Arizona Nuclear Power Plant, for irrigation in the Roosevelt and Buckeye Irrigation Districts, and for recharge into the local aquifer, where it can be held as mitigation against drought and as a future supply.

We provide high quality drinking water

Surface water from the Salt and Verde Rivers is treated at the Val Vista, Deer Valley, and 24th Street Water Treatment Plants. These plants produce approximately 50% of the water used in the City. Colorado River water is treated at the Union Hills and Lake Pleasant Water Treatment Plants, which produce approximately 47% of the City's water. Groundwater wells produce the remaining 3% of the water used in the City.

We protect the quality of water in the distribution system

We protect the quality of the water in the distribution system through a strong regulatory compliance program that includes use of the latest technologies to meet quality regulations and a backflow prevention program that helps prevent cross contamination.

We maintain the distribution system and move water to meet demands

There are many aspects of meeting customer demands, including: location (where the customer wants it), volume (how much the customer wants), timing (when the customer wants it), pressure (how the customer needs it), and reliability (always there when needed). The water system includes numerous storage facilities, pump stations, pressure reducing valves, approximately 54,000 fire hydrants, approximately 162,000 valves, and approximately 7,000 miles of water distribution mains. We maintain this equipment to ensure reliable water deliveries to our customers.



We meter and deliver water

There are more than 439,000 meters in the water distribution system. We have developed an automatic meter reading system to capture monthly meter reads efficiently.

We collect wastewater and deliver it to treatment plants

There are nearly 92,000 manholes, 5,000 miles of sewer lines, and dozens of lift stations and corrosion and odor control facilities in the City's wastewater system. We maintain this infrastructure in a proactive manner, work to minimize blockages and fix them quickly when they occur, and maintain adequate capacity in the collection system so that all customers' waste can be handled safely and efficiently.

We ensure the quality of wastewater does not harm the collection system or the treatment plants

Phoenix Water maintains an active industrial pretreatment program through which major industries are identified, sampled, and regulated to protect the collection system, our wastewater treatment plants, and the environment from sources of pollution.

We process wastewater into reclaimed water, bio-solids, and bio-gas

Two Wastewater Treatment Plants (WWWTPs) provide wastewater treatment for the City of Phoenix. The 91st Avenue WWTP is operated by the Water Services Department but is jointly owned by the Cities of Glendale, Mesa, Scottsdale, and Tempe in addition to the City of Phoenix. The City also owns and operates the 23rd Avenue WWTP.

We deliver reclaimed water, bio-solids, and bio-gas for beneficial reuse

Reclaimed water from the 91st Avenue WWTP is sold to the Arizona Nuclear Power Plant, where it is reused in cooling towers, providing an important nexus between water and power in the state. Reclaimed water from this plant is also delivered to the Buckeye Irrigation District. Reclaimed water from the 23rd Avenue WWTP is delivered to the Roosevelt Irrigation District. The City delivers approximately 30,000 acre-feet to the Roosevelt Irrigation District, and receives around 20,000 acre-feet of Salt River water in return, due to an innovative exchange agreed to in the 1988 Salt River Pima-Maricopa Indian Community Water Rights Settlement. Bio-solids are delivered to local farms for fertilizer for non-edible crops. Since 2019 Bio-gas has been sold in the green energy market.

We ensure regulatory compliance for the City's Municipal Separate Storm Sewer System permit

We reduce the amount of pollution entering the storm drain system through public education and outreach, inspections of industrial and commercial facilities, investigation of potential illicit discharges, and enforcement of the local stormwater ordinance.







The City has a proud history of reliable deliveries of clean, safe drinking water. That is a record we are proud of and one we are determined to continue.







- We effectively negotiated and participated in the Arizona implementation of the Colorado River Drought Contingency Plan which included the protection of the existing priority system for Colorado River water in Central Arizona and the inclusion of a system of conservation.
- We partnered with the Arizona Department of Environmental Quality to test local school plumbing for lead so that old fixtures can be changed out to ensure that schoolchildren are drinking safe, clean water.
- Through a selective process, by the Environmental Protection Agency, we received an invitation to apply for low-cost supplemental loans from the Water Infrastructure Finance and Innovation Act (WIFIA) program.
- We partnered with Amaresco to open the largest bio-gas facility in the country. Gas that is the byproduct of the sewer digestion process is cleaned at the facility, compressed, and delivered for sale on the green energy market in California.
- Of the 20 largest cities in the nation, Phoenix's water and wastewater utility rates are among the lowest.
- Our water utility operating cost per gallon sold is lower than the national median.
- Our wastewater utility operating cost per gallon treated is lower than the national median.
- We have a comprehensive safety program to keep our employees safe and the workplace clean.
- We updated our utility billing system for enhanced customer convenience.
- We have never experienced a significant regulatory violation in the operation of our wastewater treatment plants.



Significant Accomplishments Continued:







- We developed a beautification program for our existing facilities so that neighbors will view our infrastructure as a community amenity.
- The National Association of Clean Water Act Agencies' (NACWA) Peak Performance Award recognizes facilities for protection of the environment through outstanding compliance with permit limits. In 2019, the 23rd Avenue WWTP achieved 10 consecutive years with no permit limit exceedances and was recognized with a Platinum Award, and the 91st Avenue WWTP was recognized, for the second consecutive year, with a Silver Award. In 2019, our Department was also honored with the NACWA Excellence in Management Platinum Award.
- Our history of water pipeline leaks and breaks is approximately 68% lower than the national average for similarly sized utilities.
- We have acquired the surface water resources required to meet demand 100 years into the future.
- We developed a New Employee Orientation Program to help new staff members understand their
 role in the organization, learn departmental values and expectations, tour facilities, meet our
 leaders, and understand the vital role that the Water Services Department plays in our community.
- We partnered with the Arizona Division of Occupational Safety & Health through the Public Entity Partnership Program in an effort to lower our industrial injury rate.
- We entered into an innovative partnership with the City of Tucson to store, recover, and exchange Colorado River water that will protect Phoenix during extreme shortages on the Colorado River. Under the program, the City of Phoenix will store a portion of its unused Colorado River water in Tucson-area aquifers. In the future, Tucson will recover the stored water and use it in exchange for ordering an equivalent amount of their Colorado River water for delivery through the Central Arizona Project to Phoenix's water treatment plants. This partnership optimizes the use of resources and infrastructure and increase the resiliency of Phoenix's Colorado River supplies during drought conditions. The Phoenix Tucson Water Exchange was honored as a recipient of the 2017 International City/County Management Association Community Partnership Award.
- We reclaim all wastewater to a very high standard. The reclaimed water is reused for irrigation, power generation, and aquifer recharge, and the bio-solids are reused as a fertilizer in local agriculture.
- We installed 7.5MW of solar power at our Lake Pleasant Water Treatment Plant and were awarded with a 3 MW allocation of renewable hydro-power from the Colorado River.



