

WATER SERVICES DEPARTMENT

BUSINESS PLAN

2022/2023



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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 with 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 eight treatment plants, nearly 300 pumps, well, lift, and pressure stations, 7,000 miles of water main, 5,000 miles of sewer main, 55,000 fire hydrants, and 99,000 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 to the Palo Verde Nuclear Power Generating Station for cooling purposes, to the Roosevelt and Buckeye Irrigation Districts for irrigating non-edible crops, and to Tres Rios Wetland and the Salt River for habitat and ecological restoration

> 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 robust regulatory compliance program that uses the latest technologies to meet quality regulations and a backflow prevention program that helps prevent cross-contamination.



THIS IS WHAT WE DO:

[CONTINUED]

> 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 55,000 fire hydrants, approximately 164,000 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 99,000 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 proactively maintain this infrastructure, 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 BIOGAS

Two Wastewater Treatment Plants (WWWTs) provide wastewater treatment for the City of Phoenix. The Water Services Department operates the 91st Avenue WWTP, but the cities of Glendale, Mesa, Phoenix, Scottsdale, and Tempe jointly own the plant. The City also owns and operates the 23rd Avenue WWTP.





THIS IS WHAT WE DO: [CONTINUED]

> WE DELIVER RECLAIMED WATER, BIO-SOLIDS, AND BIOGAS FOR BENEFICIAL REUSE

Reclaimed water from the 91st Avenue WWTP is sold to the Palo Verde Nuclear Generating Station, 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 to fertilize non-edible crops. Since 2019 biogas 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.



SIGNIFICANT ACCOMPLISHMENTS

The City has a proud history of reliably delivering clean, safe drinking water. We are proud of that record and committed to continuing it.

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 and replace old fixtures to ensure that schoolchildren have safe, clean water to drink.

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 biogas facility in the country. Gas that is the by-product 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.

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 ten 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.



SIGNIFICANT ACCOMPLISHMENTS

[CONTINUED]

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 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 increases 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, potable water exchange, and habitat and ecological restoration.

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.

THE WATER UTILITY SYSTEM includes dozens of miles of pre-stressed concrete cylinder pipelines (PCCP), which are large transmission mains that have shown a tendency to fail catastrophically over time, 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.



SIGNIFICANT ACCOMPLISHMENTS

[CONTINUED]

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 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.

WE ENTERED INTO a contract to harness biogas 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 wastewater 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.



SIGNIFICANT ACCOMPLISHMENTS

[CONTINUED]

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

a 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 was awarded the **Arizona Forward Governor's Award for Arizona's Future**.



— BUREAU OF —
RECLAMATION

**City of Phoenix**

WATER SERVICES DEPARTMENT

PHX WATER SMART

VISION

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

MISSION

We provide high-quality, reliable, and cost-effective water services that meet public needs and maintains 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.
- 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.
- Personal accountability for a respectful and inclusive working environment.

ATTRIBUTES, OBJECTIVES & STRATEGIES

SUPPLY HIGH- QUALITY WATER

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.

OBJECTIVE 1 / ENSURE DRINKING WATER & TREATED WASTEWATER QUALITY COMPLIES WITH LOCAL, COUNTY, STATE, & FEDERAL REGULATIONS.

- Complete a feasibility study on the installation of real-time total trihalomethanes (TTHM) monitors at preselected compliance points.
- Develop a pilot dashboard system to monitor total trihalomethanes (TTHM) compliance points.
- Make a request to Salt River Project to expand the range of turbidity meters installed in the canals.
- Complete a feasibility study for installation of new meters owned by the City of Phoenix.

OBJECTIVE 2 / STRENGTHEN CONTROLS TO CONTINUE TO ENSURE THAT ALL REGULATED INDUSTRIES ARE PERMITTED AND MONITORED.

- Develop screening tools for facilities on the follow-up inspection list and reduce the frequency and/or number of follow-up inspections needed.
- Reduce the permit determination backlog to fewer than 50 facilities, or less than one year from facility listing to inspection, whichever is less.
- Implement GovOnline process for self-monitoring report (SMR) submissions; pilot at least five facilities by 12/31/22.

OBJECTIVE 3 / 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.

