



Adoption of the Town of Queen Creek's Water, Wastewater, and Water Resources Master Plan

Town Council Meeting

November 16, 2022

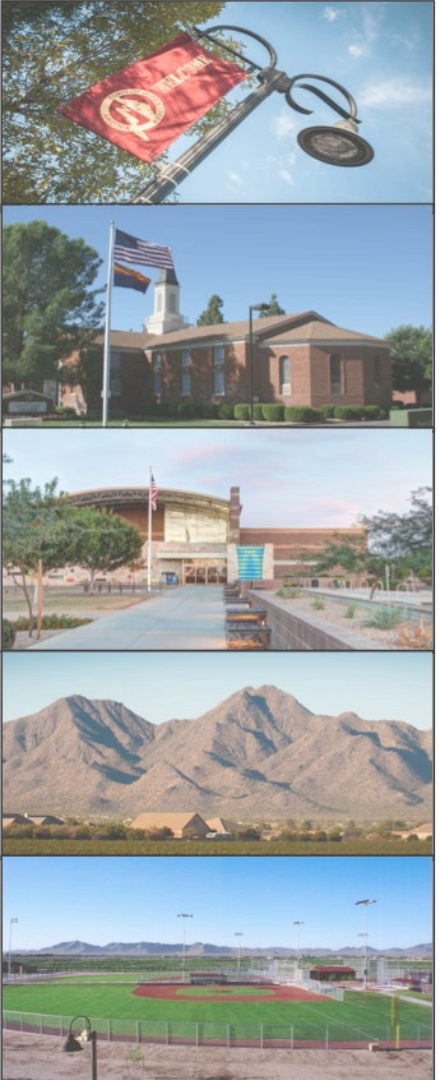




MASTER PLANNING

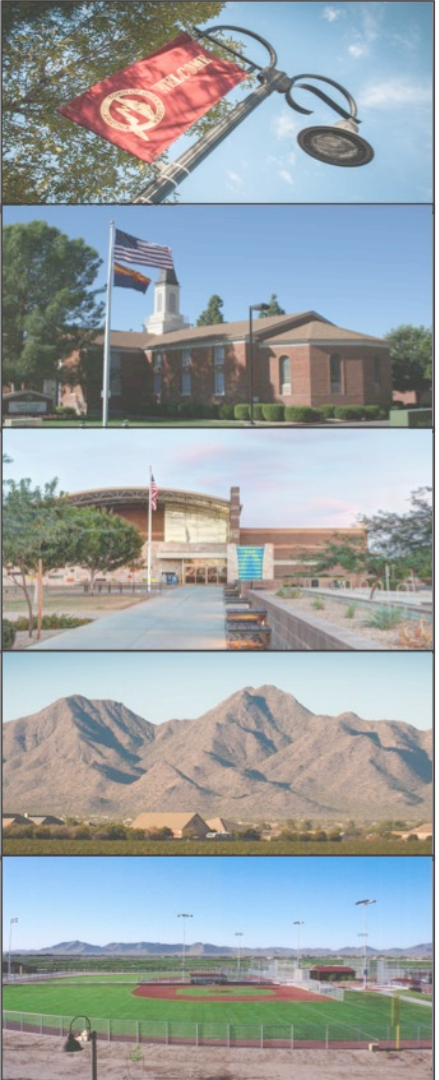
“Blueprint for the Future”

To establish a functional frame work of infrastructure and improvements that will satisfy the Town of Queen Creek’s water and wastewater needs

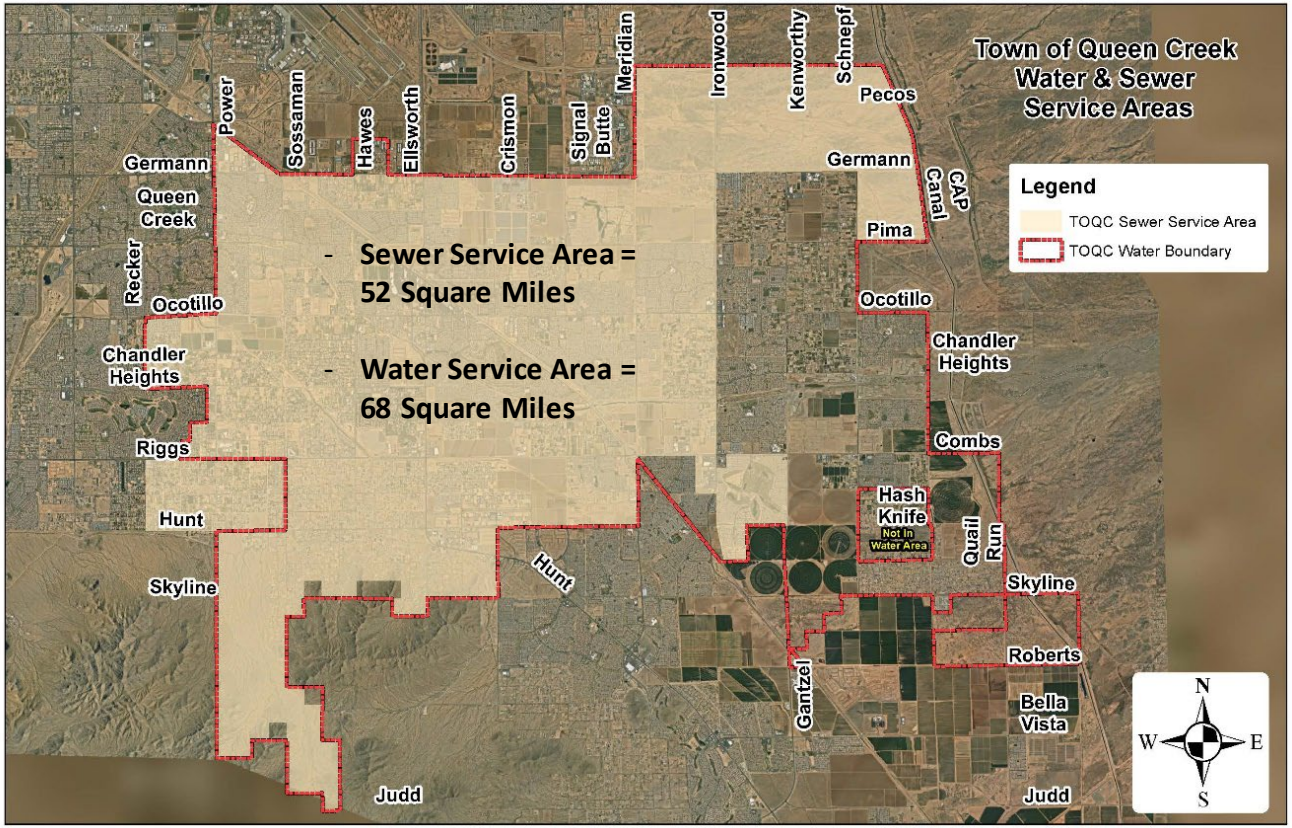


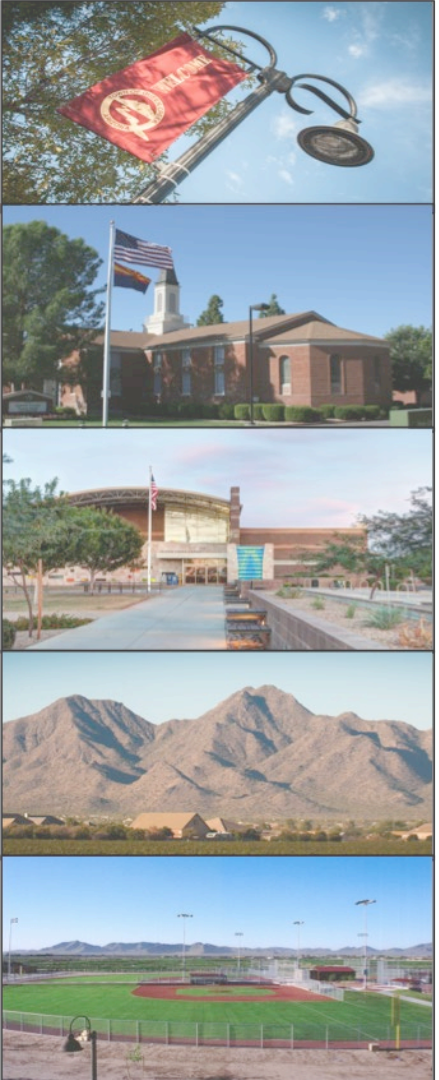
GOALS

- Ensure Utility System Functionality
- Update Population Projections and Demands
- CIP & IIP Planning
  - Update funding needs and project lists
  - Improvement Plan timeframe
    - Basis for future rate and capacity fee studies