Significant Accomplishments Continued:



















- The water utility system includes dozens of miles of pre-stressed concrete cylinder pipelines (PCCP), which are large transmission mains that over time have shown a tendency to fail catastrophically, causing major service disruptions and flooding. To prevent these failures, the Department set a goal of inspecting 32 miles of critical PCCP water mains in 3 years. The Department has completed a cumulative total of over 85 miles of inspections. One assessment identified a pipe segment in danger of failure. If this segment had failed catastrophically, it likely would have impacted the 67th Avenue Union Pacific Railroad crossing. Staff was able to replace the deteriorated segment, eliminate a previously unknown risk, and prevent a catastrophe. We have replaced 42 miles of water main.
- We deliver high-quality reclaimed water to the Roosevelt Irrigation District for use in local agriculture and in exchange receive Salt River water for our potable needs. This unique exchange was a cornerstone of the 1988 Salt River Pima-Maricopa Indian Community Water Rights Settlement.
- We recharge our aquifer with surface water to help manage it as a resource that can be used during times of drought or climate change.
- We have managed the utility such that water and wastewater system capacity meets the needs of existing customers but is also available for future economic development opportunities.
- We partnered with the Salt River Project to evaluate and monitor source water quality so that
 employees at the water treatment plants can literally see what's coming in the canals, and prepare
 treatment strategies accordingly.
- We implemented an automatic meter reading program to increase efficiency and reduce manual errors.
- We implemented new technology that efficiently routes our employees to locations to activate
 utility service for our customers. The result is an increase in productivity, diminished use of gas,
 fewer miles driven, and improved customer service.
- We implemented a computerized maintenance management system through which work on physical assets is better tracked and analyzed.



Significant Accomplishments Continued:

- We entered into a contract to harness bio-gas produced at the 91st Avenue Wastewater Treatment Plant for sale in the green energy market.
- We joined the Department of Energy's Better Plants Program to make our plants more energy efficient.
- We partner with others in the region to solve difficult water and wastewater issues cooperatively.
 We work with other cities, agricultural districts, conservation districts, Indian communities, private water companies, non-governmental organizations, the State, the Federal government, Maricopa County, Arizona State University, and the University of Arizona.
- We have an effective industrial pre-treatment and commercial inspection program that prevents industrial customers from dumping products into the sewer system that would be harmful to our wastewater treatment plants and the environment.
- Phoenix serves as the Chair of the Maricopa Association of Governments Water Quality Advisory Committee.
- We annually analyze water delivery and wastewater collection system flow data and re-examine the need for system expansion projects identified in the Water and Wastewater Master Plans.
- We value union efforts and ensure regular meetings between the Department's executives, division managers, and union representatives to work collaboratively to provide the best service to our customers.
- We monitor revenues and expenditures to identify and address variances against forecasts and provide a monthly variance report to each division head.
- We fitted Department vehicles with GPS technology, which tracks vehicle location throughout the day resulting in improved productivity, quicker emergency response, and enhanced employee safety.
- We offer a Spanish City Services Bill courtesy copy.
- We developed a customer self-service web portal, allowing customers to manage their accounts 24/7.
- We have entered into agreements with the Gila River Indian Community and the City of Avondale to store Colorado River water for future use.
- We entered into an historic agreement with the U.S. Bureau of Reclamation, the State of Arizona, the Gila River Indian Community, and the Walton Family Foundation to conserve water in Lake Mead to help avert shortage and were awarded the Arizona Forward Governor's Award for Arizona's Future.
- Our laboratory is one of only eleven in the nation to have ISO/IEC 17025 accreditation.





VISION

We will provide superior water services while perpetuating environmental excellence and focusing on safety.

MISSION

To provide high quality, reliable, and cost effective water services that meet public needs and maintain public support.

VALUES

Responsive and effective customer service.

Honesty and transparency in the conduct of City business.

Respect for our employees through the provision of a positive and safe work environment and the celebration of successes.

Participation and contribution toward the betterment of our community.

Fairness and consistency in personnel matters.

Responsible stewardship of our infrastructure and the environment.

Employee accountability for achieving the best value for the community.

Knowledge and technical expertise in the pursuit of excellence.

Open, honest, and clear communications.

Participatory decision-making at all levels of the organization.





Provide high quality drinking water in full compliance with regulatory requirements and protect public health.

Provide treated effluent water supplies in full compliance with regulatory requirements.

- Ensure drinking water and treated wastewater quality complies with local, county, state, and federal regulations.
- Ensure regulatory compliance through sound field operational procedures and high performance standards.
- Perform monitoring of regulated parameters at the required frequency to ensure regulation and permit limits are met.
- Limit the introduction of pollutants into the wastewater collection system.
- Provide leadership and active engagement on regulatory issues.
- Leverage data, technology, and treatment techniques to exceed current and future regulatory requirements.
- Maintain alert criteria at 80% of the regulatory or permit value to initiate a process or operational evaluation.
- Maintain regular meetings between divisions to ensure good communication on water quality issues.
- Maintain productive working relationships with regulators to help shape policies and stay informed about regulatory activities.
- Perform water and wastewater treatment process technology assessments every three years.



