



Chandler Water Resources & Policy Update: Protecting our Water Future

City Council Work Session – Feb. 3, 2025

Agenda

- Chandler's Diverse Water Supplies
- Salt & Verde System Update
- Colorado River System Update
- Phoenix AMA Groundwater Management
- Water Policy Update
- Sustainable Water Allocation Policy
- Drought Management Plan
- Next Steps

Where does our water come from?

Surface Water

Snow and rain runs off into rivers, lakes and streams. The water is stored in reservoirs behind dams.



Groundwater

Water stored underground in the space between sand and gravel.



Diverse Water Supplies



Drinking Water

- Colorado River
- Salt & Verde Rivers
- New Conservation – Raised Roosevelt Dam
- Roosevelt Flood Control Space
- Roosevelt Water Conservation District
- Groundwater



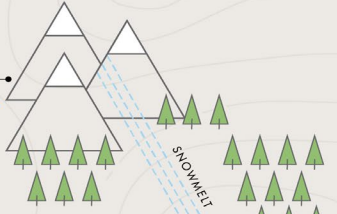
Reclaimed Water

- Gila River Indian Community Exchange
- Direct use – over 400 customers
- Aquifer recharge

WHERE YOUR WATER COMES FROM

1

Your water begins as snow high in the mountains.



2

As the snow melts, it runs down the mountains, through forests and into rivers.



746 BILLION GALLONS OF WATER IS STORED IN THE SRP SYSTEM.

3

Rivers flow into lakes where the water can be stored.



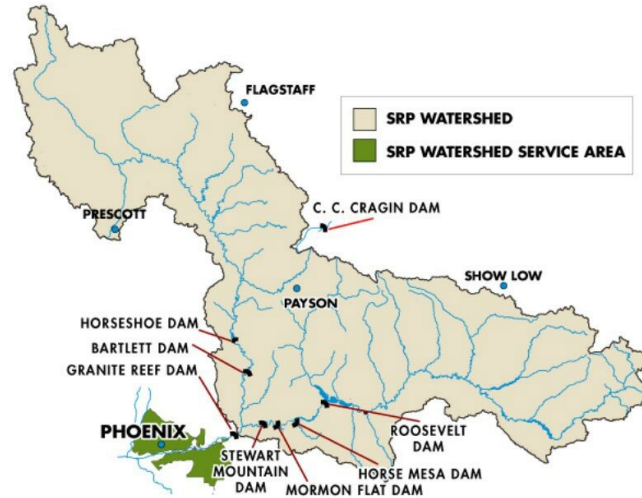
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Water is released through dams. Dams are used to control the flow of water. They can also be used to make hydroelectric power.