Water & Wastewater Service Area Map





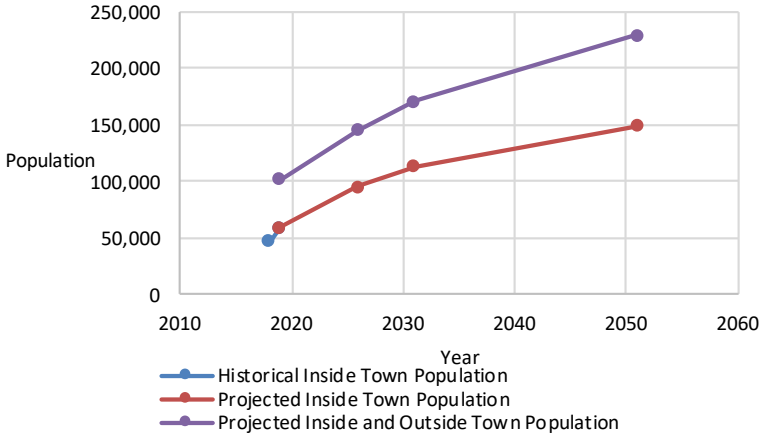
Population & Growth

	Historical Inside Town Boundary Population	Projected Inside Town Population	Projected Outside Town Population	Projected Inside and Outside Town Population	Population Growth Rate (%/year)
2018	47,123[1]				
2019	59,519[1]	59,519[2]	42,648[2]	102,167	
2026		95,382[2]	50,190[2]	145,572	8.5
2031		113,120[2]	58,347[2]	171,467	3.6
2051		148,682[2]	84,737[2]	233,419	1.8

Notes:
(1) From United States Census Bureau April 2020.
(2) From Pollack Study

Current Service Area Population 121,000

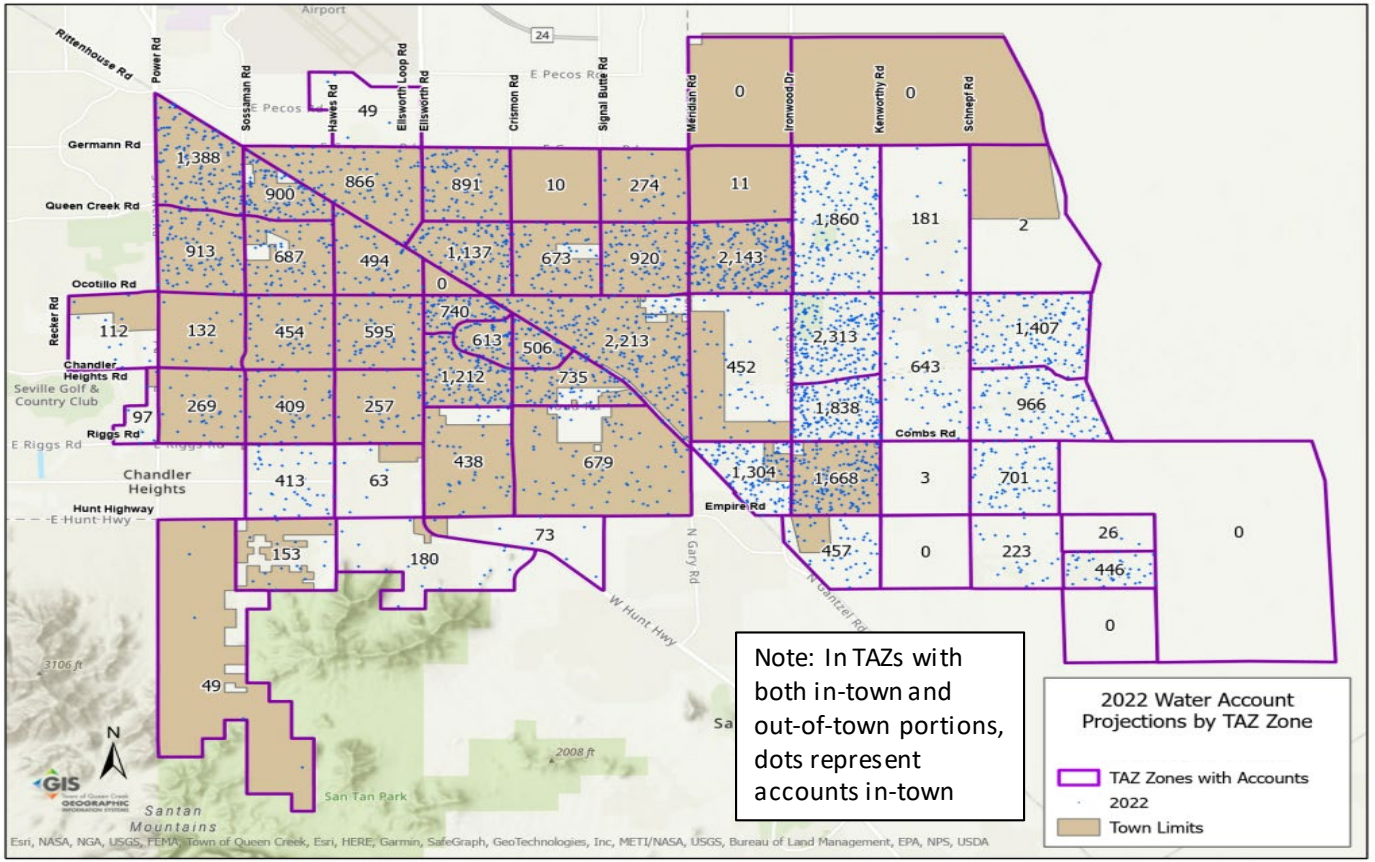
Build-Out Service Area Population 233,419