Supply High Quality Water Continued:

- Review and update standard operating procedures for all major tasks at the water and wastewater treatment plants.
- Develop a formal program through which a record is kept of the annual position-specific training of all treatment plant employees on existing, updated, and new standard operating procedures.
- Strengthen controls to continue to ensure that all industries regulated by the General Pretreatment Regulations (Title 40 of the Code of Federal Regulations Part 403) are permitted and that chemical use and wastewater discharge is monitored.
- Develop an automated permit tracking and billing system for the industrial pre-treatment program.
- Develop a master plan for process data and conversion of process data software at the remote facilities.
- Further develop working relationships with regulators to help shape policies and stay informed about regulatory activities.
- Maintain quarterly meetings between divisions to ensure communication on water quality issues.







Provide safe, timely and effective customer service.

Build and maintain good relationships with customers and the community.

- Provide reliable, responsive and affordable services in line with explicit customer accepted service levels.
- Respond to customers immediately and act to safely resolve problems.
- Invest in business process changes and technologies that promote customer care and convenience and that provide a consistently positive customer experience.
- Make payment of the City Services Bill as easy and convenient for the customer as possible.
- Document response times for customer requests and report the Department's performance against set goals.
- Continue training programs on phone etiquette; train new call center representatives within three months of hire and repeat training a minimum of every two years.
- Continue training employees on field interactions with customers; train new field employees within three months of hire and repeat training a minimum of every two years.
- Continue the provision of Spanish language publications and billing services.
- Continue the provision of material that describes the water line leak repair process so that customers understand the timeliness of the Department's response to reported problems and issues.



Provide Excellent Customer Service Continued:

- Develop a method to consolidate and map all customer complaints using GIS if practical.
- Develop an interactive Web site where customers can view water line leak repair reports.
- Support the enhancement of the City's Customer Relationship Management program.
- Continue efforts to consolidate yards, warehouses, and facilities to improve timely response to customer concerns and requests.
- Reduce Spanish-language call wait periods.
- Develop tracking to quantify other non-English speaking requests by language.
- Institute credit card payment option for development services transactions.







Recruit and retain a workforce that is competent, motivated and adaptive.

Retain and improve upon institutional knowledge and innovation.

- Enhance the culture of safety in the workplace.
- Maintain a participatory, collaborative organization dedicated to continual learning and improvement.
- Develop and implement workforce plans that ensure critical work is performed, identify new ways to perform work, and meet future workforce needs.
- Actively manage employee performance to ensure that the Department's goals are met.
- Emphasize optimal use of internal expertise and balanced use of consultants.
- Continue the Water Smart New Employee orientation that provides an overview of Department functions, employee expectations, safety initiatives, and employee-development resources.
- Provide opportunities for professional and leadership development.
- Provide meaningful and challenging work.
- Recruit at industry conferences, career fairs, and facility tours; continue the use of recruitment videos on social media.
- Hold supervisors accountable for ensuring employees receive all designated safety training.
- Continue regular meetings between the executive team and union leaders.
- Link annual performance standards and expectations to the Business Plan.
- Ensure that supervisors establish and communicate clear performance expectations and standards through the employee's annual performance appraisal process. Regularly assess and communicate performance against standards.
- Continue the Water Smart Supervisor training program that reinforces key skills for supervisors.



Ensure Ample Talent to Safely Do Our Work Today and Tomorrow Continued:

Ongoing Strategies Continued:

- Hold employees accountable for safety rule violations.
- Continue the in-house training programs that expose various workgroups to the broader aspects
 of utility management and develop additional resident-expert training programs.
- Encourage employee presentations at industry conferences and workshops.
- Create a culture of continuous learning.
- Continue existing, and identify new opportunities for, internship programs through Gateway Community College, veterans' organizations, or other partners.





Ensure Ample Talent to Safely Do Our Work Today and Tomorrow Continued:

- Promote awareness of the Arizona Division of Occupational Safety and Health Public Entity Partnership Program. Achieve Star status.
- Develop a formal cross-training and job-shadowing program that enhances the ability of employees to learn about the work performed in different divisions; ensure the program is structured such that employees are treated consistently and fairly, and given consistent and fair opportunities to participate.
- Finalize all Job Hazard Analyses (JHAs) for all critical tasks.
- Create e-learning videos.
- Implement a learning management system and e-learning environment.
- Implement a program to document informal safety training.
- Investigate the feasibility of expanding the apprenticeship program.
- Develop a cross-departmental team to review the hiring process for fairness and efficiency.
- Standardize appropriate classification matrixes and pool questions.
- Develop a playbook for key issues such as: procurement, impact fees, human resources and other relevant subjects.
- Develop competency models for potential supervisors.
- Pilot a program on allowing supervisors to proceed with supervisory counselings without Human Resources Oversight.





Optimize water losses, chemical use, miles driven and energy demands.

Make the best use of employee experience, education and technical expertise.

- Enhance the culture of energy efficiency at water and wastewater facilities.
- Minimize energy usage while still meeting operational requirements.
- Ensure communication between work groups on electric usage, times of day use, and plans for well maintenance runs and sampling.
- Continually review the electric usage and needs of the water distribution system, water treatment
 plants, remote facilities, and wastewater treatment plants and take advantage of different electrical
 rates and pumping times to lower electrical costs where possible.
- Perform planned work on non-premium pay schedules.
- Continue the department-wide quarterly progress report to track strategic efforts and to measure performance against established benchmarks.
- Maximize cost-effective use of renewable energy resources.
- Continue the use of business process maps to better document work flows and find efficiencies.
- Standardize and consolidate technology systems, equipment, and software across the organization.
- Minimize water loss while meeting water quality goals.
- Maintain tight controls on inventory to avoid wasting materials and equipment.
- Invest in research and new processes.



Operate at The Highest Levels of Efficiency And Cost-Effectiveness Continued:

Ongoing Strategies Continued:

- Actively route field crews to improve response time and to minimize equipment usage and miles driven.
- Annually update the Department water loss model to conform with the American Water Works Association (AMWA) M36 Water Loss Audit manual.
- Minimize chemical use while still meeting operational objectives.
- Leverage mobile technology.
- Collect, analyze, and use data and metrics in day-to-day operations at all levels.
- Optimize chemical dosage for cost and corrosion control in the wastewater collection system based on the sulfide generation model.
- Review and evaluate the use of new instrumentation and controls every three years.
- Empower employees to solve problems, be proactive, and save time and money.