- Review and update standard operating procedures for all major tasks at the water and wastewater treatment plants.
- Bundle existing standard operating procedures (SOP) and job hazard analyses (JHA) by job classification.
- Incorporate SOP/JHA bundles by job classification into the Echrus system.

OBJECTIVE 4 / USE DATA ANALYTICS TO IMPROVE PROCESS OPERATIONS.

- Complete the process of solicitation for a data analytics solution to passively improve operations.
- Procure and Pilot a data analytics solution to passively improve operations.
- Implement a data analytics solution across all plants and distribution.



PROVIDE EXCELLENT CUSTOMER SERVICE

Provide safe, timely and effective customer service. Build and maintain good relationships with customers and the community.

OBJECTIVE 1 / PROVIDE EDUCATION AND OUTREACH TO THE COMMUNITY ON IMPORTANT WATER TOPICS.

- Develop a solicitation for residential customers and educational materials for school and childcare facilities for the new Lead and Copper Rule.
- Develop and make accessible a Frequently Asked Questions (FAQs) for the new Lead and Copper rule.
- Review and improve the customer notification procedures and educational materials for water line disturbances, Tier 1 Notifications, and individual tap's Lead Action Level exceedance for the new Lead and Copper Rule.

OBJECTIVE 2 / INVEST IN BUSINESS PROCESS CHANGES & TECHNOLOGIES THAT PROMOTE A CUSTOMER CARE & CONVENIENCE & THAT PROVIDE A CONSISTENTLY DELIGHTFUL CUSTOMER EXPERIENCE.

- Optimize the use of Customer Assistance Programs to assist financially challenged customers while protecting revenues.
- Support the customer experience with omni-channel payment options by assessing, reviewing, and implementing new ways for customers to make utility payments.
- Optimize technology tools in the Utility Billing Center and upgrade Jabber to reduce overlapping calls.
- Optimize technology tools in the Utility Billing Center and enhance the Finesse flow into the Customer Care & Billing software.
- Optimize technology tools in the Utility Billing Center and review the automated phone system for enhancements.
- Automate the data collection and delivery of pertinent service and customer satisfaction reporting (Water Quality Complaints and Service Levels).
- Institute credit card payment option for development services transactions.

OBJECTIVE 3 / DOCUMENT RESPONSE TIMES FOR CUSTOMER REQUESTS AND REPORT THE DEPARTMENT'S PERFORMANCE AGAINST SET GOALS.

- Implement a tracking system with completion rates for work associated with assisting customers in locating their sewer or water services (Policy 21) and sewer lateral repairs (Policy 51). Analyze the data gathered to ensure efficient use of resources in the workflows.
- Establish and maintain communication for the City's Policy 21 which assist customers in locating their sewer or water service lines and refine department workflows for City Policies 21 and 51.

OBJECTIVE 4 / CONTINUE TRAINING PROGRAMS ON CUSTOMER SERVICE.

- Ensure a consistent hybrid Customer Service Division onboarding program.
- Convert existing face-to-face Customer Service Division training to virtual training.
- Develop a train-the-trainers program for Customer Service Division supervisors.



OPERATE AT THE HIGHEST LEVELS OF EFFICIENCY AND COST-EFFECTIVENESS

Optimize water losses, chemical use, miles driven and energy demands. Make the best use of employee experience, education, and technical expertise.

OBJECTIVE 1 / ESTABLISH A CULTURE OF COLLABORATIVE INNOVATION TO ENCOURAGE INCLUSIVITY, CONTINUOUS IMPROVEMENT, & EFFICIENT USE OF RESOURCES.

- Collaborate with Organizational Management Consultant to create a WSD centric employee engagement plan based on the most recent studies/surveys.
- Design a survey to gather employee feedback on an annual basis.
- Complete the process for the department to submit an ISO 50001 Energy Management Readiness Certification and begin Measurement & Verification (M&V) phase.

OBJECTIVE 2 / OPTIMIZE/MINIMIZE OPERATING COSTS WITHOUT ADVERSE IMPACT TO SERVICE DELIVERY & WATER QUALITY.

- Establish guidelines for the efficient use of chemicals to meet operational objectives.
- Expand the use of renewable energy resources within the department.
- Monitor the management of inventory levels to avoid material waste and minimize repair times.
- Continue efforts to consolidate yards, warehouses, and facilities to improve timely response to customer concerns and requests.

