CITY COUNCIL REPORT

Meeting Date: June 21, 2022
General Plan Element: ***Public Services & Facilities***
General Plan Goal: ***Ensure renewable, long-term water supplies***

ACTION

Approve Resolution No. 12539 adopting the Scottsdale Sustainable Water Management Principles.

Discussion and consideration for approval of nine principles of sustainable water management. These principles contained in this document are intended to put in writing the standing operating and planning principles Scottsdale Water has been using for many years. These principles span the width of Scottsdale Water operations and provide the overarching framework from which Scottsdale Water intends to strive to fulfill its vision of "Water Sustainability through Stewardship, Innovation and People".

BACKGROUND

Scottsdale Water has a long history of being a leader in sustainable water practices. This is evident through the infrastructure investments the city has made over the last several decades, most notably in the Scottsdale Water Campus and its supporting facilities. It is also evident in operating practices and policies which have enabled Scottsdale Water to earn numerous industry awards which include the 2018 Sustainable Water Management Award (Association of Metropolitan Water Agencies), the 2021 and 2016 Water Utility of the Future Today Award (U.S. Environmental Protection Agency, Water Environment Federation, *et al*), the 2019 Crescordia Sustainable Champion Award (Arizona Forward), and the 2022 Excellence in Action Award (WateReuse Association).

The current long-term drought on the Colorado River Basin has dramatically impacted the Central Arizona Project (CAP) water supply which causes uncertainty for CAP customers. While Scottsdale has been planning for increasing drought, the length and severity of the situation remains uncertain and complicates water resource planning. Scottsdale Water is proposing to consolidate its long-standing sustainable water management policies and practices in a single transparent document for Council to review and approve.

Action Taken _____

ANALYSIS & ASSESSMENT

Scottsdale Water has developed the Sustainable Water Management Principles as a guide for future decision making. The nine principles are intended to solidify in writing the standing operating and planning principles Scottsdale Water has been using for many years. The following are the nine sustainable water management principles:

1. Water Quality
2. Water Conservation
3. Water Resources Planning
4. Water and Land Use Management
5. Water Recycling and Reuse
6. Water Recharge and Recovery
7. Infrastructure
8. Financial Planning
9. Climate Change and Drought

The one principle that contains new procedures and practices is Principle 4: Water and Land Use Planning. This principle contains a set of tools (analytical formulas) to assist city leadership with land use planning decisions. These tools provide some relevant means to compare the water consumption of a new development or business in relationship to the other attributes that the development or business may bring to the city of Scottsdale. Given the severity and level of water cutbacks in Scottsdale's Central Arizona Project (CAP) allocation under the Lower Basin States Drought Contingency Plan and the Arizona Drought Contingency Plan (DCP), it is imperative that the impact of growth on the city's water supply be considered alongside other impacts. This principle was developed to help both city staff and Council with development/re-development decisions by recognizing that city's water supply is a limited resource, while conjunctively evaluating other aspects and values of a development.

The Sustainable Water Management Principles encompass the many facets of Scottsdale Water's operations and provide an overarching framework for sustainable water solutions for the city.

Recent Staff Action

An inter-division workgroup has actively discussed the principals and endorsed them.

Policy Implications

Adoption of Water Demand Exhibit language in the re-zoning review process.

RESOURCE IMPACTS

Available funding
No funding is needed.

Staffing, Workload Impact
Current staffing is adequate to implement and manage these principles.

OPTIONS & STAFF RECOMMENDATION

Recommended Approach
Approve Resolution No. 12539 adopting the Scottsdale Sustainable Water Management Principles.

Description of Option B
Not approve principles

RESPONSIBLE DEPARTMENT(S)

Scottsdale Water

STAFF CONTACTS (S)

Brian Biesemeyer, Executive Director, Scottsdale Water, BBiesemeyer@scottsdaleaz.gov

APPROVED BY

6-3-2022

Brian K. Biesemeyer, Water Executive Director
(480) 312-5683, BBiesemeyer@Scottsdaleaz.gov

Date

6/6/2022

William B. Murphy, Assistant City Manager
480-312-7954, bmurphy@scottsdaleaz.gov

Date

ATTACHMENTS

1. Resolution No. 12539
2. Scottsdale Sustainable Water Management Principles

RESOLUTION NO. 12539

A RESOLUTION OF THE COUNCIL OF THE CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA, ADOPTING THE SCOTTSDALE SUSTAINABLE WATER MANAGEMENT PRINCIPLES.

WHEREAS, Scottsdale Water has a long history of being a leader in sustainable water practices, evident through long-term infrastructure investments and award-winning operating practices and policies; and

WHEREAS, he Sustainable Water Management Principles consolidate long-standing sustainable water management policies and practices into a single transparent document, providing the framework to fulfill Scottsdale Water's vision of "Water Sustainability through Stewardship, Innovation and People" and guiding future water solutions and decisions;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Scottsdale, Maricopa County, Arizona, as follows:

Section 1. The City Council hereby approves and adopts the Scottsdale Sustainable Water Management Principles.

Section 2. The City Council hereby authorizes the Executive Director of Scottsdale Water to execute any other documents and take such other actions as are necessary to carry out the intent of this Resolution.

PASSED AND ADOPTED by the Council of the City of Scottsdale, Maricopa County, Arizona this _____ day of _____, 2022.