Salt & Verde Rivers

Delivered via Salt River Project (SRP) canals



2025

Reservoirs ~ 70% full

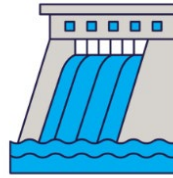
Chandler's SRP water

57% of annual supplies



Colorado River

Delivered via Central Arizona Project (CAP) canal



Arizona's allocation
2.8 million
acre feet



Arizona is part of the
Lower Colorado
River Basin



36%
of all water used in
Arizona comes from the
Colorado River

2024 - 2026

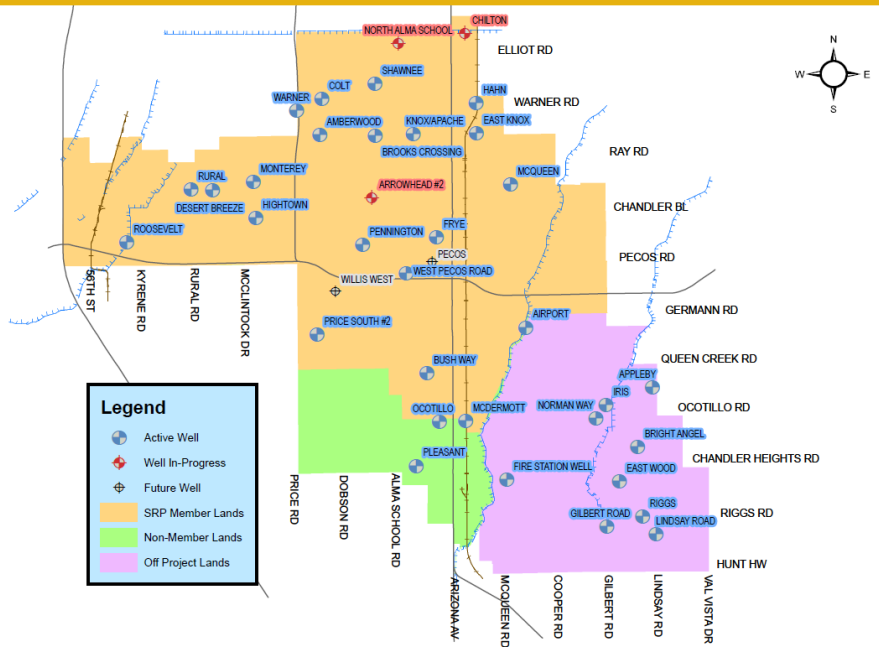
Tier 1 Shortage

Chandler's CAP water

37% of annual supplies



Groundwater



33 Active Wells

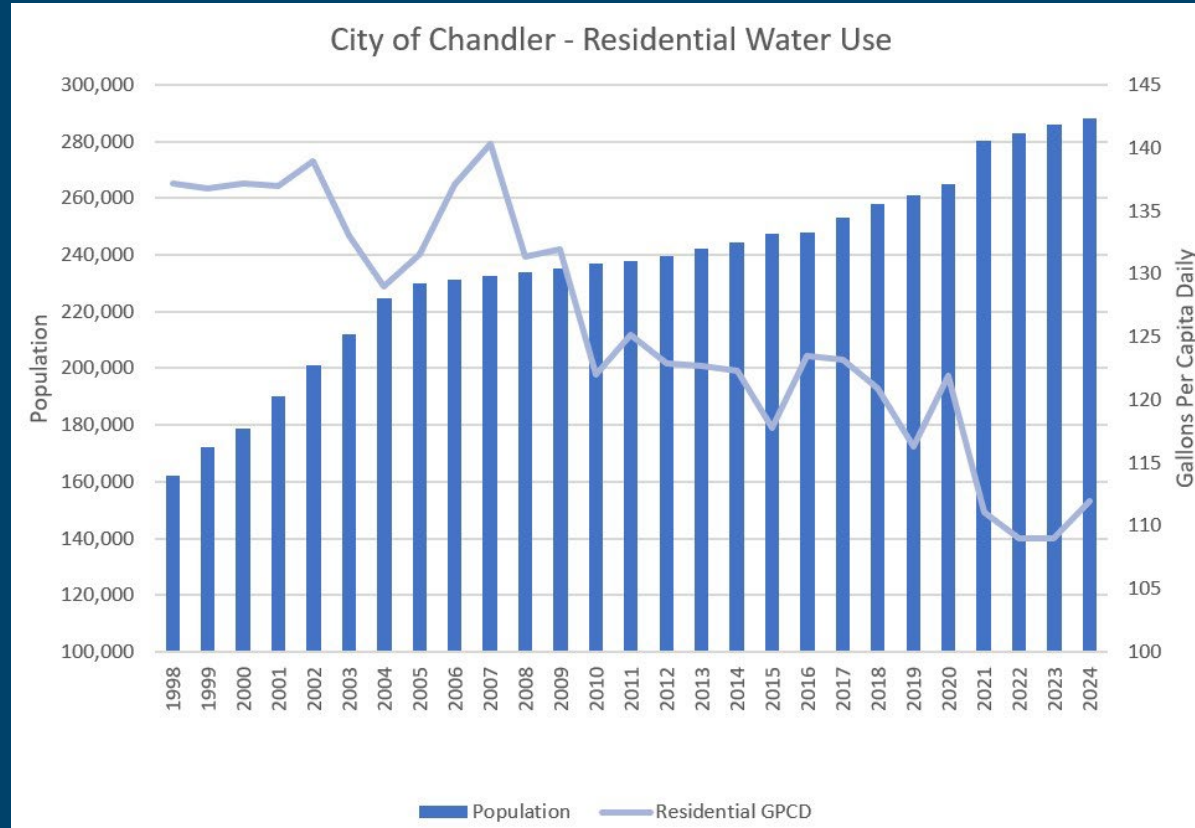
72 MGD capacity

Groundwater

6-10% of total annual use

Water Demand Trends

- ✓ Chandler water consumption:
57% residential
43% non-residential
- ✓ Since 1998, population has nearly doubled, residential gallons per capita per day (GPCD) declined by 20%
- ✓ Improvements in water efficient appliances and xeriscape landscaping can lower residential GPCD
- ✓ Chandler total consumption is roughly the same as 10 years ago (excluding 2020 & 2021)