Operate at The Highest Levels of Efficiency And Cost-Effectiveness Continued:

- Reduce the Department's energy intensity by seven percent in the next three years.
- Conduct power monitoring for the 91st Avenue Wastewater Treatment Plant and develop dashboards.
- Establish Strategic Energy Management programs for the Deer Valley, Union Hills, 24th Street, 91st Avenue, and 23rd Avenue Treatment Plants with the goal of compliance with ISO 50001.
- Establish Strategic Energy Management programs for the wastewater collections, water distribution, and remote facilities divisions with the goal of facility compliance with ISO 50001.
- Explore the possibility of developing and implementing algorithms based on energy efficiency and water quality to automate the operation of major pump stations.
- Complete return-activated-sludge pump efficiency tests.
- Implement an 18-day water meter reading cycle.
- Install flow meters on the potable and non-potable treatment plant water systems to determine water usage and reduce water consumption where appropriate.
- Develop a quarterly meter calibration schedule.





Operate at The Highest Levels of Efficiency And Cost-Effectiveness Continued:

Three-Year Objectives Continued:

- Finalize the e-procurement reports that allow the Department to better analyze spending patterns for cost-savings and for fraud protection.
- Implement new coding and scanning software in the warehouse section that reduces the potential for waste and abuse.
- Update the mobile workforce management software to the most appropriate version.
- Evaluate the strategy for usage of filters at the 23rd Avenue Wastewater Treatment Plant.
- Develop an intra-departmental non-revenue management team with emphasis on AWWA M1
 Water Audits and Loss Control Program. Identify water losses within the City of Phoenix Water
 System and prioritize potential non-revenue water loss projects.







Manage the Water Services Department's Finances to Support Utility Needs while Maintaining Reasonable Water and Wastewater Rates and Fees.

Maintain a Transparent Financial Environment Free of Fraud, Waste and Abuse.

- Make the best use of every dollar spent.
- Enhance monetary and fiscal controls.
- Optimize rate structure.
- Effectively manage revenues and expenditures.
- Maintain adequate cash flow by maintaining an available fund balance that is at least as large as annual debt service requirements.
- Accurately forecast revenues, expenditures, and cash flows.
- Develop and manage operating and capital budgets aligned with the Business Plan that keep rates reasonable over the long term.
- Work with the Finance Department to ensure the water and wastewater utility financial plans achieve the annual financial indicators required to maintain the existing triple-A rating to minimize the cost of debt.
- Conduct billing and collection practices that enhance customer fairness.
- Continue the budget, procurement, and inventory training programs that ensure employees are using best practices.
- Continue the monitoring and reporting of Capital Improvement Program (CIP) scope, schedules, budgets, and change orders to ensure that capital dollars are wisely spent.
- Collaborate with the City's Finance Department to prepare the Department's long term financial plan.



Maintain Financial Viability Continued:

Ongoing Strategies Continued:

- Revise and implement internal controls and conduct audits to reduce the potential for fraud and abuse.
- Continually improve upon the water and wastewater consumption and revenue forecast models that are used to predict rate requirements, ending fund balances, and master plan needs.
- Continue the use of management review for impartial identification of efficiencies.





Maintain Financial Viability Continued:

- Formalize a program through which raw water meters are challenged semi-annually.
- Quantify the financial impact of the Zero Consumption and Water Theft programs and make recommendations regarding structure and staffing of the programs.
- Review and if appropriate, update fees and surcharges to ensure appropriate cost recovery.
- Recommend an operational plan for same-day water service turn-ons.
- Implement a report that indicates whether appropriate administrative controls are in place for capital projects.
- Replace manual utility billing system reports with automated dashboards.
- Update the Department's impact fees in compliance with Arizona Revised Statutes.
- Finalize the centralization of inventory by extracting operating divisions from inventory control.







Maintain Robust, Secure, and Reliable Water and Wastewater Infrastructure at the Lowest Possible Lifecycle Cost.

Make the Right Capital Investments at the Right Time.

- Engineer and build it right the first time.
- Update infrastructure master plans annually to reflect the utility's highest priorities and align
 operating and capital budgets to support these priorities.
- Ensure transfer of knowledge for proper operations of equipment and systems.
- Use cost-benefit and life-cycle analysis to evaluate projects to determine the best capital improvement alternatives and the best timing of those alternatives.
- Maintain an asset management program through which all assets are identified, characterized, and mapped in GIS, and through which maintenance and replacement is documented, analyzed, and predicted.
- Continue to conduct asset condition assessments and repair or replace infrastructure as necessary.
- Perform timely and cost-effective preventative maintenance on infrastructure.
- Continue and improve the formal process for communicating asset record changes from field to engineering and GIS to update the Department's asset registry.
- Continue use of division-level scorecards to track asset management performance metrics that are part of the divisions' Asset Management Strategic Plans.
- Program preventative maintenance work orders into computerized maintenance management systems and hold staff accountable to perform the work by using monthly productivity reports.



Ensure Reliable Infrastructure Performance Continued:

- Implement, based upon working group recommendations, mapping of cathodic protection related infrastructure, inclusion of assets into the asset management system, and determine the impact on the Blue Stake group.
- Develop and implement an air relief valve maintenance program and include air relief assets in the asset management system.
- For each relevant job classification, develop a list of the skills necessary for effective asset maintenance and ensure appropriate training.
- Develop specific targets for preventative maintenance tasks completed per month for specific asset criticality groups. Train planner/schedulers so that they can competently schedule the work.
- Develop an inventory of mission-critical equipment and spare parts. Determine whether these items should be kept in central inventory stores or at the field facilities.
- Complete full implementation of asset end-of-life forecasting models for all relevant asset types.
- Complete an upgrade of the Department's asset management software.
- Employ the BRAINS software training system for work-order asset management system training.







Proactively Mitigate Risks.

Continue to Develop and Maintain Water and Wastewater Systems that are Reliable with Adequate Redundancy and Resiliency to Ensure Quality Service to the Customer.