OBJECTIVE 3 / INTEGRATE TECHNOLOGY TO ESTABLISH RELIABLE, EFFICIENT, & TRUSTWORTHY DATA FOR DECISION MAKING.

- Implement an analytics infrastructure to understand the impact of processes, programs, and actions to allocate and prioritize resources effectively for the utility's success.
- Review inventory management financial and security controls to minimize waste.
- Collect, analyze, and develop metrics to support day-to-day operations at all levels.

MAINTAIN FINANCIAL VIABILITY

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.

OBJECTIVE 1 / EFFECTIVELY MANAGE FUNDAMENTAL FINANCIAL INDICATORS TO ENSURE A VIABLE UTILITY.

- Develop and maintain a working in-house scenario planning proforma.
- Develop and maintain 5-year rate increase projection.
- Track and trend unit costs for the production per 1 million gallons of water and per 1 million gallons for wastewater treatment.

OBJECTIVE 2 / EFFECTIVELY MANAGE THE OPERATIONS & MAINTENANCE BUDGETS TO ENSURE A FINANCIALLY VIABLE UTILITY.

- Track and trend water operations and maintenance (O&M) expenditures to ensure they are within the O&M water budget.
- Monitor encumbrances to ensure alignment with anticipated operating expenditures
- Track the accuracy of operating expense forecasting methods and institute changes to improve results

OBJECTIVE 3 / EFFECTIVELY MANAGE THE CAPITAL IMPROVEMENT PROGRAM BUDGET TO ENSURE A FINANCIALLY VIABLE UTILITY.

- Track and trend water capital expenditures to ensure within the capital water budget.
- Track and trend wastewater capital expenditures to ensure within the Wastewater capital budget.

OBJECTIVE 4 / EFFECTIVELY MANAGE DEBT SERVICE EXPENSE TO ENSURE A FINANCIALLY VIABLE UTILITY.

- Maintain a junior lien debt ratio of 2.0 to maintain high bond ratings and ensure favorable interest rates.



ENSURE AMPLE TALENT TO SAFELY DO OUR WORK TODAY AND TOMORROW

Recruit and retain a workforce that is competent, motivated, and adaptive. Retain and improve upon institutional knowledge and innovation.

OBJECTIVE 1 / ESTABLISH AND MAINTAIN A PROCESS THAT RETAINS AND RECRUITS FROM A BROAD SPECTRUM OF POTENTIAL CANDIDATES.

- Recruit at industry conferences and career fairs.
- Develop standard pool questions for two job classifications by June 2022.
- Develop standard hiring matrices for two job classifications by December 2022.
- Develop two recruitment videos targeted at entry-level positions for use on social media by December 2022.
- Develop a recruitment tour targeted at entry-level positions by December 2022.
- Deliver a recruitment tour annually over the next three years.
- Work with Luke Air Force to correlate between job classifications to transition exiting military personnel to City job openings.

OBJECTIVE 2 / PROVIDE CITY STAFF & OTHER HUMAN CAPITAL WITH CLEAR EXPECTATIONS & PERFORMANCE STANDARDS.

- Review all required safety training to determine which training should be provided by internal or external service providers by December 2022
- Review all required environmental compliance training to determine which training should be provided by internal or external service providers by December 2023
- Align annual performance standards and expectations with the Business Plan.
- Ensure that all PMGs are completed within seven days of the due date.
- Develop a standard competency model for all supervisors by December 2022 and complete training by June 2023.
- Develop a standard competency model for all managers (Grade 38 and higher) by December 2023 and complete training by June 2024.
- Develop a supervisory counseling template that allows supervisors to issue with minimal or no Human Resources oversight by December 2023 and complete supervisor training by June 2024.



OBJECTIVE 3 / PROMOTE A CULTURE THAT ENCOURAGES EMPLOYEE PARTICIPATION, LEARNING, AND ADVANCEMENT.