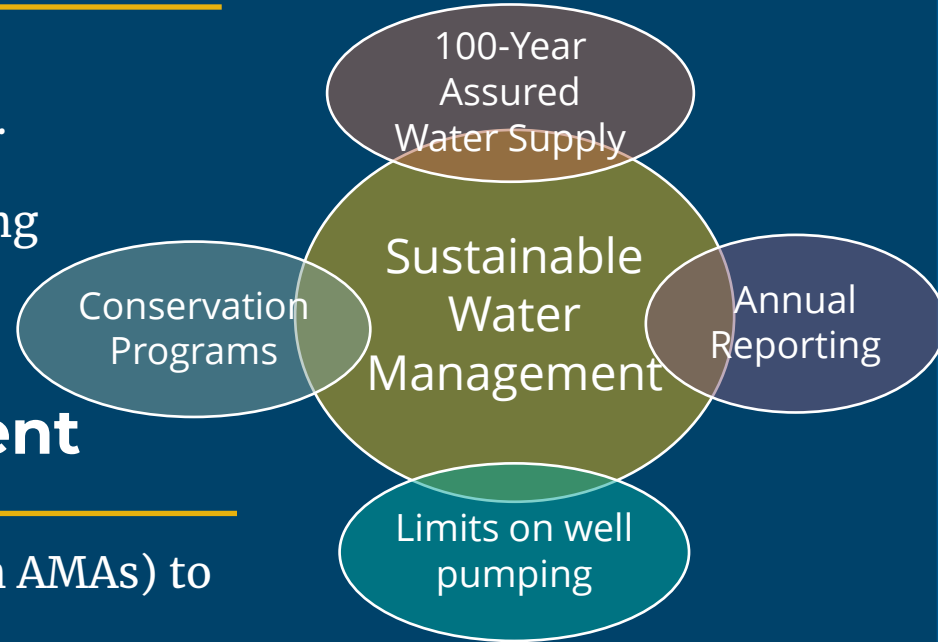
1980 Groundwater Management Act (GMA)

Created groundwater regulation for “Active Management Areas” or AMAs.

Goal is a balance between well pumping and aquifer recharge

Recharge & Replenishment

The GMA requires water providers (in AMAs) to replenish the water they pump or recharge CAP water (or effluent) prior to pumping and accrue underground storage credits.



Colorado River Post-2026

- ✓ Jan. 2025 – US Bureau of Reclamation published the Post-2026 Alternatives Report, excluding each of the alternatives proposed by the upper basin and lower basin states.
- ✓ The Basin States have recently resumed negotiations. However, the increasing likelihood of litigation over compact compliance is concerning. Absent a consensus solution, Central Arizona Project has junior priority rights and may receive no water.
- ✓ Spring 2026 – Reclamation will publish a preferred alternative and develop any federal legislation needed to grant additional authorities required to implement the preferred alternative.
- ✓ Summer 2026 – June/July deadline for final Environmental Impact Statement (EIS) and August deadline for a Record of Decision. Implementation for calendar year 2027.

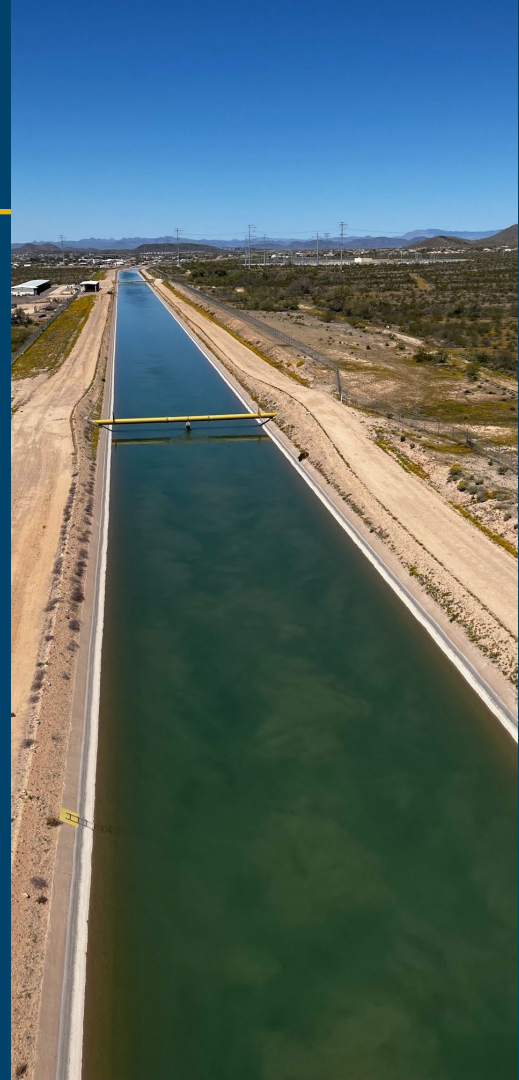


Colorado River Post-2026

Hope for the best and plan for the worst...