- Ensure power redundancy to meet demand during a commercial power outage during peak demand conditions.
- Secure critical facilities.
- Work collaboratively with Homeland Security, the FBI, WaterISAC, and other groups dedicated to protection of critical assets.
- Proactively identify, manage, and mitigate risks.
- Ensure legal review of contracts, regulatory issues, intergovernmental agreements, significant human resources cases, bond issuances, water rights settlements, and other relevant issues.
- Support and align the Department's technology security strategy with Homeland Security regulations and recommendations, as well as the City's cyber security efforts.
- Enhance our ability to attract employees to critical operational positions that are traditionally difficult to fill (shift work, weekend and on-call schedules, wastewater operations, process controls, etc.).
- Use CMOM, GIS, and asset management databases to track conditions of water and wastewater lines and predict impending failures effectively to replace risky infrastructure proactively.
- Continue to meet peak water supply demands and system pressure requirements, as well as wastewater collection and treatment needs by maintaining a reliable system with adequate redundancy.
- Minimize service interruptions and Sanitary Sewer Overflows (SSOs).



Ensure Operation Resiliency Continued:

- Continue to develop power needs to meet water demands during a commercial power outage during peak demand conditions and to maintain wastewater operations during a commercial power outage.
- Evaluate and strengthen the water line leak detection program.
- Finalize design of the physical infrastructure that allows for continued water deliveries during deadpool states on the Colorado River system or major Central Arizona Project canal outages.
- Update the Department's emergency preparedness, planning, and response documents.
- Update the Department's Continuity of Operations Plan.
- Finalize the strategic plan through which the most critical SCADA and process control infrastructure is identified and prioritized for replacement.
- Pursue state legislation and/or State Department of Water Resources rule and policy changes that enable improved management of the aquifer for the long term.







Acquire Adequate Water Supplies for Current and Future Customer Needs.

Adapt to Conditions Such as Drought and Global Climate Change.

- Continue targeted conservation programs that reinforce our culture of efficient water use.
- Proactively manage demand and supply portfolios.
- Address the impacts of climate change and drought on surface water supplies.
- Continue to push for policies, agreements, and programs that enhance the resiliency of the Colorado River, such as system conservation.
- Maximize the use of the City's reclaimed water supplies.
- Protect and enhance Phoenix's physical access to groundwater and underground storage credits.
- Participate in the adjudication of water rights in Arizona, and settle water rights disputes where prudent.
- Advance water policies, laws, and regulations to protect and enhance Phoenix's water resources portfolio.
- Continue research and analysis to better understand residential outdoor uses and non-residential uses.
- Participate in the development of programs to improve the resiliency of Phoenix's surface water supplies.
- Continue to develop and expand the aquifer storage and recovery well program.
- Continue to be an active participant in regional water recharge policy, regulation, and law focused on reducing the rate of decline of the groundwater table.
- Engage in strategies and priorities that arise to deal with statewide water imbalances.



Ensure Sustainable and Resilient Water Resources Continued:

- Influence the water banking recovery plans being formulated by the Central Arizona Water Conservation District and the Arizona Water Banking Authority.
- Develop infrastructure to address shortages of Colorado River supplies.
- Pursue agreements through which other entities' Colorado River water is transported through City
 of Phoenix infrastructure.
- Assess the merits of leaving New Conservation Space and Gatewater credits in reservoirs, using credits for production, or recharging the water.
- Establish a program to accurately measure the volume of reclaimed water delivered to each beneficial use.
- Develop 25/50-year projections of Phoenix's reclaimed water production and identify the amount exceeding current delivery obligations.
- Identify mechanisms to increase the use of available reclaimed water supplies for the benefit of the City.
- Pursue an agreement with the Arizona State Land Department regarding the transfer of its Colorado River subcontract entitlement to Phoenix lands north of Jomax Road.







Engender Understanding and Support from the Community for Service Levels, Rate Structures, Operating Budgets, and Capital Improvement Programs.

Actively Involve Stakeholders in the Decisions that will Affect Them.

- Educate, inform, and elevate transparency to build long-term support for water and sewer programs and services.
- Increase our presence in the community to foster positive relationships.
- Align water related education, outreach, and community efforts with PHXAchieves initiatives and programs that promote information and opportunity for Water Services careers.
- Foster relationships with other City departments and with the City Council.
- Continue timely and appropriate communication with City Council on relevant issues.
- Offer tours to Councilmembers and their staff.
- Cultivate productive relationships with the media.
- Pitch targeted topics to morning shows, radio programs, and newspaper reporters at least once a month.
- Foster relationships with regulatory oversight agencies.
- Participate in key stakeholder groups that propose changes to regulatory agencies.
- Coordinate utility messaging and strategic issue management with other Valley utilities, business partners, and industry organizations.
- Utilize our citizen advisory panel, known as the Water/Wastewater Rate Advisory Committee (WWRAC), to help guide the CIP and rate making processes.
- Continue to employ City-approved social media communications.



Foster Stakeholder Support Continued:

- Develop and schedule a speakers' bureau that regularly appears at community events such as neighborhood association, village planning, HOA, Council coffee chats, and other meetings and events.
- Develop a formal Water/Wastewater 101 academy for stakeholders that includes tours and presentations.
- Engage a local high school journalism class for new ideas, strategies, and messages on social media.
- Create a calendar of Council events and special programs that can be celebrated at Phoenix Water facilities.
- Expand the Water Smart video series to provide council with updates on major Departmental projects in their districts.
- Develop a Web page where customers can easily view the status of capital improvement projects in their neighborhoods.
- Continually assess Department-wide outreach methods used to inform customers about major projects, programs, and achievements and ensure a consistent, branded look and message.







Incorporate Pollution Prevention and Watershed Approaches as Part of an Overall Strategy to Maintain and Enhance Ecological Sustainability.

Attend to the Impacts that Operational Decisions Have on Current and Long-Term Future Community Health and Welfare.

- Manage operations, infrastructure, and investments to protect, restore, and enhance the natural environment.
- Promote economic vitality by supporting City infill objectives.
- Support community improvement by ensuring our facilities have a positive impact on the community
 economically and aesthetically.
- Continue leadership in the environmental field and resource management.
- Promote the Department's environmental programs with community outreach by newsletters, website
 and social media.
- Continue educational outreach regarding water conservation, stormwater, and other environmental issues at schools and other civic functions.
- Continue the partnership with local art groups to support the use of art to develop aesthetically pleasing remote facilities; recommend sites for artistic enhancements.
- Identify emerging environmental issues of importance to the Department and develop appropriate responses.
- Continue leadership in salinity studies.
- Support and participate in local, regional and national efforts on forest restoration and watershed management.
- Investigate procurement of local goods and services when feasible while maintaining City and State procurement code compliance.