- Develop New Employee Orientation for all Divisions by July 2023 and begin providing orientation by December 2024.
- Establish regular meetings with union, stewards, and management at the Department and Division level.
- Ensure that all new employees complete WSD New Employee Orientation within six months of hire date.
- Ensure all supervisors complete the Water Smart Supervisory Workshop within six months of hire or promotion date.
- Encourage employee attendance and presentations at industry conferences and workshops.
- Continue existing and identify new opportunities for internship programs through Gateway Community College, veterans' organizations, or other partners.
- Identify opportunities for cross-training and job-shadowing within the Water Services Department.
- Create five e-learning videos annually.
- Participate in the implementation of a learning management system (LMS).
- Investigate the potential for additional apprenticeship program(s) within WSD and provide an annual review of findings to the Executive Team.
- Achieve Star status through the Voluntary Protection Program (VPP) in collaboration with the Arizona Division of Occupational Safety and Health by December 2024.
- Identify and analyze potential safety concerns and implement controls to eliminate or mitigate the hazard (i.e., hazard recognition and control).



ENSURE RELIABLE INFRASTRUCTURE PERFORMANCE

Maintain Robust, Secure, and Reliable Water and Wastewater Infrastructure at the Lowest Possible Lifecycle Cost. Make the Right Capital Investments at the Right Time.

OBJECTIVE 1 / MAINTAIN AN ASSET MANAGEMENT PROGRAM BASED ON STANDARDIZED ASSET & INVENTORY DATA AND DOCUMENTING & ANALYZING MAINTENANCE, REPLACEMENT, & WAREHOUSE ACTIVITIES.

- Establish standard guidelines and definitions for asset type, location, specification attributes, component, process, criticality, and their relationship in the asset registry.
- Investigate and create asset tags for vertical and horizontal assets to support the use of smart phone/device to manage work orders.
- Determine optimum inventory levels to ensure availability to support timely work order completion with a focus on critical inventory.
- Establish a master parts list with an emphasis on critical inventory and high demand items.

OBJECTIVE 2 / CONDUCT ASSET CONDITION ASSESSMENTS TO FORECAST ASSET END OF LIFE & SCHEDULE REPAIR & REPLACEMENT ACTIVITIES.

- Perform regular asset condition assessment and ensure the condition scores for both vertical and pipeline/linear asset assessments are documented.
- Establish End of Life Forecasting model for Remote Facilities, Lift Stations, and Treatment Plants. (End-of-Life Replacement)
- Establish End of Life Forecasting model for gravity sewer lines, steel tanks, concrete reservoirs, concrete basins, water mains, and force mains. (End-of-Life Rehabilitation).

OBJECTIVE 3 / PERFORM TIMELY AND EFFECTIVE PREVENTATIVE MAINTENANCE ON INFRASTRUCTURE.

- Standardize procedures for preventative maintenance recording in WAM within three years for all four operating divisions.
- Develop procedures for work assignment priority for the top five assets criticality groups within three years.
- Develop procedures for supervisory review to ensure 10% of completed preventive maintenance work orders for correctness within three years.
- Establish procedures to ensure all unique fire hydrants, distribution system valves, gravity sewer lines and manholes receive preventative maintenance at least once per defined cycle period.
- Complete asset failure profiles for electrical assets, process control assets, mechanical assets, civil/linear assets, and facility assets.
- Identify preventative maintenance programs with associated asset failure profiles.





ENSURE OPERATIONAL RESILIENCY

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.

OBJECTIVE 1 / ENSURE THE PHYSICAL SECURITY OF WATER DEPARTMENT FACILITIES.

- Implement an electronic key system at critical water and wastewater facilities.
- Upgrade the badging system and provide a mechanism to share information with the Public Works Department.
- Review security design guidelines and prioritize facility standards for cameras, surveillance equipment and site security.

OBJECTIVE 2 / ENSURE CYBERSECURITY OF WATER DEPARTMENT FACILITIES, HARDWARE, & SOFTWARE.

- Install Main Information Technology (IT) and Process Control Firewalls at each facility and mountain top to protect WSD equipment, databases, and software from intrusion by outside entities.

- Acquire data diode hardware and install them in the demilitarized zone (DMZ) between the firewalls, allowing for only one-way communication.
- Develop Department-Specific Cybersecurity Training with department-specific information to supplement the City's existing training efforts.
- Continuously monitor all existing components of the Operational Technology (OT) Cybersecurity Software and implement measures to protect WSD from threats and attacks.