Best Case Scenario – The seven Basin States reach a consensus solution by May/June 2025, the US Bureau of Reclamation accepts the consensus-based alternative as the “preferred alternative” and proceeds with an environmental review. The impact to Chandler will likely result in CAP reductions between 20% to 50% of contract volumes.

Worst Case Scenario – The seven Basin States are unable to reach a consensus solution, the US Bureau of Reclamation proceeds with a “preferred alternative” that can be implemented under their existing authorities and implements shortage reductions according to a strict interpretation of the priority system. The impact to Chandler would likely result in CAP reductions between 75% to 100% of contract volumes.



Colorado River Post-2026

Planning for the best (and the worst)...

Best Case Scenario – CAP reductions in the range of 20% to 50% of contract volumes. Chandler would rely on alternative water supplies to make up for the reductions in Colorado River water.

Worst Case Scenario – CAP reductions in the range of 75% to 100% of contract volumes. Chandler would rely on groundwater supplies to meet customer demand. Groundwater supplies provide a short-term solution to mitigate against the impacts of Colorado River reductions. However, this is not a long-term sustainable solution because groundwater is a finite resource.



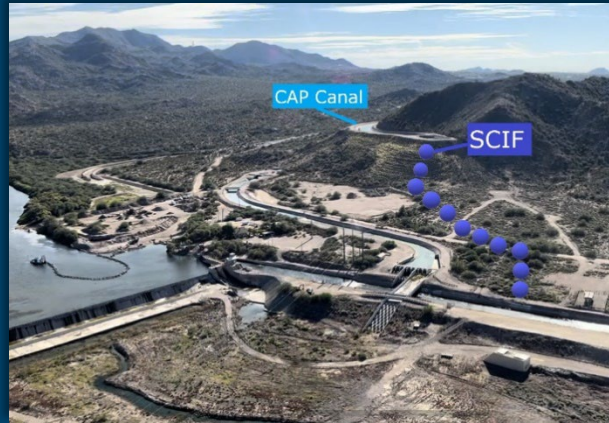
Regional Partnerships and Infrastructure

Regional projects provide additional operational flexibility



Bartlett Dam Modification

Funding a feasibility study which evaluates the potential to restore lost capacity due to sedimentation and modify Bartlett Dam height to increase the available storage space



SRP/CAP Interconnect Facility

Allows for delivery of water stored in the SRP system into the CAP canal for delivery to Chandler's Santan Vista Water Treatment Plant (adjacent to the CAP canal)



Roosevelt Dam Flood Control Space

Five-year pilot program to optimize the use of Roosevelt flood control space. Opportunities for planned deviations from normal operations, extending from 20 days to 120 days.