Enhance Community Sustainability Continued:

- Complete ten site beautification and facility security enhancement projects.
- Work collaboratively with Maricopa County Parks and Recreation Department, and others to complete Segment 9 of the Maricopa Trail running through the Tres Rios Wetlands.
- Develop a Water Education Center at the Tres Rios Wetlands site.

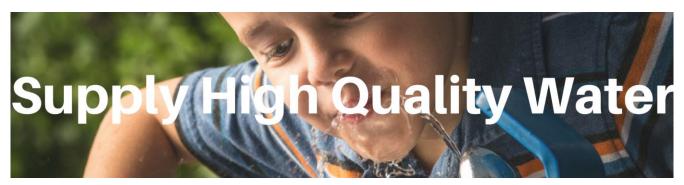




SCORECARD		
Category	Metric	
Supply High Quality Water	100% compliance with all regulatory deadlines	
	100% compliance with all County, State and Federal regulations	
Provide Excellent Customer Service	90% of unplanned water outages less than 4 hours in duration	
	Respond to all customer water turn-on, turn-off, and high bill investigation requests within established timeframes	
	Answer 90% of utility billing center calls within two minutes	
Ensure Ample Talent to Safely do our Work Today and Tomorrow	100% of designated staff attend critical and regulatory training	
	Total recordable injury rate below national average	
Operate at the Highest Levels of Efficiency and Cost-effectiveness	Year-over-year improvement in our energy usage rate	
Maintain Financial Viability	Maintain an AAA Bond Rating in the Water and Wastewater Utilities	
	100% of customers billed every month	
Ensure Reliable Infrastructure Performance	Clean at least 1,100 miles of small-diameter and 62 miles of large-diameter sewer lines each year	
	Ratio of planned-to-reactive work orders completed at least 4 to 1	
	No more than 20 leaks and breaks per 100 miles of water lines	
Ensure Operational Resiliency	Average time to address unplanned water service disruptions less than four hours	
	No more than 1.0 sanitary sewer overflows per 100 miles of sewer line	
	Key system availability at least 99%	
Ensure Sustainable and Resilient Water Supplies	Annual water losses less than 10%	
	Reclaimed water reuse at least 90%	
Foster Stakeholder Support	Ratio of positive to negative media stories at least 4 to 1 each year	
	At least three meetings of the Water/Wastewater Advisory Committee each year	
Enhance Community Sustainability	At least 90% of closed Capital Improvement Program projects meet Small Business Enterprise goals each year	
	At least 200 community education events attended each year	



EXPLANATION OF SCORECARD METRICS



100% compliance with all regulatory deadlines

This metric gauges the Department's commitment to regulatory excellence, a cornerstone of the provision of high quality water and treatment of wastewater to high standards that protect the environment.

There are dozens of reports that must be submitted against deadlines in the water, wastewater, and stormwater utilities. This metric is calculated as the number of reports that are turned in to regulatory agencies in a timely manner in a fiscal year divided by the total number of reports that are turned in during a fiscal year.

Our FY 19/20 Score: 99.5%
Our FY 18/19 Score: 99.7%
Our FY 17/18 Score: 100%
Our FY 16/17 Score: 100%
Our FY 15/16 Score: 100%
Our FY 14/15 Score: 100%

100% compliance with all County, State, and Federal regulations related to the water, wastewater, and stormwater utilities

Regulations broadly define the acceptable levels of various constituents in drinking water, reclaimed water, and stormwater. This metric gauges the Department's ability to comply with regulations related to the water, wastewater, and stormwater utilities.

This metric is calculated as the percentage of time each fiscal year that the water, wastewater, and stormwater utilities meets all regulatory standards. Non-compliance is defined as the receipt of a violation as finally determined by Arizona Department of Environmental Quality as directed to the Water Services Director.

Our FY 19/20 Score: 100%
Our FY 18/19 Score: 100%
Our FY 17/18 Score: 100%
Our FY 16/17 Score: 100%
Our FY 15/16 Score: 100%
Our FY 14/15 Score: 100%



EXPLANATION OF SCORECARD METRICS



90% of Unplanned Water Outages Less Than 4 Hours in Duration

This metric gauges the Department's ability to restore water service to customers after an unplanned disruption. It is inconvenient to be without water service, and the Department is dedicated to providing for our customers as quickly as possible in support of customer service.

This metric is calculated as the number of customers that experienced an unplanned water service outage during the fiscal year of four hours or less in duration, divided by the total number of customers that experienced unplanned water service outages in the fiscal year.

Our FY 19/20 Score: 85%
Our FY 18/19 Score: 95%
Our FY17/18 Score: 97%
Our FY 16/17 Score: 97%
Our FY 15/16 Score: 81%
Our FY 14/15 Score: 95%

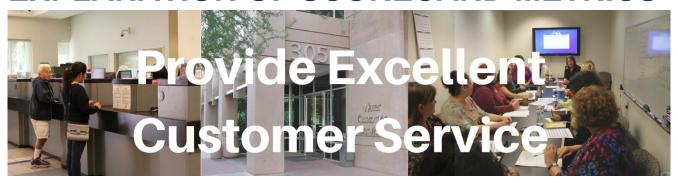
Respond to All Customer Water Turn-On, Turn-Off and High Bill Investigation Requests Within Established Timeframes

This metric gauges the Department's ability to quickly respond to customer requests.

Water turn-off requests should be met within 1 day and investigation of high bill complaints should begin within 3 days. This metric is calculated, by fiscal year, as one-third of the sum of the number of turn-on requests accomplished within 1 day, divided by the number of turn-on requests, multiplied by the ratio of the number of turn-on requests, over the total number of turn-off requests plus the number of turn-off requests accomplished within 1 day divided by the number of turn-off requests, multiplied by the ratio of the number of turn-on requests, over the total number of customer requests plus the number of high bill investigation requests accomplished within 3 days, divided by the number of high bill investigation requests, multiplied by the ratio of the number of high bill requests over the total number of customer requests.