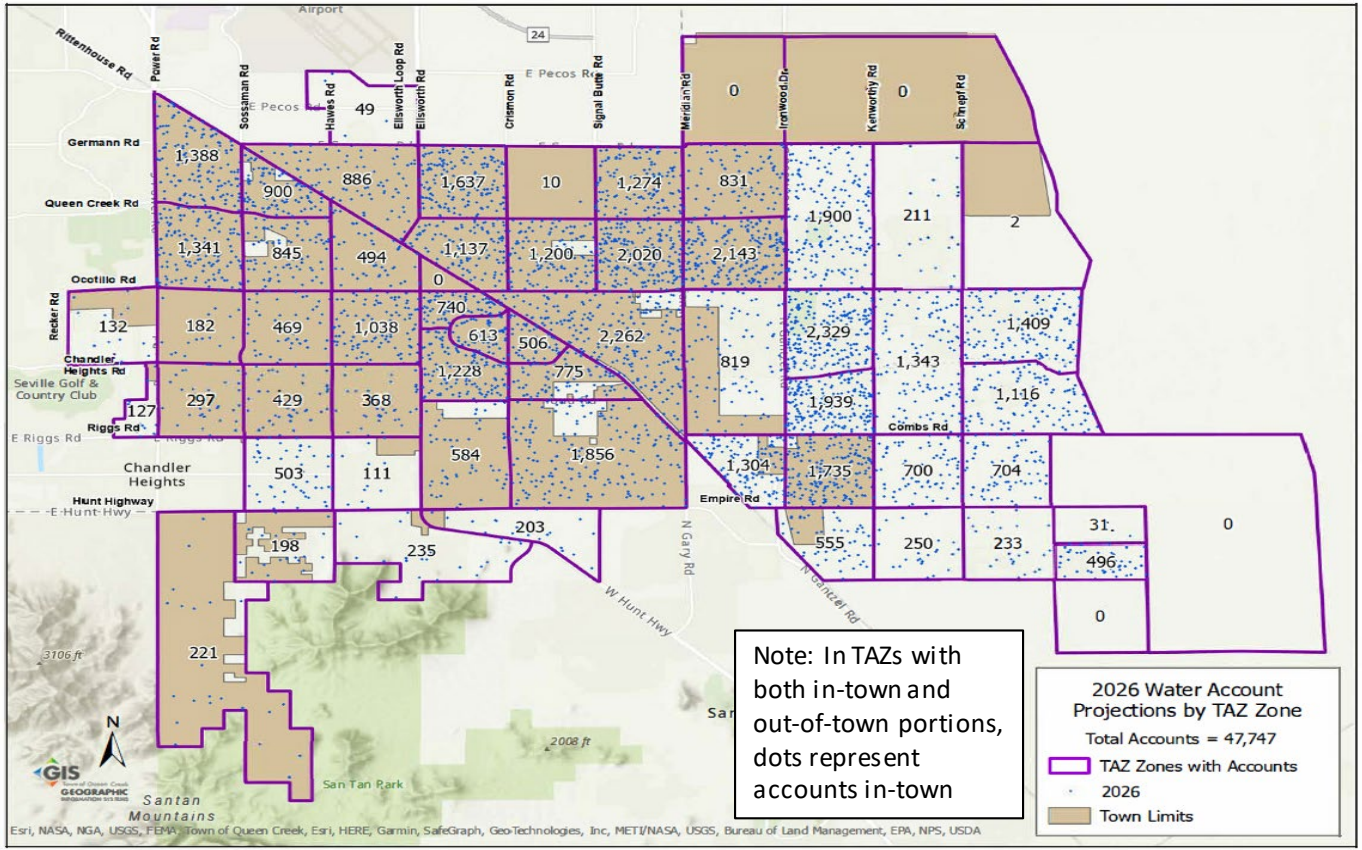
Residential Water Accounts

Dot Maps

2022: ~ 39K Accounts



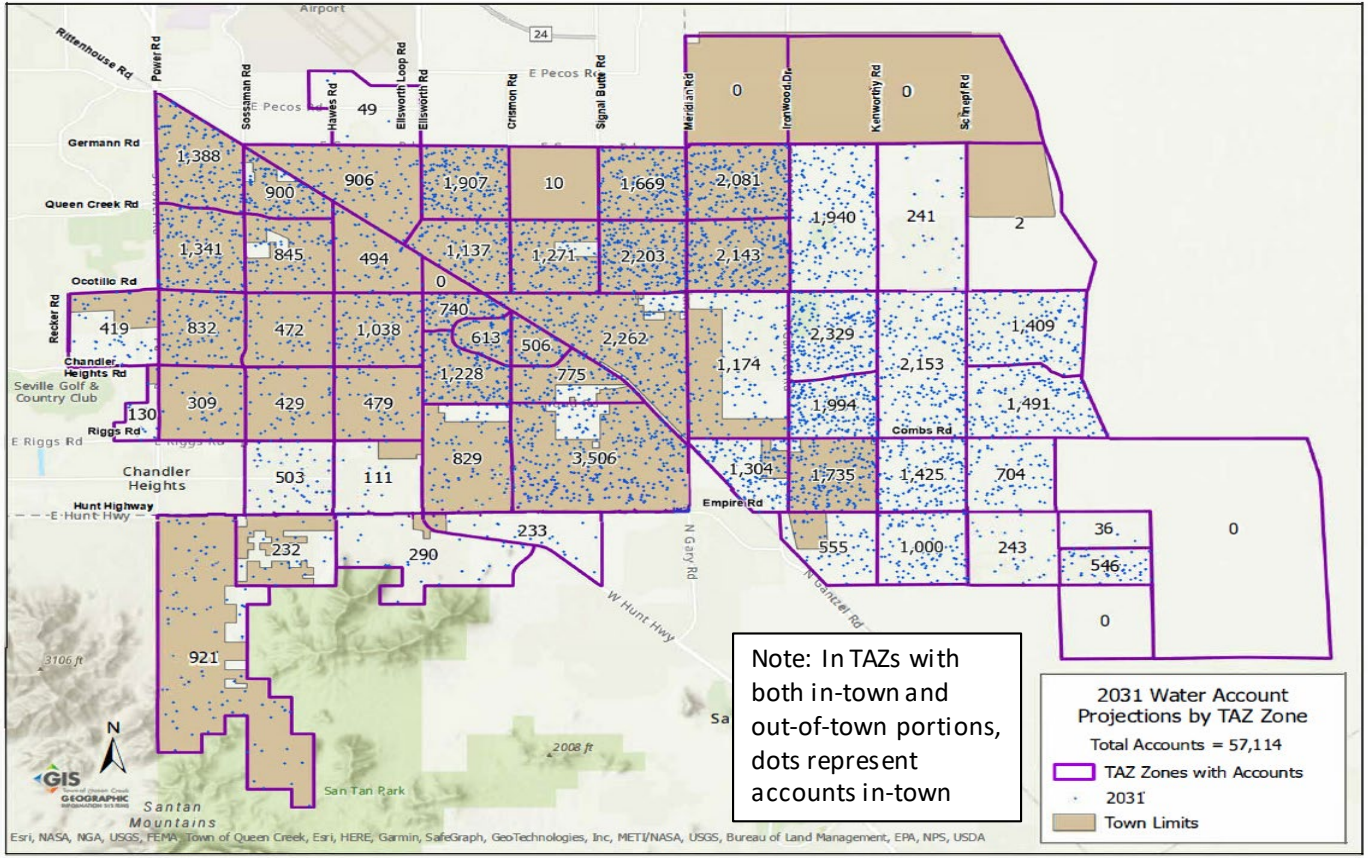
2026: ~ 48K Accounts

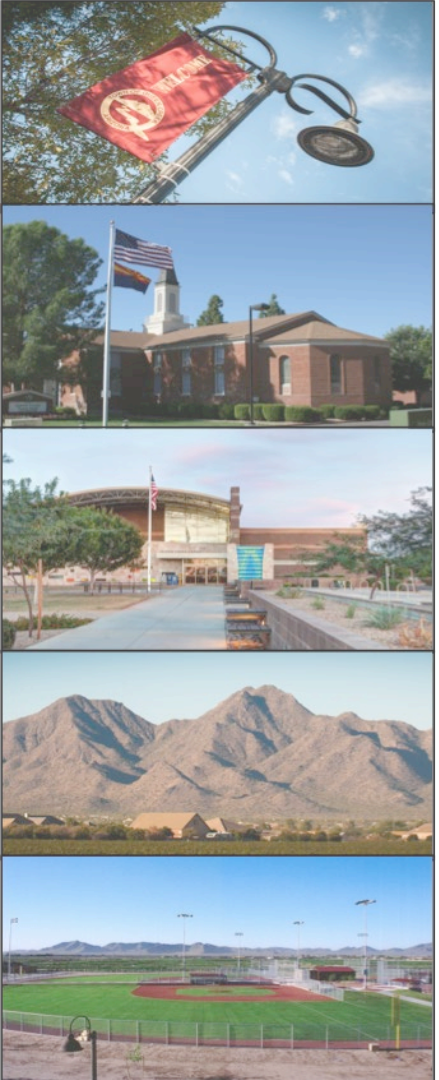




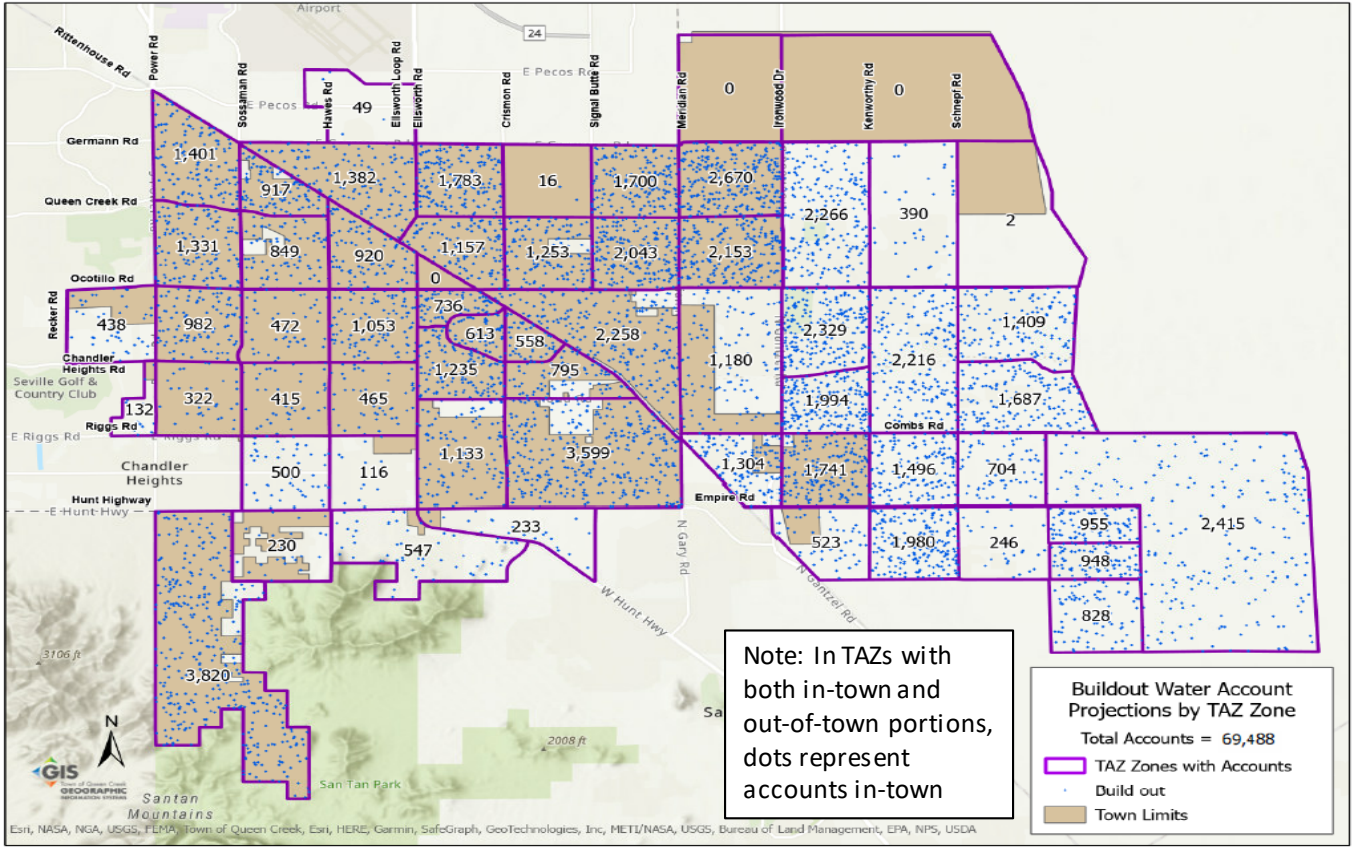


2031: ~ 57K Accounts





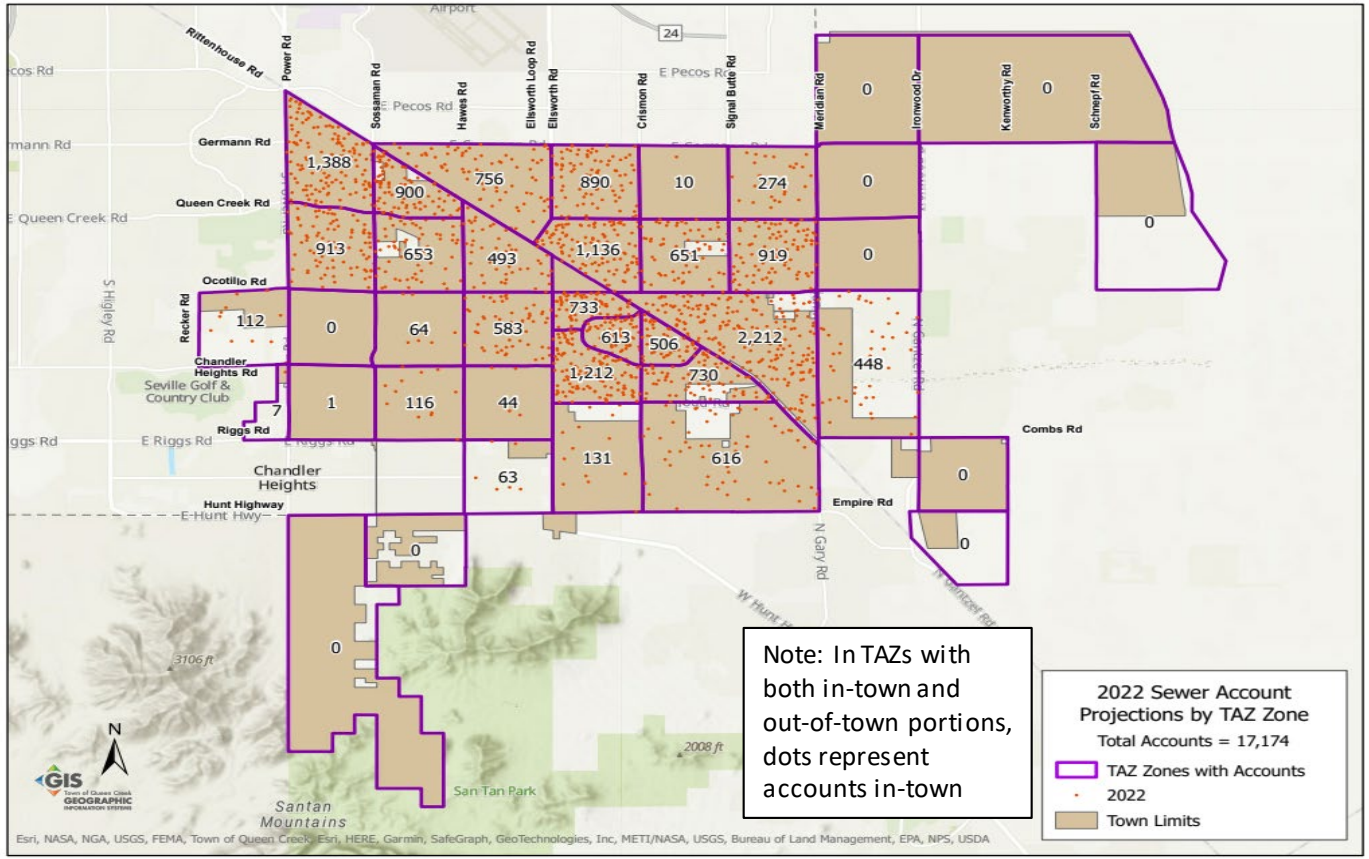
Buildout: ~ 70K Accounts