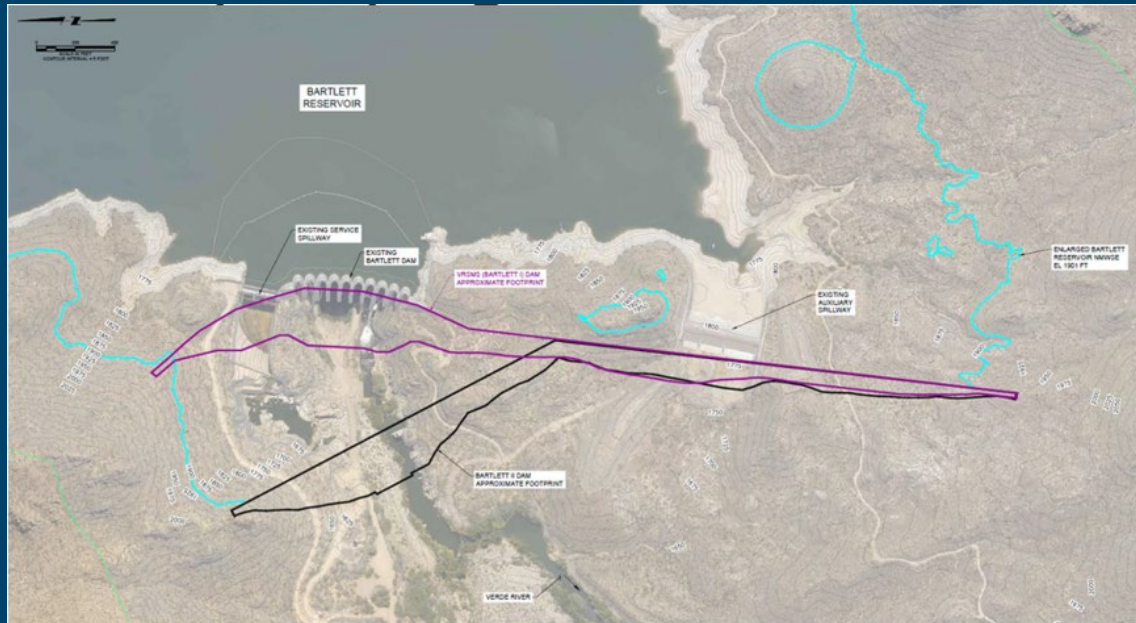
Bartlett Dam Modification

Restore lost capacity due to sedimentation and add height to increase available storage space

The feasibility study is scheduled to be completed in 2026. The project team will seek congressional approval in 2026/2027 if the project meets the criteria for financial, environmental, technical and economic feasibility.

Chandler will benefit from construction of a new dam in two ways:

1. Restoration of capacity lost due to sedimentation (SRP rights)
2. Up to 14,000 acre feet of storage capacity in the new storage space



Proposed Dam Alignment

SRP/CAP Interconnect Facility

Provides operational flexibility to deliver supplies to stored in the Salt River Project system into the Central Arizona Project Canal system

The project design and environmental compliance are scheduled to be completed in 2027, with construction to begin in 2028.

Chandler benefits from construction of the SRP/CAP Interconnect Facility with additional operational flexibility during a severe CAP shortage. The facility allows for delivery of water stored in the SRP system into the CAP canal for delivery to Chandler's Santan Vista Water Treatment Plant (adjacent to the CAP canal).



Roosevelt Dam Flood Control Space

Temporary Deviation from the Flood Control Manual extends to 120 Days

The US Army Corps of Engineers has approved a request for a temporary deviation period, expiring in Sept. 2028. The goal of this project will be to request a permanent change to the Flood Control Manual after the initial pilot phase.

Chandler will benefit from this project by gaining access to a new water supply that can be stored in the SRP system and used to meet customer demand in portions of our service area that currently receive Colorado River water.





Water Conservation Successes

Since increasing our grass removal incentives in October 2023, all programs have seen a significant increase in participation.

- ✓ **Single Family Grass Removal** — Total participation has increased 234% since increasing the incentive to \$2 per square foot (sq. ft.) of grass removed and lowering the minimum from 1,000 to 500 sq. ft.
- ✓ **Commercial/HOA Grass Removal** — Total participation has increased 260% since increasing the incentive to \$75,000 per project. Nearly 300,000 sq. ft. of grass removed since October 2023, with roughly \$600,000 paid out since Oct. 2023 (\$18,000 in same period prior to change)
- ✓ **Smart Controller Rebate** — Residential smart controller rebates nearly doubled to 216 rebates (\$14,500 since Oct. 2023, compared to \$7,700 in the prior period).
- ✓ **Water Efficient Technology Rebate** — Actively working with roughly a dozen customers on projects not yet complete. Four rebates complete since Oct. 2023, totaling \$13,500.

2024 Water Infrastructure Investments

Upgrades to Chandler's water treatment capabilities and replacement of wastewater and reclaimed metering infrastructure

- ✓ **Reclaimed Water Interconnect Facility (RWIF)** – First deliveries, in Oct. 2024, to a new membrane treatment facility constructed to increase Chandler's aquifer recharge deliveries, as well as provide additional water for industrial cooling at Intel's expanded facilities.
- ✓ **Two new aquifer injection wells** at Tumbleweed Park for Aquifer Storage & Recovery (ASR) and improvements to the reclaimed water conveyance infrastructure between the RWIF and Tumbleweed.
- ✓ **Pecos Water Treatment Plant upgrades** to improve water quality – new Granular Activated Carbon (GAC) filters
- ✓ **Wastewater and reclaimed water metering infrastructure upgrades**



Chandler Reclaimed Water Interconnect Facility – Opened October 2024

2024 Legislative Session

Focus on Assured Water Supply Program and solutions to address unmet demand for groundwater in the Phoenix AMA