OBJECTIVE 3 / ENSURE RISK ASSESSMENT AND RESPONSE IS APPROPRIATE FOR ALL WSD FACILITIES.

- Review and update Chlorine Emergency Procedures and conduct evacuation drills.
- Review response plans and assess completeness and functionality of documents.
- Prepare training briefs and/or policies and procedures to respond to risks to WSD staff and facilities.

ENSURE SUSTAINABLE & RESILIENT WATER RESOURCES

Acquire Adequate Water Supplies for Current and Future Customer Needs. Adapt to Conditions Such as Drought and Global Climate Change.

OBJECTIVE 1 / MAXIMIZE THE USE OF THE CITY'S RECLAIMED WATER SUPPLIES.

- Evaluate alternatives for direct potable reuse.
- Develop options to accurately measure and beneficially reuse all the effluent water that Phoenix produces.
- Develop 25 and 50-year projections of Phoenix's reclaimed water production.

OBJECTIVE 2 / ENHANCE CONSERVATION PROGRAMS TO IMPROVE THE RESILIENCY OF PHOENIX'S SURFACE WATER SUPPLIES.

- Continue and expand targeted conservation programs that reinforce our culture of efficient water use; starting with the conservation programs approved by City Council.
- Continue research and analysis related to producing a better understanding of residential outdoor uses and non-residential uses. Start with the Arizona Municipal Water Users' Association's initiatives.
- Study the specific supply and demand challenges related to geography and address them with conservation strategies tailored to unique areas and water uses.

OBJECTIVE 3 / MINIMIZE THE AMOUNT OF WATER LOSS (INCL. LOST & UNACCOUNTED FOR WATER).

- Collaborate with other departments to better understand their water use.
- Develop a robust internal reporting program for unmetered water.
- Educate customers and contractors regarding water loss and ways they can mitigate it.

OBJECTIVE 4 / DEVELOP INFRASTRUCTURE TO ADDRESS SHORTAGES OF COLORADO RIVER SUPPLIES.

- Prioritize infrastructure that moves more of our water supplies to the Northern areas of Phoenix.
- Plan and execute a phased well program in combination with a flexible and nimble operations plan.
- Establish an Integrated North Phoenix Master Plan on the topic of effluent uses.



ENHANCE COMMUNITY SUSTAINABILITY

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.

OBJECTIVE 1 / SUPPORT COMMUNITY IMPROVEMENT THROUGH INCORPORATING GREEN STORMWATER INFRASTRUCTURE INTO NEW WATER DEPARTMENT FACILITIES OR SIGNIFICANT FACILITY ENHANCEMENTS, WHERE FEASIBLE.

- Identify locations for retrofitting existing developed sites to improve stormwater quality.
- Increase vegetation in bare soil areas throughout treatment facilities.
- Look into programs to promote the planting of native vegetation.

OBJECTIVE 2 / REMAIN ACTIVE IN NATIONAL, STATE, & LOCAL ENVIRONMENTAL ORGANIZATIONS & PURSUE LEADERSHIP POSITIONS IN ENVIRONMENTAL ORGANIZATIONS, WHEN FEASIBLE.

- Continue participation in state stakeholder processes for water quality legislation and rulemaking.
- Continue participation and research on the impact of emerging contaminants.
- Remain active in organizations such as the Multi-State Salinity Coalition, AZ Water, STORM (Stormwater Outreach for Regional Municipalities), MALA (Multi-Agency Laboratory Association) and ELAC (Environmental Laboratory Advisory Committee).



OBJECTIVE 3 / PROMOTE THE DEPARTMENT'S ENVIRONMENTAL PROGRAMS WITH COMMUNITY OUTREACH BY NEWSLETTERS, WEBSITE, & SOCIAL MEDIA.

- Add educational resources to websites to support careers in Environmental Sciences.
- Develop outreach related to stormwater pollution prevention, proper medication disposal, and proper cooking oil management.
- Assign a representative from each Division to provide content for social media posts.
- Continue educational outreach regarding water conservation, stormwater, and other environmental issues at schools and other civic functions.

OBJECTIVE 4 / ENHANCE COMMUNITY INVOLVEMENT WITH THE STORMWATER MANAGEMENT PROGRAM BY HOLDING AN ANNUAL WORKSHOP TO ELICIT FEEDBACK ON ALL ASPECTS OF THE PROGRAM.