Residential Sewer Accounts

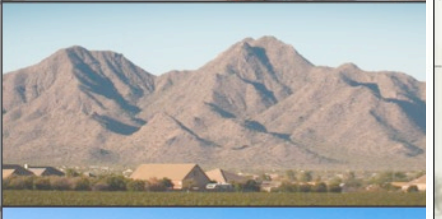
Dot Maps

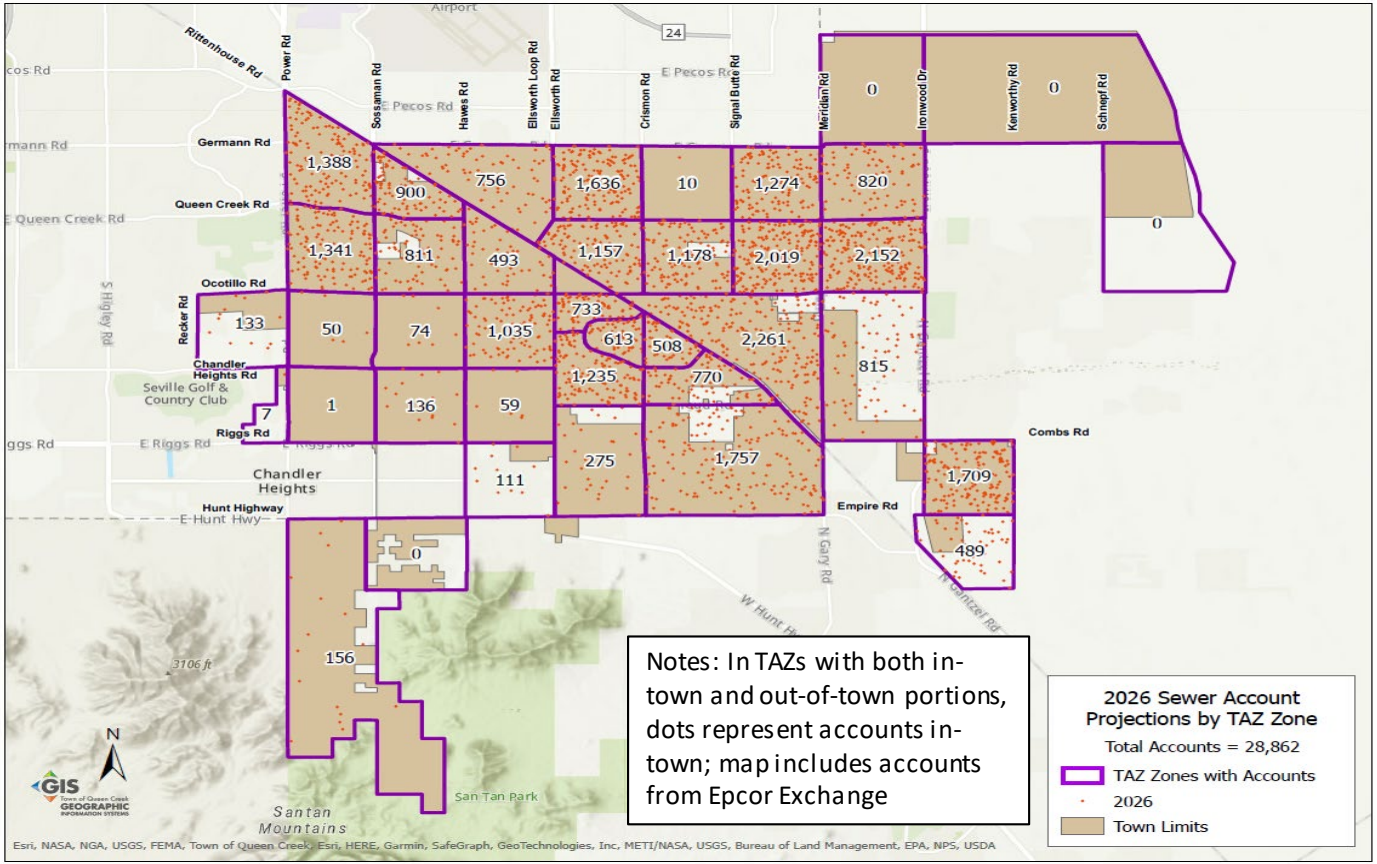
2022: ~ 17K Accounts

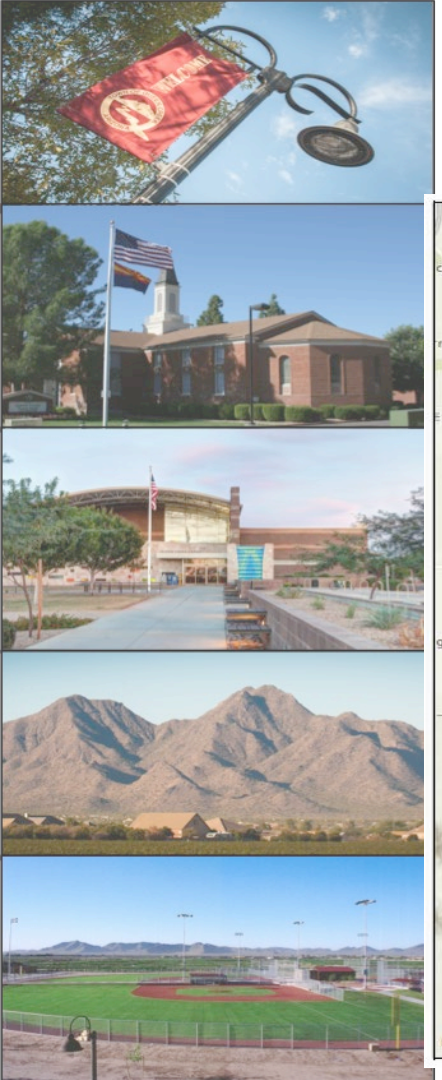


2026: ~ 29K Accounts

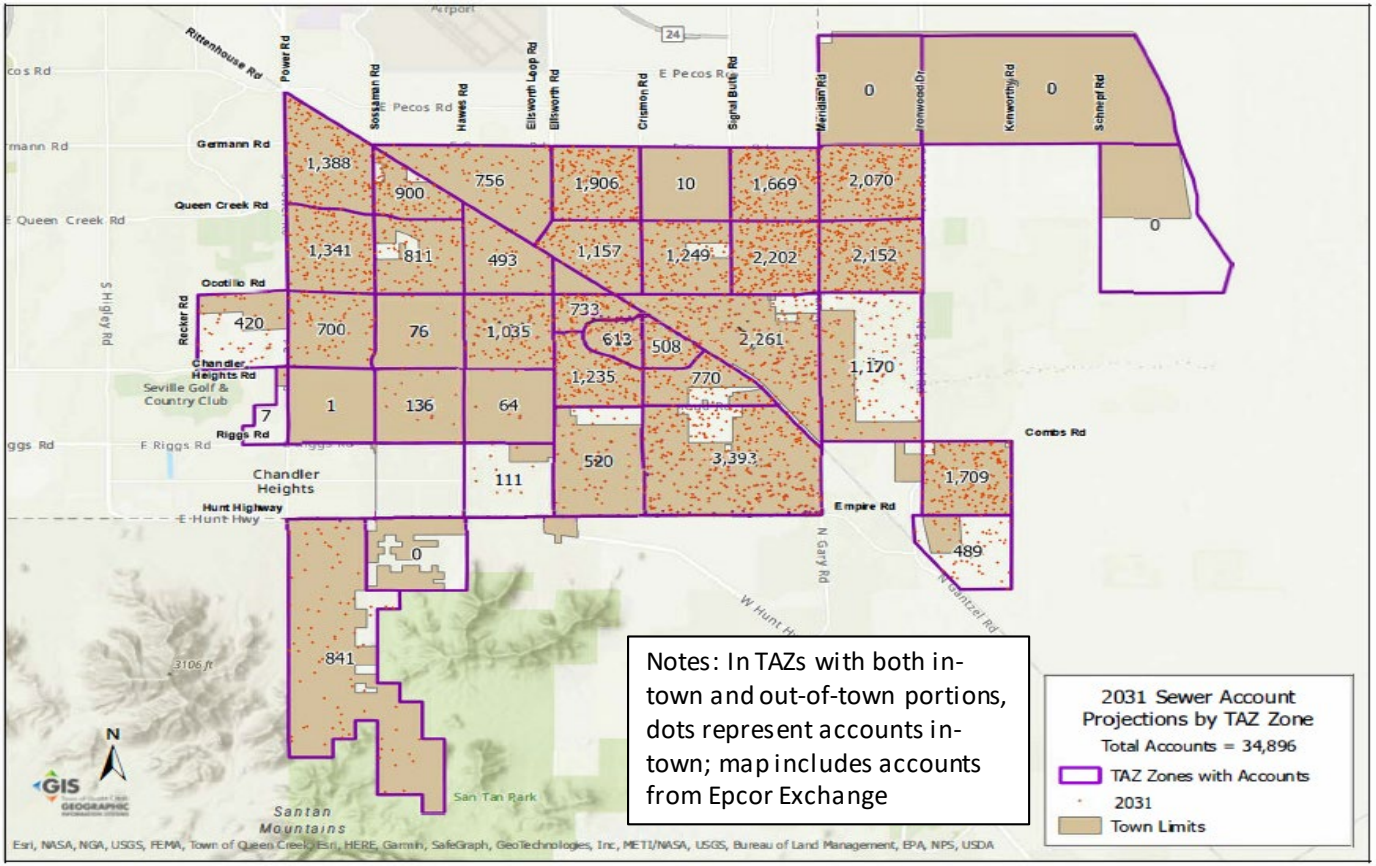




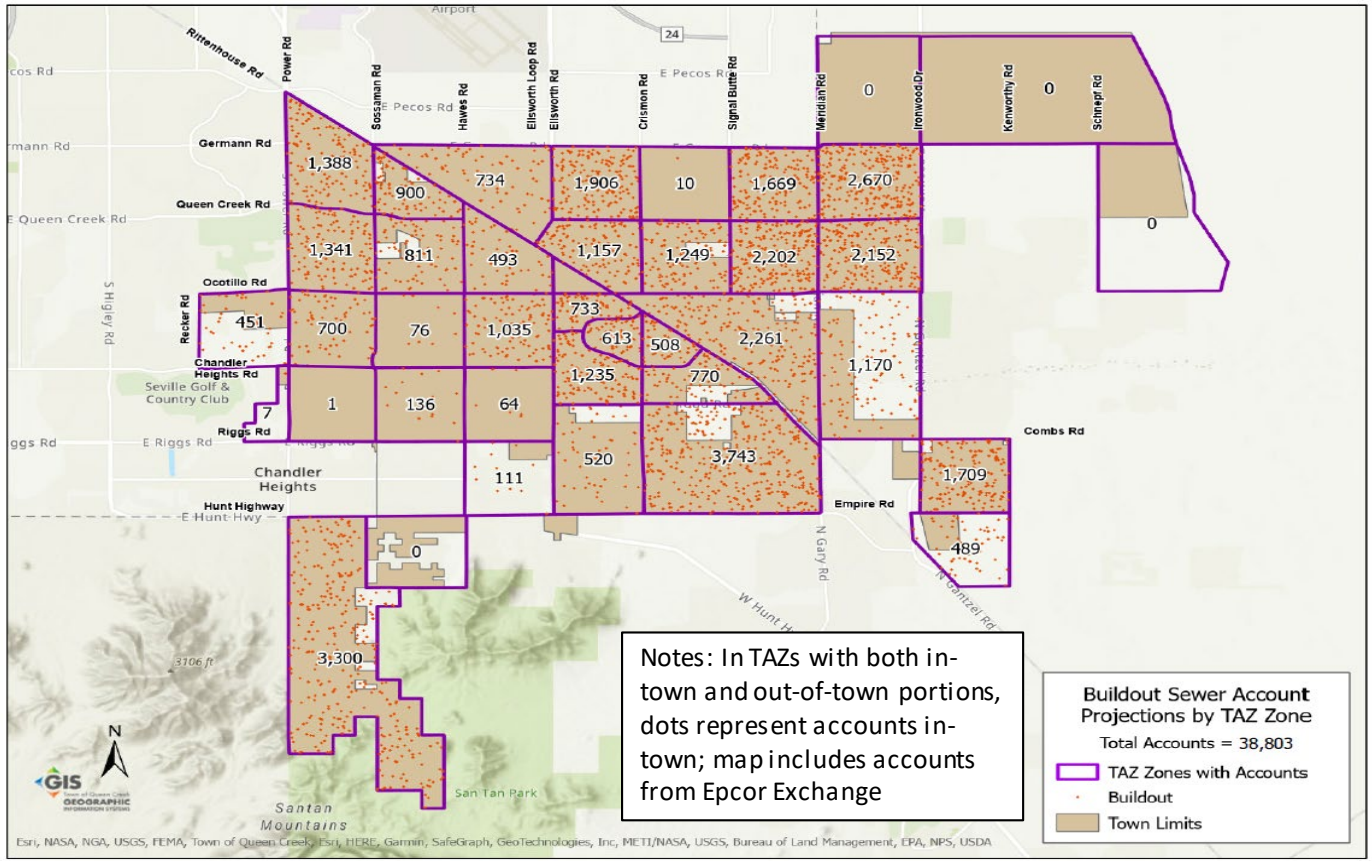
2031: ~ 35K Accounts