- ✓ **2024 Session Summary**

95 total water related bills, 8 were signed by the Governor, 15 vetoed

- ✓ **Bills Signed**

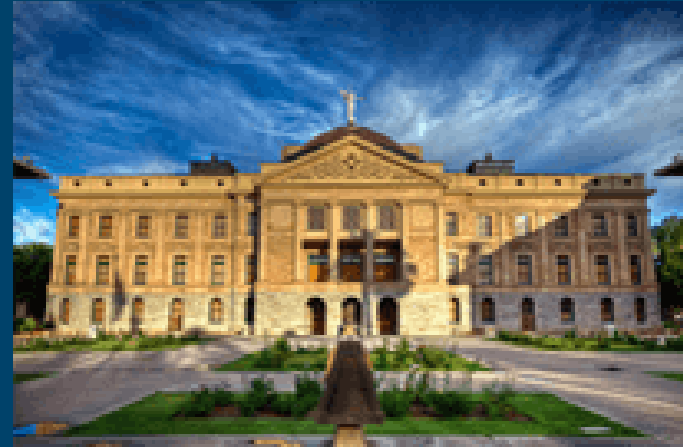
Douglas AMA, ADWR licensing timeframes, ADEQ, WIFA Conservation Grant

- ✓ **Bills Vetoed**

Wildcat subdivisions, assured water supply, brackish groundwater, physical availability credits (Ag-to-Urban), well measuring, stormwater recharge, groundwater model

- ✓ **Alternative Pathway to Assured Water Supply Designation**

Provides a new option for undesignated water providers to become designated and resume subdivision development. Those expected to utilize this path include Queen Creek, Buckeye, Arizona Water Co. and Epcor.



Water Policy

Work with lawmakers, stakeholders and other leaders to support policies that:

- ✓ **Long-Term Planning**
Promote the ability of municipal water providers to ensure the long-term viability of their communities.
- ✓ **Sustainable Aquifer Management**
Protect our stressed aquifers and support the sustainability of finite groundwater supplies.
- ✓ **Conservation**
Encourage water conservation and efficiency programs.
- ✓ **Continued Investment**
Make wise investments in water supplies, water infrastructure and water conservation
- ✓ **Colorado River**
Support the long-term sustainability of the Colorado River system and protect Arizona's rights.
- ✓ **100-Year Assured Water Supply**
Support the 100-year Assured Water Supply Program, the Phoenix AMA groundwater model and the management plan goal of safe yield.



Water Policy

- ✓ Water security is vital to ensure our community and economy continue to thrive
- ✓ Long-range planning and investments in municipal water systems have had a direct impact on water security in Arizona
- ✓ The state is facing intersecting challenges that are putting pressure on our water security
- ✓ Investments in new water supplies are key to ensuring preservation of the aquifer, sustainability of finite groundwater supplies and long-term water security