Our FY 19/20 Score: 98%
Our FY 18/19 Score: 98%
Our FY 17/18 Score: 98%
Our FY 16/17 Score: 100%
Our FY 15/16 Score: 98%
Our FY 14/15 Score: 93%





Answer 90% of Utility Billing Center Calls Within Two Minutes

This metric gauges the Department's ability to respond quickly to customer phone calls. This metric is calculated as the number of calls that were answered within two minutes during the fiscal year divided by the total number of calls received by the utility billing center in the fiscal year.

Our FY 19/20 Score: 96.3% Our FY 18/19 Score: 91.9%

Our FY 17/18 Score: 98% Our FY 16/17 Score: 87%

Our FY 15/16 Score: 65%

Our FY 14/15 Score: 60%





100% of Designated Staff Attend Critical and Regulatory Training

This metric gauges the Department's commitment to ensure proper training for employee safety and operational excellence. The Department maintains of the critical and regulatory training associated with each staff position including required training frequency. This metric is calculated as 100 minus the ratio of the number of employees on this list that did not complete all required training within the established timeframe in the fiscal year over the total number of employees on this list in the same fiscal year. The total number of employees on this list is calculated as of June 30.

Our FY 19/20 Score: 76%
Our FY 18/19 Score: 83%
Our FY 17/18 Score: 81%
Our FY 16/17 Score: 78%
Our FY 15/16 Score: 60%
Our FY 14/15 Score: 42%

Total Recordable Injury Rate Below National Average

This metric is a representation of the Department's safety record. The incidence rate represents the number of recordable injuries and illnesses per 100 full-time workers. The Bureau of Labor Statistics recordable industrial incident rate is per 100 employees for the Utilities/Water, Sewage and other Systems category. This metric is calculated as 200,000 (the base for 100 equivalent full-time workers) times the ratio of the number of injuries and illnesses in a calendar year over the total number of hours worked by all employees during the calendar year.

Our CY 2020 Score: 7.8
Our CY 2019 Score: 9.1
Our CY 2018 Score: 8.2
Our CY 2017 Score: 6.2
Our CY 2016 Score: 9.0
Our CY 2015 Score: 8.5
Our CY 2014 Score: 9.0





Year-over-year improvement in our energy usage rate

This metric provides a "bottom line" indication of the Department's energy efficiency in operations.

Our FY 19/20 Score: Water: 1,390 kWh/MGD / Wastewater: 1,841 kWh/MGD Our FY 18/19 Score: Water: 1,247 kWh/MGD / Wastewater: 1,734 kWh/MGD Our FY 17/18 Score: Water: 1,292 kWh/MGD / Wastewater: 1,746 kWh/MGD Our FY 16/17 Score: Water: 1,375 kWh/MGD / Wastewater: 1,802 kWh/MGD Our FY 15/16 Score: Water: 1,338 kWh/MGD / Wastewater: 1,762 kWh/MGD Our FY 14/15 Score: Water: 1,293 kWh/MGD / Wastewater: 1,762 kWh/MGD





Maintain an AAA Bond Rating in the Water and Wastewater Utilities

This measure gives an indication of the overall financial health of the utility as determined by Standard and Poor's.

Our FY 19/20 Score: AAA Our FY 18/19 Score: AAA Our FY 17/18 Score: AAA Our FY 16/17 Score: AAA Our FY 15/16 Score: AAA Our FY 14/15 Score: AAA

100% of Customers Billed Every Month

This measure gives an indication of the ability of the Department to protect revenues and ensure fairness between customers. Billing errors can prevent bills from going out in a timely manner.

Our FY 19/20 Score: 100%
Our FY 18/19 Score: 100%
Our FY 17/18 Score: 100%
Our FY 16/17 Score: 100%
Our FY 15/16 Score: 99.9%
Our FY 14/15 Score: 99.9%





Clean at least 1,100 Miles of Small-Diameter Sewer Pipe and 62 miles of Large-Diameter Sewer Lines per Year

This metric is an indication of how the Department is maintaining the sewer collection system.

This metric is calculated as the total number of miles of small- and large-diameter sewer lines cleaned in a fiscal year.

Our FY 19/20 Score: Small Diameter: 943 / Large Diameter: 22.5
Our FY 18/19 Score: Small Diameter: 1,137 / Large Diameter: 66
Our FY 17/18 Score: Small Diameter: 1,181 / Large Diameter: 98.71

Our FY 16/17 Score: Small Diameter: 1,209 / Large Diameter: 93.67 (corrected)

Our FY 15/16 Score: Small Diameter: 1,116 / Large Diameter: 98
Our FY 14/15 Score: Small Diameter: 1,023 / Large Diameter: 45

Ratio of Planned-to-Reactive Work Orders Completed at least 4 to 1

This measure gauges the Department's ability to complete preventative maintenance work to extend infrastructure life.

This metric is calculated as the number of preventative work order tasks finished in a fiscal year over the total number of work order tasks finished in a fiscal year.

Our FY 19/20 Score: 3.62 to 1
Our FY 18/19 Score: 3.03 to 1
Our FY 17/18 Score: 3.35 to 1
Our FY 16/17 Score: 3.59 to 1
Our FY 15/16 Score: 3.58 to 1
Our FY 14/15 Score: 3.85 to 1



No More than 20 Leaks and Breaks per 100 Miles of Water Lines

This measure gauges the state of the water utility's water lines.

This metric is calculated as the number of leaks and breaks on any water line in a fiscal year divided by seventy. The National benchmark from AMWA in 2012 was 30 or less to be in the top 25 percentile.

Our FY 18/19 Score: 13

Our FY 18/19 Score: 15

Our FY 17/18 Score: 15

Our FY 16/17 Score: 15

Our FY 15/16 Score: 15

Our FY 14/15 Score: 14





Average Time to Address Unplanned Water Service Disruptions Less than Four Hours This measure gives an indication of how quickly and effectively the Department can respond to unplanned water line leaks and breaks that disrupt service.