CITY OF SCOTTSDALE, an Arizona municipal corporation

_____
David D. Ortega, Mayor

ATTEST:

_____
Ben Lane, City Clerk

APPROVED AS TO FORM:

_____
Sherry R. Scott, City Attorney
By Janis L. Bladine, Senior Assistant City Attorney

Attachment 1

Scottsdale Sustainable Water Management Principles

SCOTTSDALE WATER

Attachment 2

Contents

Acknowledgements

City Leadership

City Council

David D. Ortega
Mayor

Tammy Caputi
Councilwoman

Tom Durham
Vice Mayor

Betty Janik
Councilwoman

Kathy Littlefield
Councilwoman

Linda Milhaven
Councilmember

Solange Whitehead
Councilwoman

Executive Management

Jim Thompson
City Manager

Sonia Andrews
City Treasurer

Sherry R. Scott
City Attorney

Ben Lane
City Clerk

Sharron E. Walker
City Auditor

Bill Murphy
Assistant City Manager

Brent Stockwell
Assistant City Manager

Water Policy Committee

Gretchen Baumgardner, Water Policy Manager
Brian K. Biesemeyer, Executive Director, Scottsdale Water
Tom Gill, Water Services Director
Suzanne Grendahl, Water Quality Director
Gina Kirklin, Enterprise and Finance Director
Scott Mars, Planning and Engineering Director
Rob Millar, Economic Development Director
Erin Perreault, Planning and Development Area Director
Kevin Rose, Water Resources Administrator
Valerie Schneider, Public Information Officer
David Walby, Water Reclamation Services Director

Scottsdale Water Vision Statement

"Water Sustainability through Stewardship, Innovation and People"

Scottsdale Water Mission

"Provide simply better sustainable water services for a world class community"

Executive Summary

Scottsdale Water has a long history of being a leader in sustainable water practices. The nine principles contained in this document are intended to put in writing the standing operating and planning principles Scottsdale Water has been using for many years. These principles span the width of Scottsdale Water operations and provide the overarching framework from which Scottsdale Water intends to strive to meet its vision of "Water Sustainability through Stewardship, Innovation and People."

The one principle that contains new procedures and practices is Principle 4: Water and Land Use Planning. This principle contains a set of tools, or analytical formulas, to assist City leadership with land use planning decisions. These tools provide some relevant means to compare the water consumption of a new development or business in relationship to the other attributes that the development or business may bring to the city of Scottsdale. Given the severity and level of water cutbacks in Scottsdale's Central Arizona Project (CAP) allocation under the Lower Basin States Drought Contingency Plan and the Arizona Drought Contingency Plan (DCP), it is imperative that the impact of growth on the City's water supply be considered alongside other impacts.

Principle 1: Water Quality

Scottsdale Water has the responsibility of protecting the quality of all water including drinking water, recycled, recharged, and reused water, and stormwater. The Division will accomplish this by using technology and qualified staff to treat, monitor, test and track the quality of water. This follows standards set by the federal Safe Drinking Water Act, Clean Water Act, and the Comprehensive Environmental Response, Compensation and Liability Act, in addition to Arizona Aquifer Protection, Reuse, and Surface Water Protection Programs. Compliance with these rules must include a positive and proactive relationship with the United States Environmental Protection Agency (USEPA), the Arizona Department of Environmental Quality (ADEQ) and Maricopa County Environmental Services Department (MCESD).

Water

1. Scottsdale Water shall build, operate, and maintain surface water treatment facilities which:
    a. Provide quality drinking water which meets current and future federal regulations for water quality.
    b. Are designed such that the treated water is at least 50% less than any maximum contaminant level.
    c. Deliver water to the distribution system of a quality to allow distribution-based regulations to be met, i.e., Disinfection/Disinfection By-products and Lead and Copper Rule.
    d. Evaluate aesthetic characteristics such as taste, odor and total dissolved solids (TDS) as part of each design process.

2. Scottsdale Water shall operate and maintain ground water wells and associated treatment facilities which:
    a. Provide quality drinking water which meets current and future federal regulations for water quality.
    b. Do not exceed 80% of a maximum contaminant level. Any well exceeding such a level shall be shut down and not used without the permission of the Executive Director or designee.
    c. Comply with the Amended Record of Decision and Amended Consent Decree for the associated North Indian Bend Wash Superfund Site. All treated water at these sites must comply with both superfund and drinking water standards, and are subject to USEPA, ADEQ and MCESD oversite.

3. Scottsdale Water shall maintain monitoring schedules which provide:
    a. Process data at each facility, well and distribution system station to understand the quality of the water on a more frequent basis than required for compliance. This provides data is for safety and security of the systems.
    b. Compliance data to meet all federal, state, and local monitoring requirements at treatment facilities, entry points to the distribution system, source water, and distribution sites.
    c. Sampling as early in a compliance cycle as possible, or at the specified time in any rule.
    d. Lead and copper testing at residents' homes, schools and daycares as required by the rule. Results will be provided to residents, school officials and agencies.
    e. Compliance with federal, state, and local regulations for each parameter of interest and enable the publication of annual Consumer Confidence Reports.
    f. Report to appropriate agencies in required timelines using state drinking water reporting forms.

4. Scottsdale Water shall have a cross connection/backflow prevention program which requires the appropriate devices in the correct location per city code to protect drinking water from contamination. In addition, the program will require testing of all devices annually.