- Track participation rates to monitor community involvement in workshops.
- Develop targeted industries or scenarios for workshops.
- Continue outreach during the annual Stormwater Awareness Week.
- Plan and deliver focused outreach topics for Industry and the General Public.

OBJECTIVE 5 / IDENTIFY EMERGING ENVIRONMENTAL ISSUES OF IMPORTANCE TO THE DEPARTMENT AND RESEARCH APPROPRIATE RESPONSES.

- Develop a working group to identify emerging environmental issues.
- Provide native plant and wildlife support during construction activities.
- Evaluate prevalence of PFAS (Perfluorooctane sulfonic acid) and PFOS (perfluorinated alkylated substances) in water sources and permitted industries.
- Participate in Climate Action Plan and evaluate ways to reduce Greenhouse gasses within the department. Participate in emergent contaminant monitoring (UCMR5).

OBJECTIVE 6 / SUPPORT DROUGHT PREPAREDNESS PLANNING FOR THE DEPARTMENT AND THE COMMUNITY.

- Continue to develop and expand Aquifer Storage and Recovery well program.
- Complete construction of the Drought Resiliency Pipeline.
- Participate in the Water Efficiency taskforce and coordinate with water conservation efforts to minimize water loss.





FOSTER STAKEHOLDER SUPPORT

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.

OBJECTIVE 1 / EDUCATE & INFORM THE COMMUNITY TO BUILD LONG-TERM SUPPORT FOR WATER & WASTEWATER PROGRAMS & SERVICES.

- Hold quarterly meetings with our citizen advisory panel, known as the Water/Wastewater Rate Advisory Committee (WWRAC), to help guide the Capital Improvement Program (CIP) and rate-making processes.
- Launch Water Smart Ambassador training developed for staff who will be representing WSD at community events such as neighborhood association, village planning, HOA, Council coffee chats, and other meetings and events. Training includes overview of topics on ESD, stormwater, conservation, how to engage with public, ROCK customer service, practice presentation skills, etc.
- Initiate the WSD volunteer group, Water Wranglers, who receive training on Water 101, Utility Operations Overview, Water Resources, Water Conservation and Outreach, to promote responsible water stewardship within the City of Phoenix (External/Public)
- Incorporate water 101 and aspect of how to interact with the public/customers into the Department training curriculum, including Supervisor and New Employee training.
- Pitch targeted topics to morning shows, radio programs, and newspaper reporters at least twice a month.
- Develop a solicitation for residential customers and educational materials for school and childcare facilities for the new Lead and Copper Rule.
- Develop and make accessible a Frequently Asked Questions (FAQs) for the new Lead and Copper rule.
- Review and improve the customer notification procedures and educational materials for water line disturbances, Tier 1 Notifications, and individual tap's Lead Action Level exceedance for the new Lead and Copper Rule.

OBJECTIVE 2 / INCREASE OUR PRESENCE IN THE COMMUNITY TO FOSTER POSITIVE RELATIONSHIPS & ENCOURAGE PUBLIC ENGAGEMENT & INTEREST.

- Participate in Council events and special programs to inform, educate, and engage the public about Phoenix Water projects and initiatives at least four times a year.
- Send social media messaging for council to post and meet regularly to discuss topics 6 times a year.
- Monthly updates to the CIP web page allowing customers to easily view the status of capital improvement projects in their neighborhoods with current information
- Expand the WSD video series to provide council and customers with updates on major Departmental projects in their districts and neighborhoods at least twice a month.
- Participate in key stakeholder groups that propose changes to regulatory agencies to foster relationships with regulatory oversight agencies quarterly.