This metric is calculated as the total time necessary to address unplanned water service disruptions in a fiscal year divided by the total number of water service disruptions in a fiscal year.

Our FY 19/20 Score: 1.97
Our FY 18/19 Score: 0.19
Our FY 17/18 Score: 1.20
Our FY 16/17 Score: 1.20
Our FY 15/16 Score: 2.30
Our FY 14/15 Score: 3.38

No More than 1.0 Sanitary Sewer Overflows (SSOs) per 100 Miles of Sewer Line This measure gives an indication of the Department's ability to ensure adequate sewer capacity and maintain sewer infrastructure.

This metric is calculated as the total number of SSOs divided by 50.

Our FY 19/20 Score: .8
Our FY 18/19 Score: .62
Our FY 17/18 Score: .64
Our FY 16/17 Score: .55
Our FY 15/16 Score: .56
Our FY 14/15 Score: .57



Key System Availability at Least 99%

This measure gives an indication of the Department's ability to ensure the continued operation of key systems.

This metric is calculated as 8,760 minus the total number of hours that water treatment plants, major pump stations, wastewater treatment plants, and lift stations are out-of-service (pro-rated by the capacity of the facility compared to total system capacity) for reasons that are not planned in a fiscal year, divided by 8,760 and multiplied by 100%.

Our FY 19/20 Score: 100%

Our FY 18/19 Score: 100%

Our FY 17/18 Score: 99.99%

Our FY 16/17 Score: 99.99%

Our FY 15/16 Score: 100%

Our FY 14/15 Score: 100%





Annual Water Losses Less than 10%

This measure gives an indication of how well the Department is managing the water treatment and distribution systems in support of resource efficiency.

This metric is calculated using the same report to the Arizona Department of Water Resources for the previous calendar year.

Our FY 19/20 Score: coming soon!

Our FY 18/19 Score: 9.39% Our FY 17/18 Score: 9.95%

Our FY 16/17 Score: 7.04% (corrected)

Our FY 15/16 Score: 8.53% Our FY 14/15 Score: 6.98%

Reclaimed Water Reuse at least 90%

This measure gives an indication of how well the Department is managing and reusing reclaimed water.

This metric, expressed as a percentage, is the ratio of the amount of reclaimed water delivered to customers and/or contract obligation to customers in a fiscal year over the total amount of reclaimed water produced in a fiscal year at the 23rd Avenue Wastewater Treatment Plant and the Phoenix only flows at the 91st Avenue Wastewater Treatment Plant.

Our FY 19/20 Score: 98.69%
Our FY 18/19 Score: 99.86%
Our FY 17/18 Score: 100%
Our FY 16/17 Score: 97%
Our FY 15/16 Score: 84%
Our FY 14/15 Score: 88%





Ratio of Positive to Negative Media Stories at Least 4 to 1 Each Year

This measure gives an indication of how the Department is perceived by the broader community.

This metric is calculated as the ratio of positive-to-negative news releases, broadcast, print, and online articles, tweets, re-tweets, YouTube viewings, Facebook posts, and followers gained in the fiscal year including both City of Phoenix Water Services Department and Water Use It Wisely mentions.

Our FY 19/20 Score: 36 positive and 8 negative Our FY 18/19 Score: 16 positive and 3 negative

Our FY 17/18 Score: 1.61:1 Our FY 16/17 Score: 1.06:1 Our FY 15/16 Score: 0.9:1 Our FY 14/15 Score: 4.6-:

At Least Three Meetings of the Water/Wastewater Advisory Committee (WWRAC) Each Year

WWRAC is used to vet the Department's capital improvement program, water rate recommendations, and other pertinent issues with interested stakeholders. This measure gives an indication of how frequently the Department is formally interacting with interested stakeholders and the "influential public."

This metric is calculated as the number of publicly noticed formal WWRAC meetings held each fiscal year.

Our FY 19/20 Score: 12 Our FY 18/19 Score: 3 Our FY 17/18 Score: 11 Our FY 16/17 Score: 6 Our FY 15/16 Score: 3 Our FY 14/15 Score: 3





At Least 90% of Closed Capital Improvement Program (CIP) Projects Meet Small Business Enterprise (SBE) Goals Each Year

This measure gives an indication of how well the Department ensures inclusion of SBE interests and minority employment in CIP projects.

This metric is calculated, by fiscal year, as the ratio of closed CIP projects that meet SBE goals over the total number of closed CIP projects.

Our FY 19/20 Score: 100% Our FY 18/19 Score: 100% Our FY 17/18 Score: 81% Our FY 16/17 Score: 83% Our FY 15/16 Score: 84% Our FY 14/15 Score: 82%

At Least 200 Community Education Events Attended Each Year

This measure gauges the Department's success in educating the public regarding water conservation, water resource, wastewater treatment, stormwater quality, and other issues.

This metric is calculated as the number of community events attended by Department staff at which educational material is discussed or made available.

Our FY 19/20 Score: 18
Our FY 18/19 Score: 33

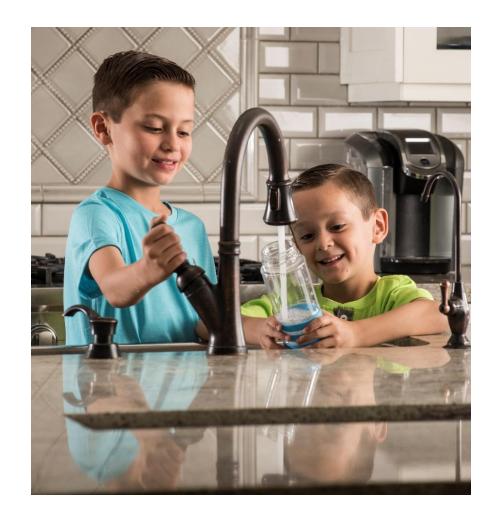
Our FY 17/18 Score: 379

Our FY 16/17 Score: 199

Our FY 15/16 Score: 133

Our FY 14/15 Score: 100





The City of Phoenix Has a Proud History of Reliable Deliveries of Clean, Safe Drinking Water.

That Is a Record We Are Proud of and One We Are Determined to Continue.