Reclaimed and Recycled Water

5. Scottsdale Water shall operate, monitor, and sample treatment facilities which:
    a. Perform process control monitoring to provide information about the best operation of the plants to protect the aquifer.
    b. Perform compliance monitoring to meet requirements of the Aquifer Protection and Reuse Permits issued by ADEQ, including the Direct Potable Reuse (DPR) permit.
    c. Perform compliance sampling as early in a compliance cycle as possible, or at the specified time in any rule.
    d. Ensure compliance with federal, state, and local regulations for each parameter of interest.

6. Scottsdale Water shall maintain an industrial pretreatment program which follows USEPA requirements.

Laboratory

7. Scottsdale Water shall operate and maintain the Water Quality Laboratory which:
    a. Meet all requirements to obtain and maintain a laboratory license with the Arizona Department of Health Services, Office of Laboratory Licensure.
    b. Maintain a qualified staff of chemists and microbiologists to offer scientific expertise capable of laboratory testing and consulting to operations.
    c. Perform testing for all parameters that meet established levels of cost effectiveness and appropriate turnaround time for results. All other parameters that do not meet these criteria will be sent to outside laboratories.
    d. Perform testing at a turnaround time that meets the needs of the compliance monitoring schedule or emergency needs.
    e. Perform monitoring at plants and within the distribution system to establish and maintain a baseline of information for process control and security purposes.

Stormwater

8. Scottsdale Water shall maintain a Municipal Separate Storm Sewer System (MS4) permit from ADEQ for as long as this permit is required. Under this permit, Scottsdale Water will:
    a. Administer a Stormwater Management Plan (SWMP).
    b. Investigate, educate, and enforce on illicit discharges into the storm system.
    c. Inspect and educate businesses about preventing pollution from leaving their property during storm events.
    d. Monitor and samples stormwater stations as required by permit.
    e. Facilitate a stormwater working group with other City divisions to coordinate efforts required by permit and SWMP.

Principle 2: Water Conservation

The City's water conservation program is an integral component of its long-term water resources planning and serves to reduce water consumption and educate Scottsdale Water customers on efficiency and long-term water resiliency.

There are two main objectives of the water conservation program. The program is to first, provide resources and tools to customers to help them save and conserve water. Second, the program is to provide education and training to customers to assist them in understanding the importance of water in a desert city and how to integrate water conservation into their lives. Scottsdale Water provides customers information and assistance through various financial incentives, water management programs, and public awareness/education. Additionally, the program shall ensure compliance with federal and state rules and regulations.

To achieve these objectives, Scottsdale Water shall:

1. Develop and administer innovative water conservation tools that address a suite of programmatic options for all customer types that go beyond regulatory requirements and assist customers to adopt projects and behavioral modification to address long-term water savings.
2. Develop a diverse water conservation education program for its customers. This program will include workshops, articles and social media posts, public engagement with Scottsdale Water customers, and where possible, partnerships with regional educational campaigns. The water conservation program will meet the regulatory requirements of state and federal agencies, including the Arizona Department of Water Resources (ADWR) Management Plans and the City's federal water service contract with the U.S. Bureau of Reclamation for Colorado River water from Central Arizona Project (CAP). The City shall develop a water conservation program to remain in compliance with the statutory provisions contained within each ADWR 10-year Management Plan.
3. Remain engaged in local, state, and federal discussions on water conservation to ensure regional cooperation and exchange of ideas.
4. Comply with all regulatory reporting requirements including the ADWR Annual Assessment and Report.

Principle 3: Water Resources Planning

The City has a multi-faceted water resources portfolio which provides the community with a reliable long-term assured water supply. This portfolio has been developed over time and has evolved from two supplies - groundwater and Salt River Project (SRP) irrigation water - to four. The current portfolio consists of:

- Salt and Verde River surface water
- Colorado River surface water
- Groundwater supplies
- Reclaimed water

The regulatory agency for the state of Arizona with regards to water resource management is ADWR.

The city of Scottsdale is located within the Phoenix Active Management Area (AMA) which was established under the 1980 Ground Water Management Act by the State Legislature. There are five AMAs each with their own management goal. The Phoenix AMA's goal is to achieve safe yield, the state of a balance of groundwater withdrawal with natural and artificial replenishment by the year 2025. The State administers a variety of regulatory programs in order to achieve this goal of balancing long-term groundwater withdrawals with groundwater recharge.

Water Resources Regulatory Compliance

1. Scottsdale Water shall remain in compliance with the Assured Water Supply Program by demonstrating, at a minimum, that its water supplies are physically, legally, and continuously available for at least 100 years. The City shall apply for and maintain its status as a designated water provider from ADWR.
2. Scottsdale Water shall design, construct, and locate its water production and recovery wells in compliance with state standards and requirements.
3. Scottsdale Water shall construct its own, or partner in regional, recharge facilities to store imported surface water underground for future use. Recharge priorities will go first to City-owned facilities; regional facilities will be used only when City-owned facilities are unavailable or fully used. Additionally, Scottsdale Water shall obtain the necessary permits in order to withdraw water stored underground and complete reporting as required by State law.

4. Scottsdale Water shall complete and submit the Annual Water Withdrawal and Use Report by the regulatory reporting deadline.
5. Scottsdale Water shall actively pursue and legally protect its groundwater and surface water rights. These include service area rights, Irrigation Grandfathered Rights (IGFR), Type 1 Non-IGFR, and surface water rights.