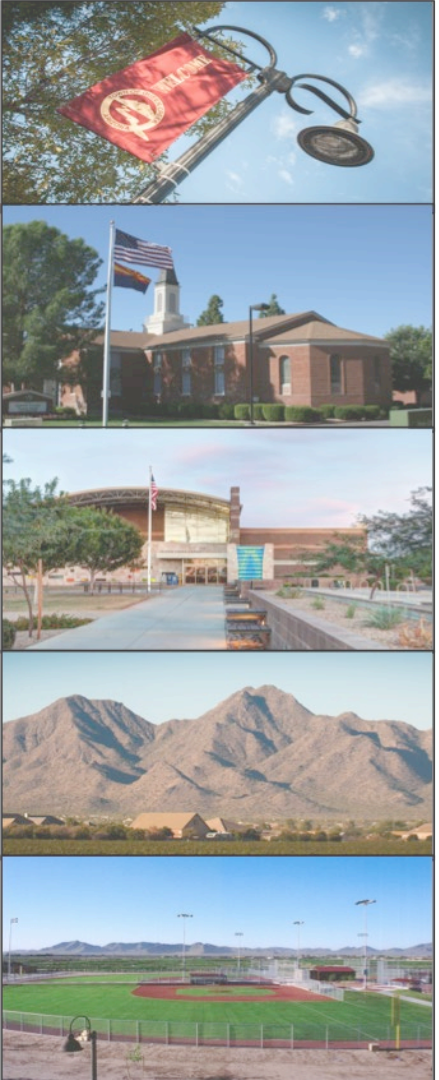


Notes: In TAZs with both in-town and out-of-town portions, dots represent accounts in-town; map includes accounts from Epcor Exchange

2031 Sewer Account Projections by TAZ Zone
Total Accounts = 34,896
TAZ Zones with Accounts
2031
Town Limits

Buildout: ~ 39K Accounts





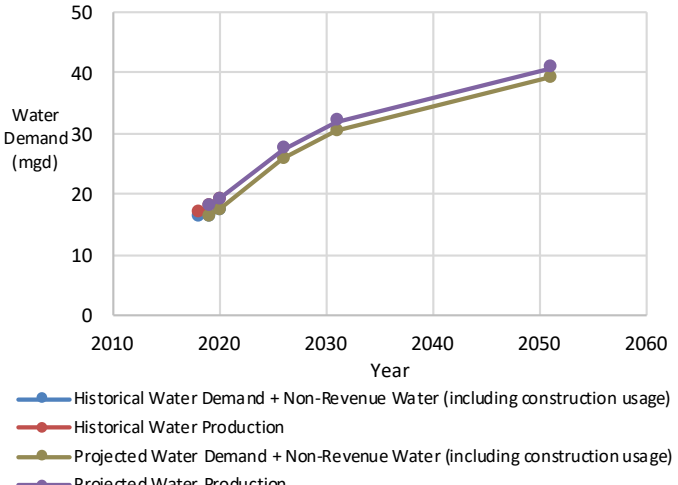