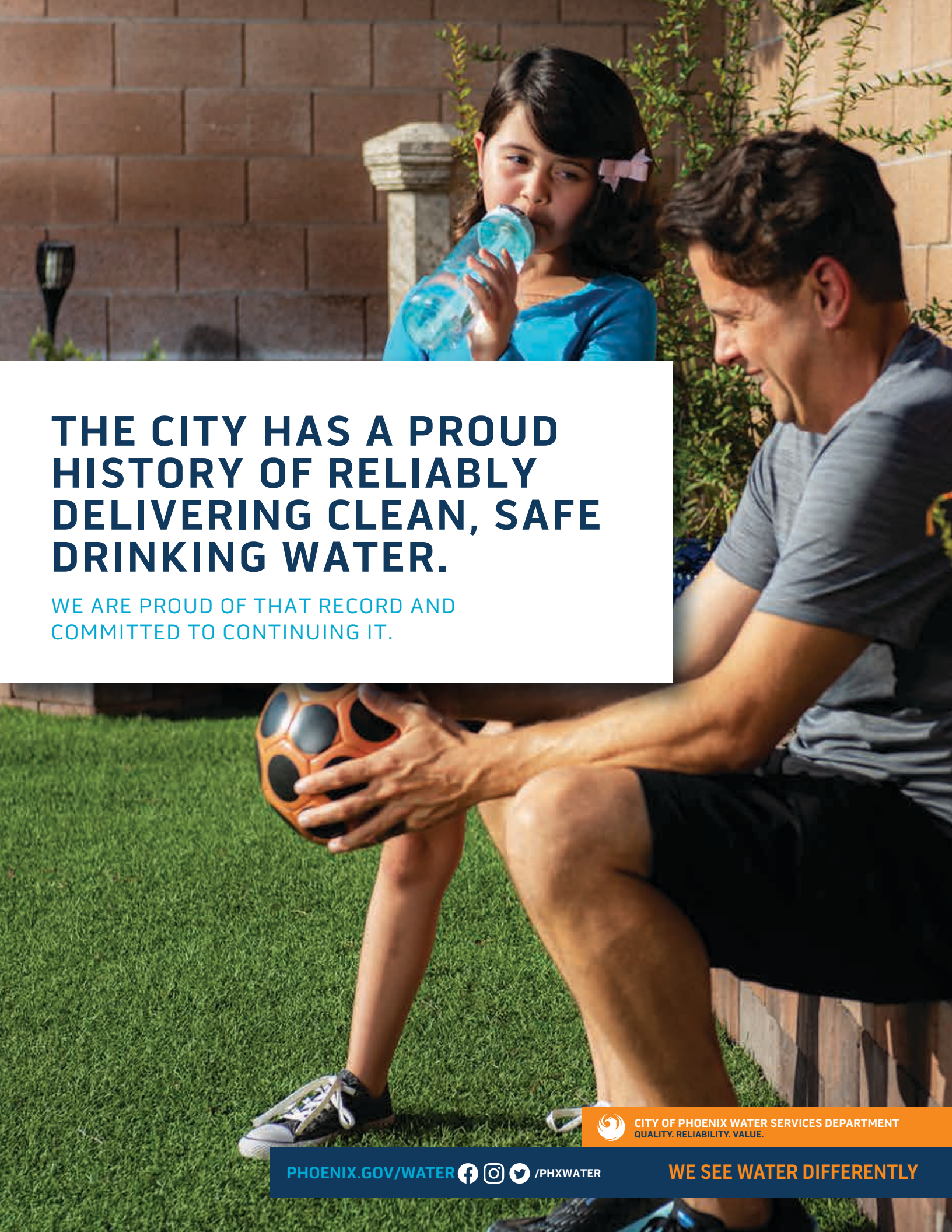
OBJECTIVE 3 / CONTINUALLY ASSESS DEPARTMENT-WIDE OUTREACH METHODS USED TO INFORM CUSTOMERS ABOUT MAJOR PROJECTS, PROGRAMS, & ACHIEVEMENTS, & ENSURE A CONSISTENT BRANDED LOOK & MESSAGE.

- Daily updates to multiple City-approved social media communications.
- Hold annual review and brainstorm session with division heads/stakeholders to receive input regarding outreach and public information.
- Engage college journalism classes for new ideas, strategies, and messages on social media yearly.
- Coordinate utility messaging and strategic issue management with other Valley utilities, business partners, and industry organizations monthly.