Long-Term Planning

Scottsdale Water is responsible for ensuring a resilient and sustainable water supply for Scottsdale residents and businesses into the future. While conservation will always be a component of this, long-term planning in the face of climate variability and uncertainty is also a component. This entails identifying state and federal policies that have implications to affect the City, identifying new sources, exchange partnerships, and/or shared infrastructure projects. To provide the best long-term planning for water resources, Scottsdale Water shall:

1. Remain engaged in local, state, and federal discussions on water resources planning to ensure regional cooperation and exchange of ideas. This should include participation in and consulting with:
    a. The Arizona Municipal Water Users Association (AMWUA).
    b. ADWR.
    c. The Arizona Re-Consultation Committee and any other associated partnership. group concerned with the Colorado River governance.
    d. The Central Arizona Water Conservation District/CAP.
    e. SRP.
2. Examine future potential extended long-term drought/shortage supply issues and analyze future impacts to the City and strategies to minimize its effects.
3. Examine potential future water supply acquisition opportunities that may be available in the coming 10-15 years. Each water supply should be evaluated against:
    a. the water supply's reliability and location.
    b. the ability to transport the water supply to the city.
    c. the water right's legal availability.
    d. any political and institutional issues associated with the water supply.
    e. the cost to purchase the water rights.
    f. the cost and length of term of the contract.

Principle 4: Water and Land Use Management

Land use planning is based on the most recently adopted Scottsdale General Plan. The General Plan's land use elements are to provide and preserve the quality of the City's vision and physical environment while integrating the priorities and values set forth by the plan. Water is an essential component to this plan and future planning needs are based on the land use as laid out in the General Plan. It is for this reason that changes to land use and the plan may impact Scottsdale Water's obligation to provide long-term water resources and may alter its need to obtain additional supplies to meet new demands. Long-term drought and climate change effects will also need to be considered in planning and growth.

To ensure decisions on land use are made with consideration for the impact on water resources, the City will develop policies that require any General Plan amendment or rezoning request that shows a water use above 100,000 gallons per day (excluding fire flow) to report the following information in a Water Demand Exhibit:

1. Total estimated water use per day on a sustained basis (Water Use)
2. Net water use (NW) as defined as NW = Water Use x (1 – (daily sewer flows/daily total water use))
3. Water conservation measures above those required by City code
4. For commercial or mixed-use development, the annual economic value of the development on a per gallon of use basis.

The Water Demand Exhibit will be included with City Council or appropriate City Commission reports.

Principle 5: Water Recycle and Reuse

Scottsdale has a long history of recycling water dating back to the 1980's with the Gainey Ranch Water Reclamation Facility and the dedicated use of recycled water on the Gainey Ranch Golf Course. With climate change, reclaimed/recycled water plays an increasingly important role in the City's water resources portfolio. The Scottsdale Water Campus is one of the largest and most sophisticated indirect potable reuse facilities in the world and has been an industry leader in this realm since the facility began operations in October 1998. Traditionally reclaimed water supplies have been used to offset the use of the City's drinking water by utilizing non-potable quality water for applications such as turf irrigation or landscaped areas. The use of reclaimed water represents an integral piece of the City's water resources management approach by allowing quality drinking water to be saved for more critical use. Because reclaimed water is a supply that will increase with population growth, Scottsdale Water shall:

1. Remain engaged in regional, state, and national discussions and negotiations on the use and regulation of reclaimed water, including potable reuse. Scottsdale Water shall, as the first permitted DPR facility in Arizona, assist state officials with developing phase II of the ADEQ rules for DPR.
2. Expand recycled water systems, where possible, to replace potable water use.
3. Maintain standards for the equipment and infrastructure that is unique to the conveyance, treatment and distribution of reclaimed water.
4. Maintain adopted ordinances and policies that require the use of reclaimed water, where appropriate, and are consistent with state and federal laws to maximize its direct use.
5. Maintain education programs that focus on what reclaimed water is and the benefits to the City's water resources portfolio and citizens.

Principle 6: Water Recharge and Recovery

While the Phoenix AMA goal of safe yield is calculated and governed by ADWR, Scottsdale established its own safe yield metric and was able to meet this goal in its service area since 2006 through a multi-faceted reuse, recharge, and recovery strategy. This strategy includes reducing groundwater pumping, increasing the use of renewable water supplies, and increasing the amount of recharge and emphasizing recharge within the Scottsdale Water service area. To ensure Scottsdale Water's groundwater supplies are sustainable and to comply with Arizona's 1980 Groundwater Management Act, Scottsdale Water shall continue to recharge its unused renewable water supplies whenever possible. In addition, Scottsdale Water shall plan and implement strategies to recover those renewable water supplies when needed to meet its customer demands.

The Arizona Water Banking Authority (AWBA) is responsible for banking Colorado River water as a statutory firming obligation to be used in times when a shortage of CAP water is expected. This banked water is not intended to fully replace all CAP water but will mitigate a percentage of water losses during a drought. How and when AWBA water is recovered is of great importance and may impact how Scottsdale Water uses its water portfolio during a prolonged shortage or deep cuts.