System Demand & Production

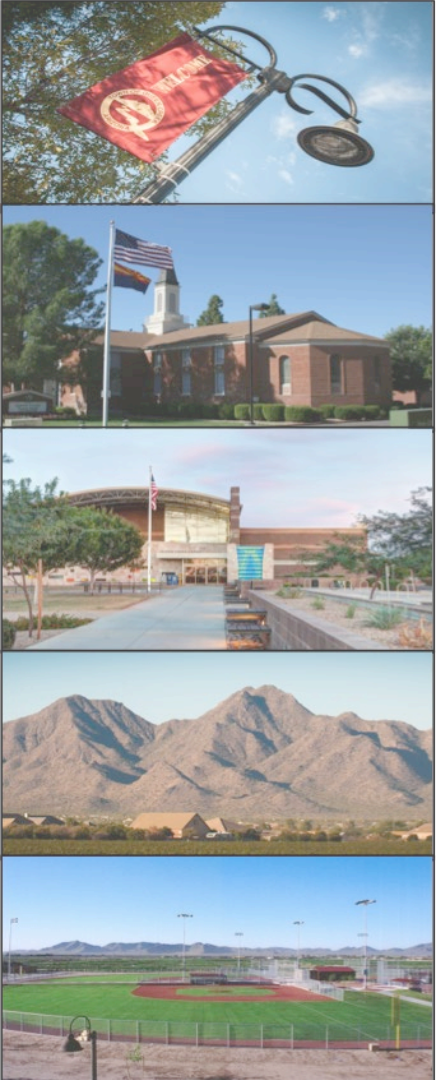
Year	Inside Town Corporate Limits Water Demand (mgd)	Outside Town Corporate and Inside Town Water Service Area Water Demand (mgd)	Construction Usage (mgd)	Total (mgd)
2020	10.6	5.4	0.3	16.2
2026	16.7	8.9	0.3	25.8
2031	19.5	10.6	0.3	30.3
2051	24.6	14.5	0.0	39.2