ATTRIBUTE	METRIC
<p>SUPPLY HIGH-QUALITY WATER</p>	<ul style="list-style-type: none"> • Effluent Nitrates – 91st Avenue • Effluent Nitrates – 23rd Avenue • Effluent Turbidity – 91st Avenue • Effluent Turbidity – 23rd Avenue • Continuously meet or exceed Safe Drinking Water Act standards for water quality • Total Trihalomethanes (TTHM) per quarter, by site. • Number of new IPP permits and the number of IPP determinations issued, biannually • Effluent Turbidity – 24th Street • Effluent Turbidity – Val Vista • Effluent Turbidity – Deer Valley • Effluent Turbidity – Union Hills • Haloacetic Acids (HAA) per Quarter, by site.
<p>PROVIDE EXCELLENT CUSTOMER SERVICE</p>	<ul style="list-style-type: none"> • Utility Billing Center – Total call volumes • Utility Billing Center – Percent of calls answered within two minutes • Utility Billing Center – Average hold times • Utility Billing Center – Maximum call wait time in queue (minutes) • Complete 90% of Policy 51s and 21s within 30 days of acceptance. • Utility Billing Center – Average call handle • Monthly site visits to the MyPhoenix 311 web site
<p>OPERATE AT THE HIGHEST LEVELS OF EFFICIENCY & COST-EFFECTIVENESS</p>	<ul style="list-style-type: none"> • Water Production by Source • Energy Usage Rates in Operations (kWh / MGD), by Fiscal Year • Solicitation cycle times (start to end), by quarter.
<p>MAINTAIN FINANCIAL VIABILITY</p>	<ul style="list-style-type: none"> • Percent of Audit Recommendations Implemented by Original Target Date, biannually • Net Operating Revenue to Debt Payments Ratio • Operations & Maintenance Spend as a Percentage of Budget, by Fiscal Year • Capital Improvement Program (CIP) Spend as a Percentage of Budget, by Fiscal Year • Revenue to expenditure ratio > 1 • Percent of variance between actuals and proforma forecast

ATTRIBUTE	METRIC
ENSURE AMPLE TALENT TO SAFELY DO OUR WORK TODAY AND TOMORROW	<ul style="list-style-type: none"> • Department Injury Claim Rate Per 100 Employee by Calendar Year • Health and Safety Training Completion • Total Arizona Department of Environmental Quality (ADEQ) exams taken and exams passed, per Quarter • Total Intra-departmental Promotions per Quarter
ENSURE RELIABLE INFRASTRUCTURE PERFORMANCE	<ul style="list-style-type: none"> • Number of Main leaks and breaks responded to per 100 miles • Water Valve Preventative Maintenance • Fire Hydrant Preventative Maintenance • Fire Hydrant Repairs • Large Diameter Mains Cleaned • Total Small Mains Cleaned (miles) • Manhole Structure Inspections • Wastewater Lift Stations - Trending PM activities, by year • Wastewater Treatment - Trending PM activities, by year • Water Production - Trending PM activities, by year • Water Remote Facilities - Trending PM activities, by year
ENSURE OPERATIONAL RESILIENCY	<ul style="list-style-type: none"> • Total Fire Drills Held, biannually • Total Chlorine Drills Held per Quarter
ENSURE SUSTAINABLE AND RESILIENT WATER RESOURCES	<ul style="list-style-type: none"> • Wastewater Influent and Reclaimed Water Deliveries • Number of Homeowners' Association audits completed • Number of cooling tower audits completed • Number of smart irrigation controllers provided • Percentage of Potable Supplies Lost & Unaccounted, by Calendar Year • Drought Pipeline completion rate • Achieve or Exceed Water Conservation and Efficiency Target (GPCD)
ENHANCE COMMUNITY SUSTAINABILITY	<ul style="list-style-type: none"> • Community Education Events Attended & Presentations Made • Total School Events Held per Month • Total Attendees for Annual Stormwater Workshop by Year
FOSTER STAKEHOLDER SUPPORT	<ul style="list-style-type: none"> • Water/Wastewater Advisory Committee (WWRAC) meetings per calendar year



THE CITY HAS A PROUD HISTORY OF RELIABLY DELIVERING CLEAN, SAFE DRINKING WATER.

WE ARE PROUD OF THAT RECORD AND COMMITTED TO CONTINUING IT.



CITY OF PHOENIX WATER SERVICES DEPARTMENT
QUALITY. RELIABILITY. VALUE.

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WE SEE WATER DIFFERENTLY