1. Scottsdale Water shall continue participating in local and regional water recharge and recovery initiatives, discussions and projects while including the following:
    a. Maximizing the recharge and recovery of reclaimed water.
    b. Maximizing the recharge of unused surface water supplies on an annual basis to assist with safe yield and store water for use in times of shortage. This includes all available facilities, both City and non-City owned, with the priority going to local (service area) recharge first and then regional recharge.
    c. Developing and constructing Underground Storage Facilities (USF) and Aquifer Storage and Recovery (ASR) well capacity in strategic locations within the City. In addition, continue partnerships with CAP and SRP to lease capacity in their USF and Groundwater Savings Facilities as needed.
    d. Maximizing the recovery of stored water by attempting to permit the City's wells as recovery wells in accordance with the rules and regulations of ADWR.
    e. Recovery planning governance and implementation, and activities related to where and how to recover banked supply.
    f. Being informed of and involved in regional discussions regarding groundwater use, recharge, recovery, and the Central Arizona Groundwater Replenishment District (CAGRD) to protect Scottsdale's water stored underground by the City.

Principle 7: Infrastructure

Scottsdale Water has developed water, wastewater and reuse treatment and distribution systems in order to provide a high level of water services to its citizens and customers. These systems should conform and support the orderly growth identified in the General Plan. Scottsdale Water has a multi-faceted water resources portfolio which provides the community with a reliable long-term assured water supply. Each of these water resources (Salt and Verde surface water, Colorado River surface water, groundwater, and reclaimed water) require unique and distinct infrastructure to treat and deliver water to customers.

Scottsdale Water's water and sewer infrastructure include water treatment, water transmission and delivery, wastewater collection, wastewater treatment systems, and both reclaimed and irrigation water distribution systems. Scottsdale Water has established these systems to provide reliable service to its citizens and customers. These systems meet or exceed all federal and state water quality requirements and provide needed fire suppression for the benefit of public health and safety.

Scottsdale Water utilizes the following detailed master plans which are updated through multiple master planning cycles:

- Integrated Water Resources Master Plan (water, sewer, and recycled water)
- Infrastructure Improvement Plan (development fee-based infrastructure)
- Technology Master Plan

Each master plan identifies the necessary infrastructure budget and the associated schedule for design and construction to achieve the maximum benefit for its customers.

1. The Integrated Water Resources Master Plan (IWRMP) will provide a long-term roadmap for Scottsdale Water and its customers. The IWRMP will be updated every five years and include:
    a. Reference to City General Plan elements
    b. Projected population and land use information to estimate water demands for a minimum of 30 years into the future and at build-out.
    c. Water supplies identified and the associated infrastructure to treat, deliver, and store/recharge those supplies to meet projected water demands. Water supply discussions will include considerations on drought and climate change.
    d. The regulatory requirements of the USEPA, ADEQ, ADWR, and MCESD and all other applicable water quality rules and regulations.

e. Update and calibrate the water (distribution system) and sewer (collection system) hydraulic models to assist in optimizing system capacity and for new infrastructure sizing. This includes upgrading with available software versions.
f. Update of the Capital Improvement Program to capture schedule changes, new projects and cost changes.

2. Scottsdale Water assesses development impact fees to fund the infrastructure needed to accommodate new growth. The City shall prepare an Infrastructure Improvement Plan (IIP) update every three to five years and will include:
    a. Development of a Land Use Assumptions (LUA) Report. This will include projected population and land use information contained within the City's adopted General Plan to estimate water and wastewater flow projections for a minimum of 30 years into the future (i.e., short-term planning) and at build-out (i.e., long-term planning). The mid-point target density of the General Plan should be used for these flow projections.
    b. The regulatory requirements of the USEPA, ADEQ, ADWR, MCESD, Maricopa Association of Government's 208 Water Quality Management Plan and all other applicable water quality rules or regulations.
    c. Development, calibration, and update of a hydraulic model of the water distribution system and wastewater collection system in order to assist in evaluating the adequacy of the existing systems to accommodate future demands.

3. Scottsdale Water is responsible for the operation of complex infrastructure systems which require a high level of automation and the use of information technology (IT) and industrial control systems (ICS) to ensure delivery of efficient and high-quality services to customers. The Technology Master Plan will be updated every five years and will include:
    a. Reference to Scottsdale General Plan elements and the IWRMP
    b. Evaluation of business and technology alignment
    c. Computerized Maintenance Management System (work order system)
    d. Electronic Operation & Maintenance Manuals
    e. Utility Billing
    f. Enterprise Architecture
    g. Supervisory Control and Data Acquisition (SCADA)
    h. Water Quality and Laboratory Information Systems

i. Developed a list of recommended projects including the capital cost and the annual operation and maintenance costs for:
    - Security
    - Water Quality and Laboratory Information Systems
    - Web and e-Business
    - SCADA
    - Radio and fiber communications

Principle 8: Financial Planning

Scottsdale Water is a self-supporting utility and generates revenues to fully recover the cost of service. Additionally, Scottsdale Water invests significantly in its systems and operations to ensure safe and reliable service. Effective utility management and adopted Comprehensive Financial Policies provide guidance for the proper management, stewardship and safeguarding of the utility's assets and resources and ensures financial stability and sustainability.

1. Scottsdale Water shall not be used to subsidize the operations of other City funds. Interfund charges are assessed for the administrative support of the utility activity based on a rational nexus between the charges and cost of the benefits received.

2. Scottsdale Water shall establish rates and fees at levels that recover the total direct and indirect costs for operating and capital requirements, including debt service and debt coverage. All existing rates and charges will be reviewed annually and developed pursuant to a multi-year financial plan that strives to gradually implement user rate adjustments to avoid acute fluctuations.