Current Service Area Demand = 19.4 MGD

Build-Out Service Area Demand = 39.2 MGD

- Production Meets Demand





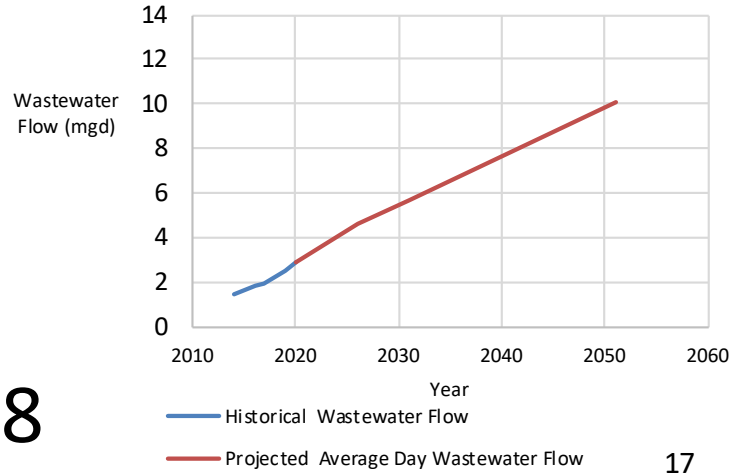
Wastewater Flow Projections

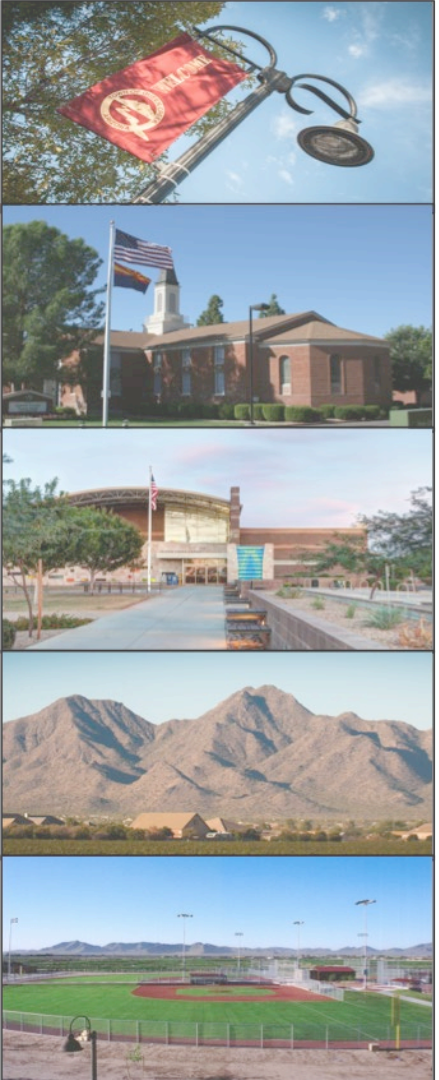
	2020	2026	2031	2051
Inside Town Corporate Limits	2.9	4.4	5.3	8.0
Outside Town Corporate Limits and Inside Town Wastewater Service Area	0.0	0.2	0.4	2.1
Total	2.9	4.6	5.7	10.1

Current Flow
3.4 MGD

Build-Out Flow
10.1 MGD

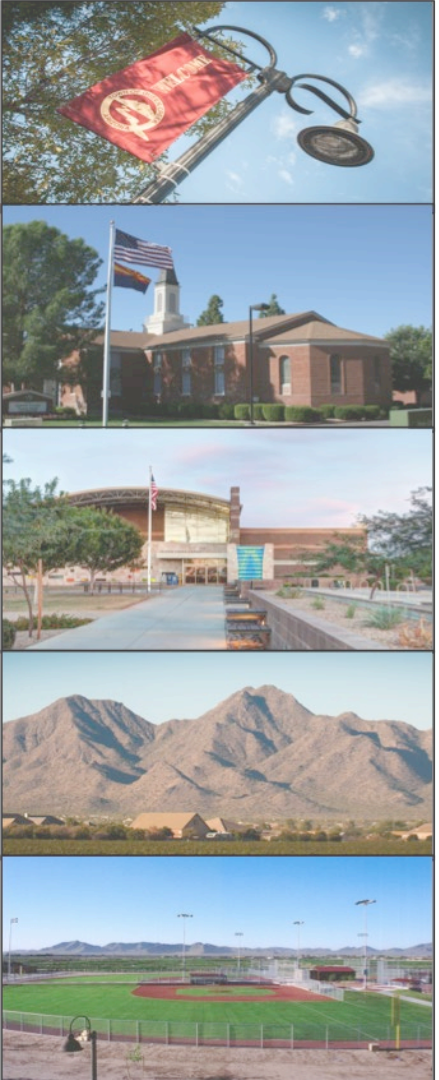
- GWRP expansion needed – FY27/28





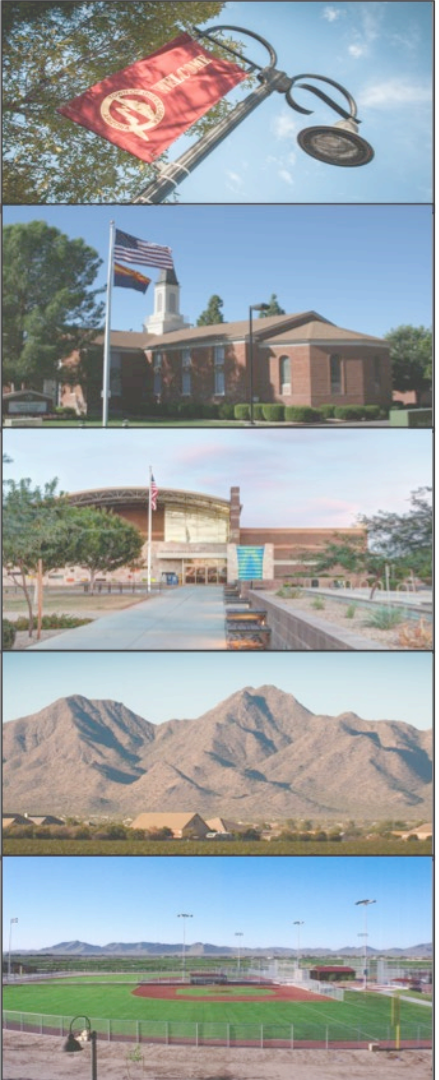
Historic Master Plan Components

- Water System
  - Wells / Tanks
  - Water Lines
- Wastewater System
  - Collection System (Lines / Manholes)
  - Greenfield WW Treatment Plant



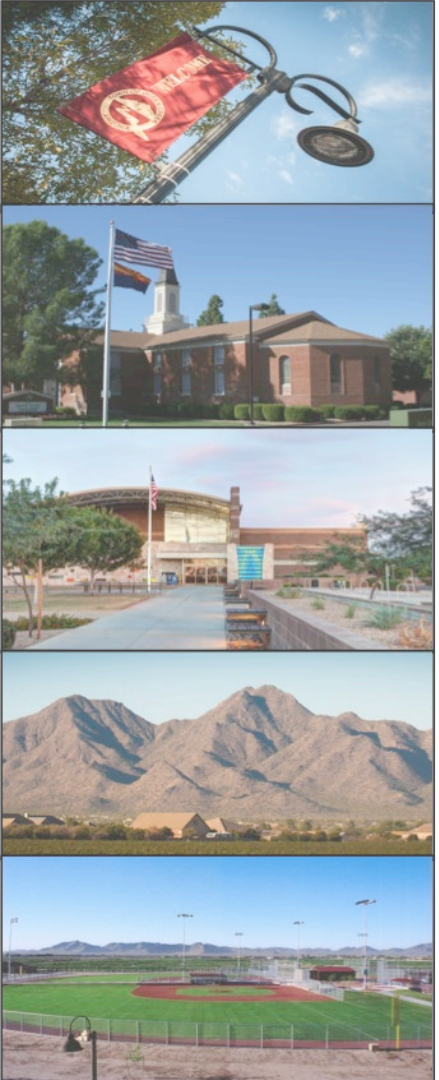
Current Master Plan Components

- Water System
  - Wells / Tanks / Water Lines
  - **Moving Water N/S/E/W Projects**
  - **Water Treatment Plant**
  - **Water Resources**