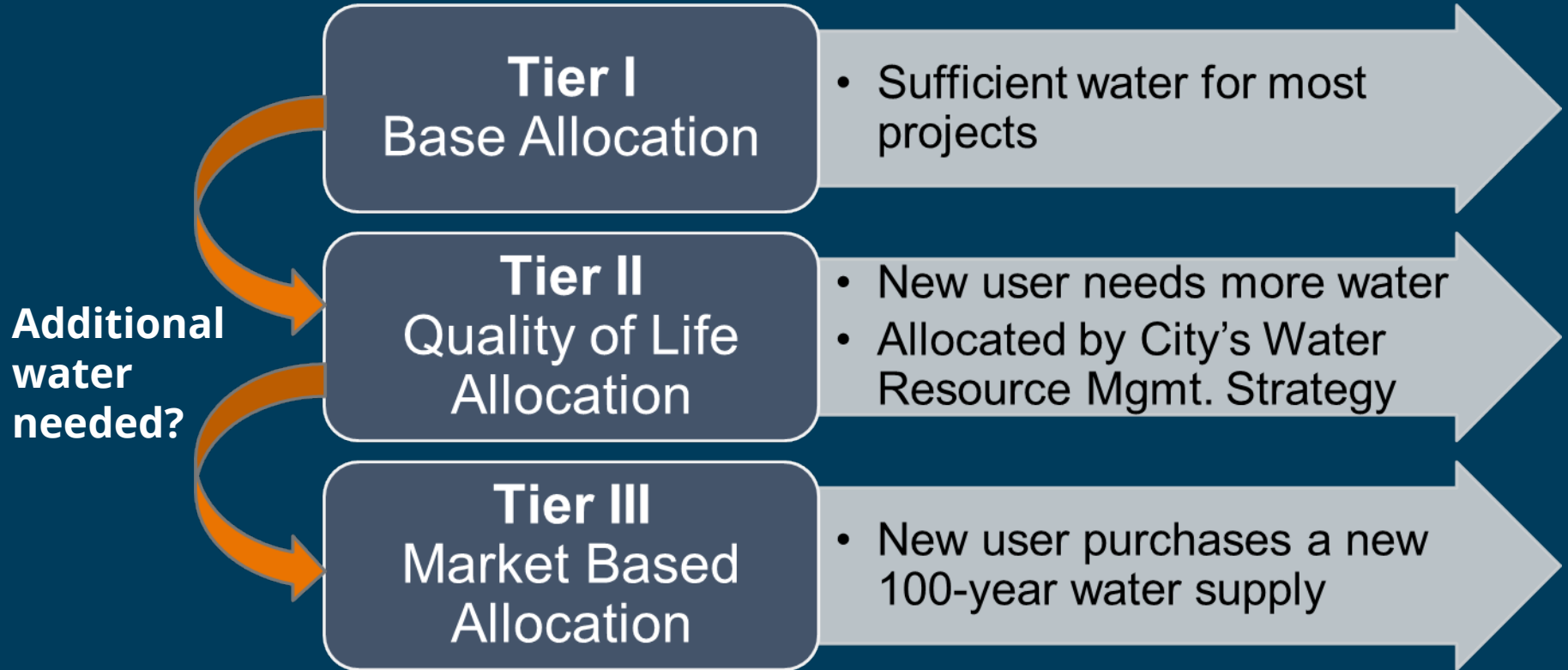


Preparing for Shortages

With increasing pressure on our local aquifer and uncertainty of future Colorado River availability, it is a good time to review the steps we are taking to prepare:

- ✓ **Water Allocation Policy**— Update the policy to include redevelopment, high density residential and reclaimed water
- ✓ **Colorado River Shortage** — Continue to invest in aquifer recharge and advocate for state policies to protect groundwater supplies and water stored underground
- ✓ **Water Conservation**— Encourage xeriscape landscaping by offering grass removal incentives and water budget evaluations
- ✓ **Drought Management Plan**— Update drought plan triggers to match more current water supply expectations and further evaluate demand management strategies

2015 Water Allocation Policy





Allocation Policy - Proposed Amendments

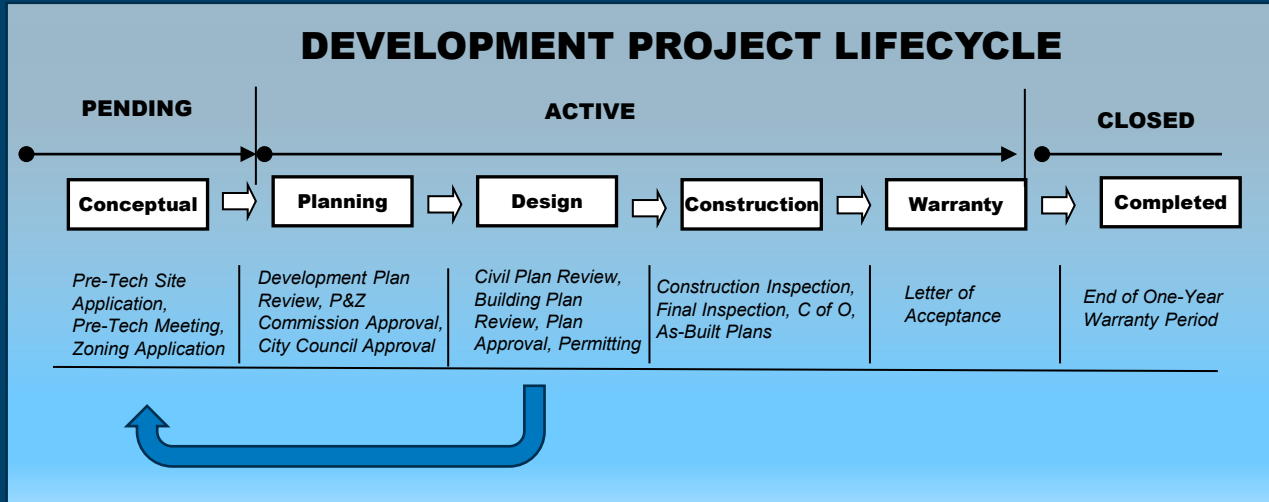
As Chandler approaches build-out, changes in water availability and land use may require amendments to the sustainable water allocation policy:

- ✓ **Redevelopment**— Add redevelopment to the definition for “Multiple or Large Meter Users” (MLM users). The new proposed use can not exceed the Tier I water allocation.
- ✓ **Tier II water**— Update the definition of “Tier II water” to be allocated to an MLM user based on the water and wastewater Master Plan
- ✓ **HDR & Mixed Use**— Add applicability for high density residential (HDR) and mixed-use developments that exceed 12 dwelling units per acre and include a 70% return flow credit
- ✓ **Reclaimed/Landscape Water**— Add applicability for **all** types of water use, including reclaimed and landscape meters.

Allocation Policy Procedures

Implementation of Chandler's Sustainable Water Allocation Policy requires early coordination between multiple city departments - Public Works & Utilities, Economic Development, and Development Services (Planning, Civil Engineering, and Building Safety).

Policy amendments will involve updates to the timing of when a proposed project is asked to submit a sustainable water use application.





Allocation Policy Amendment Goals

The 2015 policy was designed to address non-residential development of vacant land. As redevelopment becomes more prevalent, amendments are needed to ensure Chandler's finite water resources are allocated as planned.

- ✓ **Redevelopment**— If the new proposed use will exceed the Tier I allocation, the city will review the proposed use to ensure consistency with water demand planning. High volume water users may be required to purchase Tier III water.
- ✓ **Tier II water**— Anticipated Colorado River shortages have reduced the volume of available “Tier II water”. Future allocations of Tier II water should be consistent with planning assumptions for each parcel.
- ✓ **HDR & Mixed Use**— Adding high volume residential uses ensures water and sewer needs are considered early in the development entitlement discussions and includes water efficiency and conservation.
- ✓ **Reclaimed/Landscape Water**— The current policy excludes reclaimed water and water served through landscape meters. These are valuable and limited water supplies which require careful management.



Drought Management Plan – Proposed Updates

Update drought plan triggers to match current water supply expectations, remove reclaimed exemption and update outdated language


- ✓ **Stage Triggers**— Update to reflect new shortage projections for post-2026 Colorado River reductions and modify triggers to evaluate supplies based on all surface water supplies.
- ✓ **Reclaimed Water**— Remove reclaimed exemption and add language to clarify the availability of reclaimed water during a shortage. Reclaimed water uses may also be asked to conserve during shortages.
- ✓ **Update Language**— Update references to more current resources available online. Existing text refers to outdated unavailable resources.
- ✓ **Expiration of Drought Stage**— One year after issuance or January 1st of a normal water supply year. Current plan does not address procedures to determine when a drought stage expires.

Drought Plan Triggers – Proposed Updates

Current triggers for Stage 2 and Stage 3 are no longer appropriate

No Change


Change trigger based on all supplies and update to more current anticipated reductions



	Declaration	Current Triggers	New Triggers	Responses
Stage 1	Water Resource Manager	A surface water shortage is predicted.	A surface water shortage is likely.	Increased public information and education
Stage 2	Municipal Utilities Director	SRP reduced to less than 1.8 AF/acre (about 40%) and/or CAP supplies reduced 10%	A surface water shortage occurs	Mandatory water restrictions for municipal operations.
Stage 3	City Manager	SRP reduced to less than 1.5 AF/acre (about 50%) and/or CAP supplies reduced 15%	A surface water shortage occurs, reducing surface water supplies by more than 50%	Mandatory water restrictions for municipal operations. Voluntary water reductions for businesses and residents.
Stage 4	City Council	Conditions where it is unlikely that the City will be able to deliver sufficient water to meet all demands.	A surface water shortage occurs, reducing surface water supplies by more than 60% and/or supplies are insufficient to meet customer demands	Mandatory water restrictions for municipal operations, businesses and residents.



Next Steps

- ✓ **Water Allocation Policy**– Amendments to city code will be proposed on the February 20th city council agenda
- ✓ **Drought Management Plan**– Proposed updates to Chandler’s Drought Plan (Spring 2025)
- ✓ **Water Conservation**– Evaluate effectiveness of existing programs and submit recommendations for additional actions (Summer 2025)
- ✓ **Regional Infrastructure**– Participate in feasibility of Bartlett Dam Modification, construction of the SRP/CAP Interconnect Facility, and maximize investments in the temporary deviation for Roosevelt Dam Flood Control Space

Thank you!



Questions?