3. Scottsdale Water shall develop its utility rates to include future infrastructure needs in order to ensure long-term stability of water and wastewater rates. In conjunction with debt issuances, funds in excess of reserves and operating requirements will be used to supplement pay-as-you-go capital expenditures to avoid significant and unplanned rate adjustments.

4. Enterprise funds are intended to be self-supporting and not depend on the General Fund to fund operating and capital costs. Scottsdale Water shall maintain Operating Reserves equal to 25% of operating uses, excluding transfers out and debt service, to provide for emergencies, unexpected declines in revenues and other unanticipated events or opportunities. Use of these reserves require City Council approval and Scottsdale Water shall strive to restore the reserves to the defined level within the next two fiscal years following the fiscal year in which the funds were used.

5. Scottsdale Water shall maintain a Water and Wastewater Asset Replacement Reserve equal to 2% of the undepreciated book value of tangible fixed assets. The reserve may be used to provide funding for the repair and maintenance of critical infrastructure. Use of the reserve requires City Council approval, and the City shall strive to restore the fund to the defined level within the next two fiscal years following the fiscal year in which the funds were used.

6. Scottsdale Water shall use debt financing for capital projects too large to fund with current resources and when a debt issuance is affordable and appropriate to facilitate intergenerational equity, wherein projects with longer lives are paid over several generations through debt service payment.

7. Scottsdale Water bond covenants may exist that require maintaining a minimum debt coverage ratio. In order to maintain the City's and utility's high bond rating, Scottsdale Water shall recommend rates based on a model that projects achieving a target debt coverage ratio of at least 2.0 times for water and wastewater. For financial planning purposes, the debt coverage ratios will be calculated without consideration of development fee revenues.

8. Scottsdale Water chooses to maintain other reserves as deemed necessary to ensure adequate resources to cover future expenditures. Other reserves include:
    a. The Debt Service Reserve currently required by Revenue Bond debt covenant. Revenue Bonds pledged water and sewer rates and fees as the source for annual debt service. The reserve is equal to the highest outstanding annual debt service payment. Once the Revenue Bond debt service is paid in full, this reserve may be eliminated.
    b. The Drought Contingency Reserve equal to $3.0 million. The reserve may be used to provide rate relief when CAP implements drought rate pricing outside of the City's budget process.

9. Scottsdale Water maintains two development impact fee programs, one for water and one for wastewater, as permitted by state law, for capital expenses attributable to new development that will be reviewed periodically with an engineering assessment to ensure that fees recover all direct development-related expenses and be approved by City Council.

Principle 9: Climate Change and Drought

Climate change, increased climate variability, and aridification have a high likelihood to impact long-term reliability on water supplies. The City's water portfolio will be impacted by these changes and there is a level of uncertainly to the degree and length of impact to the supply. To address changes to long-term water resources resiliency, the City will approach both the demand-management-side as well as supply-side to climate impacts and uncertainty.

1. The City shall adopt a Drought Management Plan (DMP) that establishes stages and triggers which address demand management tools to coincide with the severity of supply related impacts. The City will update and/or make amendments to the existing DMP at minimum of every five years. The DMP will:
    a. Outline the different stages and severity of the supply shortages.
    b. Outline potential and flexible options for the city to reduce demand.
    c. Set triggers for heightened and targeted communication to customers.
    d. Establish a Drought Management Team to coordinate efforts with all divisions and construct policies and procedures to decrease demand. This includes any of the following:
        - Public education campaign
        - Municipal restrictions
        - Outdoor irrigation water use restrictions
        - Heightened code enforcement
        - Pricing policy implementations
        - Mandatory reductions
        - Additional incentives

2. Scottsdale Water will participate in and be part of the City's sustainability planning efforts and will assist in improved understanding of the impact of heat mitigation planning efforts on water use.

3. Scottsdale Water shall participate in regional, state, national, and international level discussions and projects on water supply augmentation and firming. Should the opportunity to acquire additional supplies become available, the City shall evaluate the impact and advantages of such an acquisition.

Acronyms

ADEQ – Arizona Department of Environmental Quality

ADWR – Arizona Department of Water Resources

AMA – Active Management Area

AMWUA - Arizona Municipal Water Users Association

ASR – Aquifer Storage & Recovery

AWBA - Arizona Water Banking Authority

CAGRD - Central Arizona Groundwater Replenishment District

CAP – Central Arizona Project

DCP – Drought Contingency Plan

DPR - Direct Potable Reuse

DMP - Drought Management Plan

ICS - industrial control systems

IGFR - Irrigation Grandfathered Rights

IIP - Infrastructure Improvement Plan

IT - information technology

IWRMP - Integrated Water Resources Master Plan

LUA – Land Use Assumptions

MCESD – Maricopa County Environmental Services Department

MS4 - Municipal Separate Storm Sewer System

NW – net water

SCADA - Supervisory Control and Data Acquisition

SWMP - Stormwater Management Plan

SRP – Salt River Project

TDS – total dissolved solids

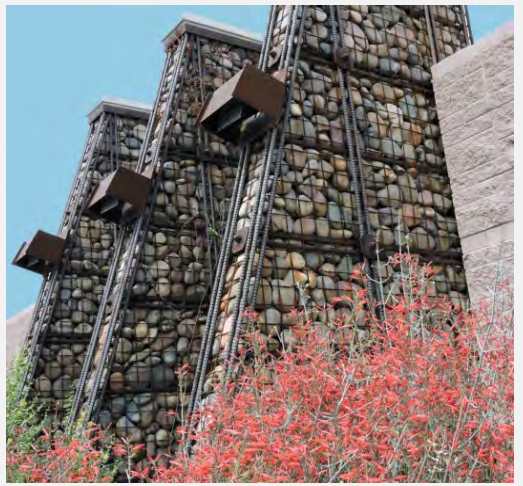
USEPA – U.S. Environmental Protection Agency

USF - Underground Storage Facilities

Item 36

Scottsdale Sustainable Water Management Principles




Brian K. Biesemeyer, PE
Executive Director

SCOTTSDALE WATER

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Sustainable Water Management Principles

A set of nine principles compiled from existing Scottsdale Water Management practices and policies with the intent of providing a transparent framework for sustainable water solutions for Scottsdale[1].

[1]A new procedure and practice is proposed with Principle 4: Water and Land Use Management

Sustainable Water Management Principles
Water Policy Committee

Gretchen Baumgardner, Water Policy Manager

Brian K. Biesemeyer, Executive Director, Scottsdale Water

Tom Gill, Water Services Director

Suzanne Grendahl, Water Quality Director

Gina Kirklin, Enterprise and Finance Director

Scott Mars, Planning and Engineering Director

Lisa McNeilly, Sustainability Director

Rob Millar, Economic Development Director

Erin Perreault, Planning and Development Area Director

Kevin Rose, Water Resources Administrator

Valerie Schneider, Public Information Officer

David Walby, Water Reclamation Services Director

Sustainable Water Management Principles

1. Water Quality
2. Water Conservation
3. Water Resource Planning
4. Water and Land Use Management
5. Water Recycle and Reuse
6. Water Recharge and Recovery
7. Infrastructure
8. Financial Planning
9. Climate Change and Drought

Sustainable Water Management Principles

1. Water Quality
2. Water Conservation
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4. Water and Land Use Management
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7. Infrastructure
8. Financial Planning
9. Climate Change and Drought

Presenter: Brian Biesemeyer
Gretchen Baumgardner
Kevin Rose

Principle 1: Water Quality

- Scottsdale Water shall
  - Build, operate, maintain, and monitor water treatment facilities that provide quality drinking water which meets federal and state regulations.
    - ✓ Treatment facilities are designed such that the treated water is at least 50% less than any maximum contaminant level.
  - Comply with the Amended Record of Decision and Amended Consent Decree for the associated North Indian Bend Wash Superfund Site.
  - Maintain a cross connection/backflow prevention programs

Principle 1: Water Quality

- Scottsdale Water shall
  - Operate, maintain and monitor reclaimed and recycled water facilities to meet requirements of all state permits.
  - Maintain an Industrial Pretreatment Program
  - Operate and maintain a Water Quality Laboratory which meets all regulatory requirements.
  - Maintain a Municipal Separate Storm Sewer System (MS4) permit which protects waters of the State and Waters of the United States from pollution.

Principle 2: Water Conservation

There are two main objectives of the water conservation program.

1. Provide resources and tools to customers to help them save and conserve water.
2. Provide education and training to customers to assist them in understanding the importance of water in a desert city and how to integrate water conservation into their lives

Principle 2: Water Conservation

To achieve these objectives:

1. Develop and administer innovative water conservation tools that address a suite of programmatic options for all customer types.
2. Develop a diverse water conservation education program for its customers.
3. Engaged in local, state, and federal discussions on water conservation.
4. Comply with all regulatory reporting requirements

Principle 3: Water Resource Planning

The city has a multi-faceted water resources portfolio.

The city of Scottsdale is located within the Phoenix Active Management Area (AMA) which was established under the 1980 Ground Water Management Act by the State Legislature.

This principles focuses on 2 component:

- Water Resources Regulatory Compliance
- Long-Term Planning

Principle 3: Water Resource Planning

Water Resources Regulatory Compliance

1. Scottsdale Water shall remain in compliance with the Assured Water Supply Program and Annual Reports
2. Scottsdale Water shall, when available, recharge imported surface water underground for future use.
3. Scottsdale Water shall actively pursue and water rights.

Principle 3: Water Resource Planning

Long-Term Planning

- Scottsdale is responsible for ensuring a resilient and sustainable water supply for Scottsdale residents and businesses into the future.
- While conservation will always be a component of this, long-term planning in the face of climate variability and uncertainty is also a component.
- This entails identifying state and federal policies that have implications to affect the City, identifying new sources, exchange partnerships, and/or shared infrastructure projects.

Principle 3: Water Resource Planning

Long-Term Planning (continue)

1. Remain engaged in local, state, and federal discussions on water resources planning
2. Examine future potential extended long-term drought/shortage supply issues
3. Examine potential future water supply acquisition opportunities

Principle 4: Water and Land Use Management

Land use planning is based on the most recently adopted Scottsdale General Plan. The General Plan's land use elements are to provide and preserve the quality of the City's vision and physical environment while integrating the priorities and values set forth by the plan.

Water is an essential component to this plan and future planning needs are based on the land use as laid out in the General Plan.

Principle 4: Water and Land Use Management

To ensure decisions on land use are made with consideration for the impact on water resources, the City will develop policies that require any General Plan amendment or rezoning request that shows a water use above 100,000 gallons per day (excluding fire flow).

This level of water user would be required to produce a Water Demand Exhibit.

Principle 4: Water and Land Use Management

Water Demand Exhibit will include:

1. Total estimated water use per day on a sustained basis (Water Use)
2. Net water use (NW) as defined as NW = Water Use x (1 – (daily sewer flows/daily total water use))
3. Water conservation measures above those required by City code
4. For commercial or mixed-use development, the annual economic value of the development on a per gallon of use basis.

Principle 4: Water and Land Use Management

Example list of Developments:

- Development would need to provide additional elements of the project that create value to the community and additional conservation measures.

	Water	Wastewater	% Return Flow	Total Water minus WW
	gpd	gpd		
Development A	161,185	105,660	66%	55,525
Development B	175,680	74,304	42%	101,376
Development C	338,400	129,280	38%	209,120

- Next steps for Water and Planning staff is to develop the criteria for these developments to present to development review for consideration.

Principle 5: Water Recycle and Reuse

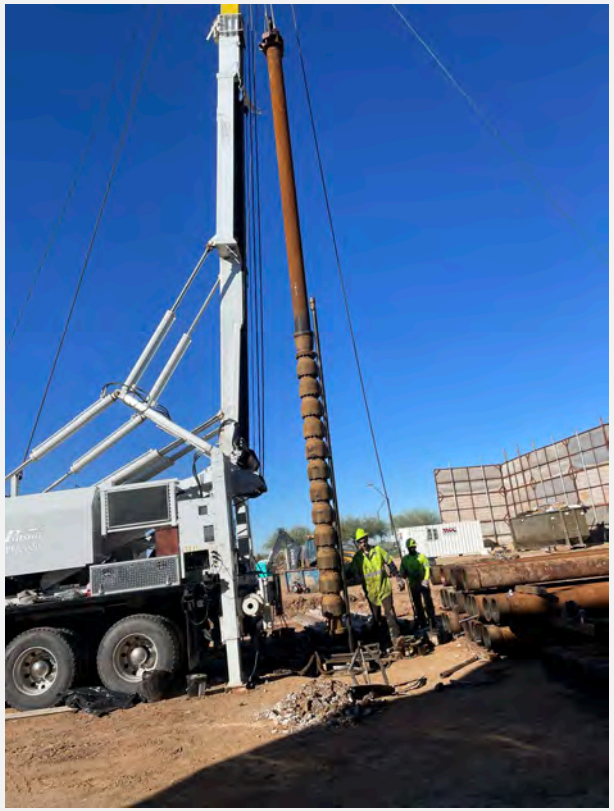
Scottsdale Water shall:

1. Remain engaged in regional, state, and national discussions and negotiations on the use and regulation of reclaimed water
2. Expand recycled water systems, where possible, to replace potable water use.
3. Maintain standards for the equipment and infrastructure that is unique to the conveyance, treatment and distribution of reclaimed water.
4. Maintain adopted ordinances and policies that require the use of reclaimed water, where appropriate.
5. Maintain education programs that focus on what reclaimed water is and the benefits to the City's water resources portfolio and citizens.

Principle 6: Water Recharge and Recovery

This strategy includes reducing groundwater pumping, increasing the use of renewable water supplies, and increasing the amount of recharge and emphasizing recharge within the Scottsdale Water service area.

Principle 7: Infrastructure



Infrastructure planning is incorporated in Scottsdale Water's Capital Improvement Plans and developed in coordination with three key documents:

1. Integrated Water Resources Master Plan (5-year cycle)
2. Infrastructure Improvement Plan (3-year cycle)
3. Technology Master Plan (5-year cycle)

Principle 8: Financial Planning

- Principles mirror Comprehensive Financial Polices adopted February 22, 2022
- Sustainable Water Management Policies:
  - Provides guidance for proper management, stewardship and safeguarding of assets and resources
  - Ensures long-term financial stability and sustainability

Principle 8: Financial Planning

- Scottsdale Water is a self-supporting enterprise fund
- Rates and fees are:
  - Based on direct and indirect cost recovery and include infrastructure needs
  - Based on multi-year financial plans and reviewed annually
- Reserves are required, fully funded, requiring approval from Council to access
- Bond covenants requirements are met
- Development Fee programs exist for capital expenses attributed to new development

Principle 9: Climate Change and Drought

To address changes to long-term water resources resiliency, the City will approach both the demand-management-side as well as supply-side to climate impacts and uncertainty.

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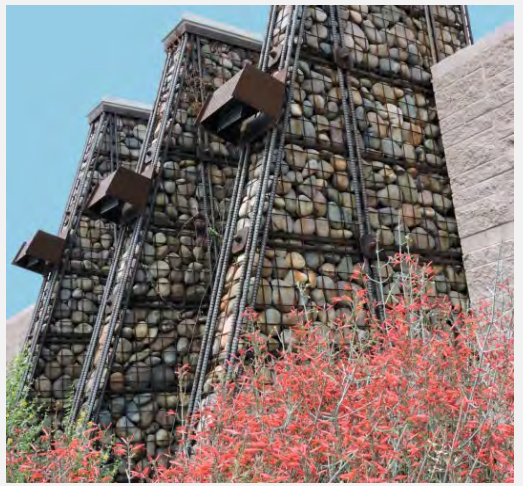
1. The City shall adopt a Drought Management Plan (DMP)
2. Scottsdale Water will participate in and be part of the City's sustainability planning efforts
3. Scottsdale Water shall participate in regional, state, national, and international level discussions and projects on water supply augmentation and firming.

Staff Recommendation

Approve Resolution No. 12539 adopting the Scottsdale Sustainable Water Management Principles.

Questions?



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