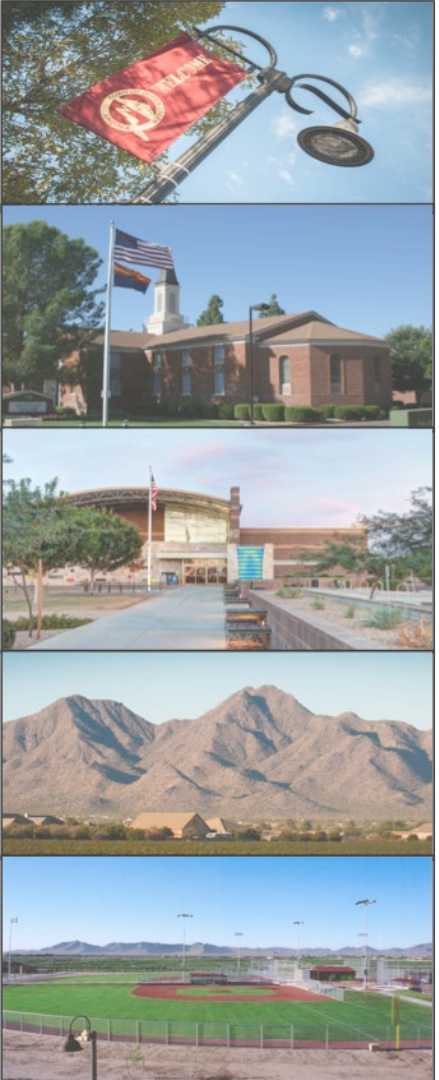
Current Master Plan Components

- Wastewater System
  - Collection System (Lines / Manholes)
  - Greenfield WW Treatment Plant
  - **Recharge Facilities (Basins)**
  - **Expansion of Existing Treatment Plant**



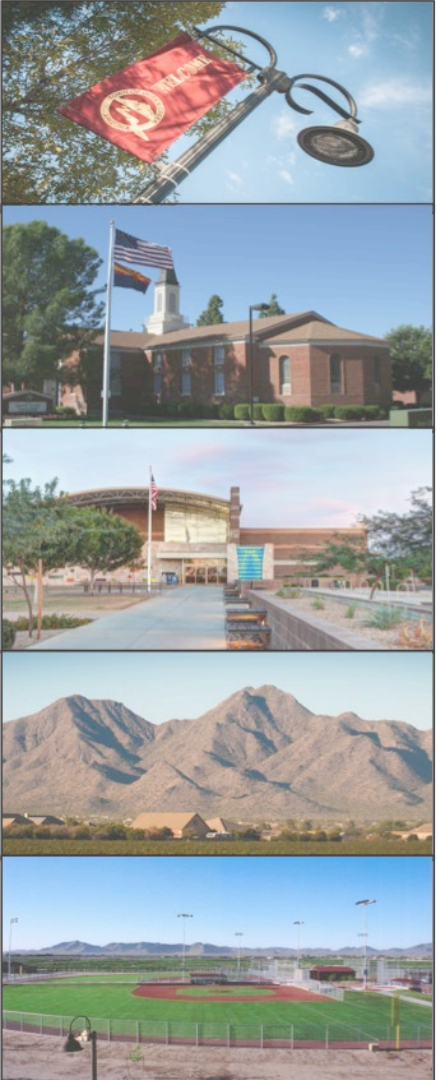
Current Water & Wastewater Environment

- Current State
  - Reliant on Groundwater
  - Ongoing Obligations to CAGRD
  - 2022 / 2051 - $13.5M / $22.5M
  - Cumulative Customer Liability $592.0M
  - Cumulative Developer Liability $58.0M



Future Water & Wastewater Environment

- Future State
  - Diversified Water Supply Portfolio
    - Drought Resilient
    - Cost Stability
  - De-enroll from CAGRD
  - End CAGRD Liabilities
  - One, More Cost Efficient Water Bill

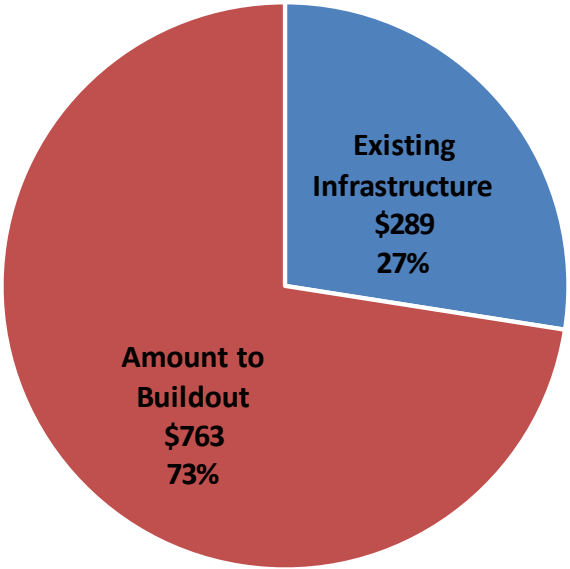


Issues That Could Affect CIP

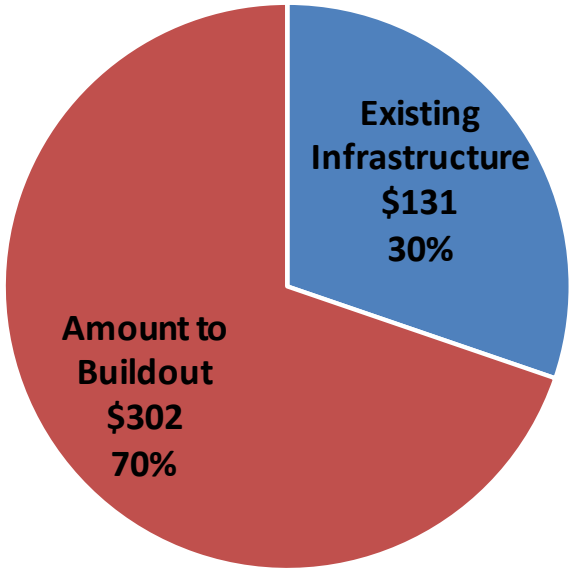
- 2025 Designated Assured Water Provider
  - Acquisition of 13K AF Needs to Be Under Contract ($168M)
- Timing of Future Development
  - Economy
  - State Lands (Currently Excluded from 10-Year Amount)
  - Box Canyon (Currently Excluded from 10-Year Amount)
- Third Party Funding
  - Pinal County Funding Partnership
  - Federal Funding

Infrastructure Context

Water: $1.1B at Buildout



Wastewater: $433M at Buildout



CIP Costs - Summary

	Years 1 -10	Thereafter	To Buildout
Water	$429M	$334M	$763M
Wastewater	$159M	$143M	$302M
Total	**$588M**	**$477M**	**$1.1B**

CIP Costs - Water

	Years 1 -10	Thereafter	To Buildout
Water Supply Acquisition	$168M	$268M	$436M
Surface Water Treatment Plant	$120M	$0M	$120M
Pipelines	$70M	$26M	$96M
Wells, Tanks and Booster Stations	$59M	$34M	$93M
All Other	$12M	$6M	$18M
Total	**$429M**	**$334M**	**$763M**

COST DRIVERS

- Water Supply Acquisition
- 10 MGD Surface Water Treatment (New)

CIP Costs - Wastewater

	Years 1 -10	Thereafter	To Buildout
Reclaimed Water	$70M	$0M	$70M
GWRP	$60M	$0M	$60M
Collections Mains	$22M	$21M	$43M
All Other	$7M	$0M	$7M
GWRP/Satellite Future Expansion	$0M	$122M	$122M
Total	**$159M**	**$143M**	**$302M**

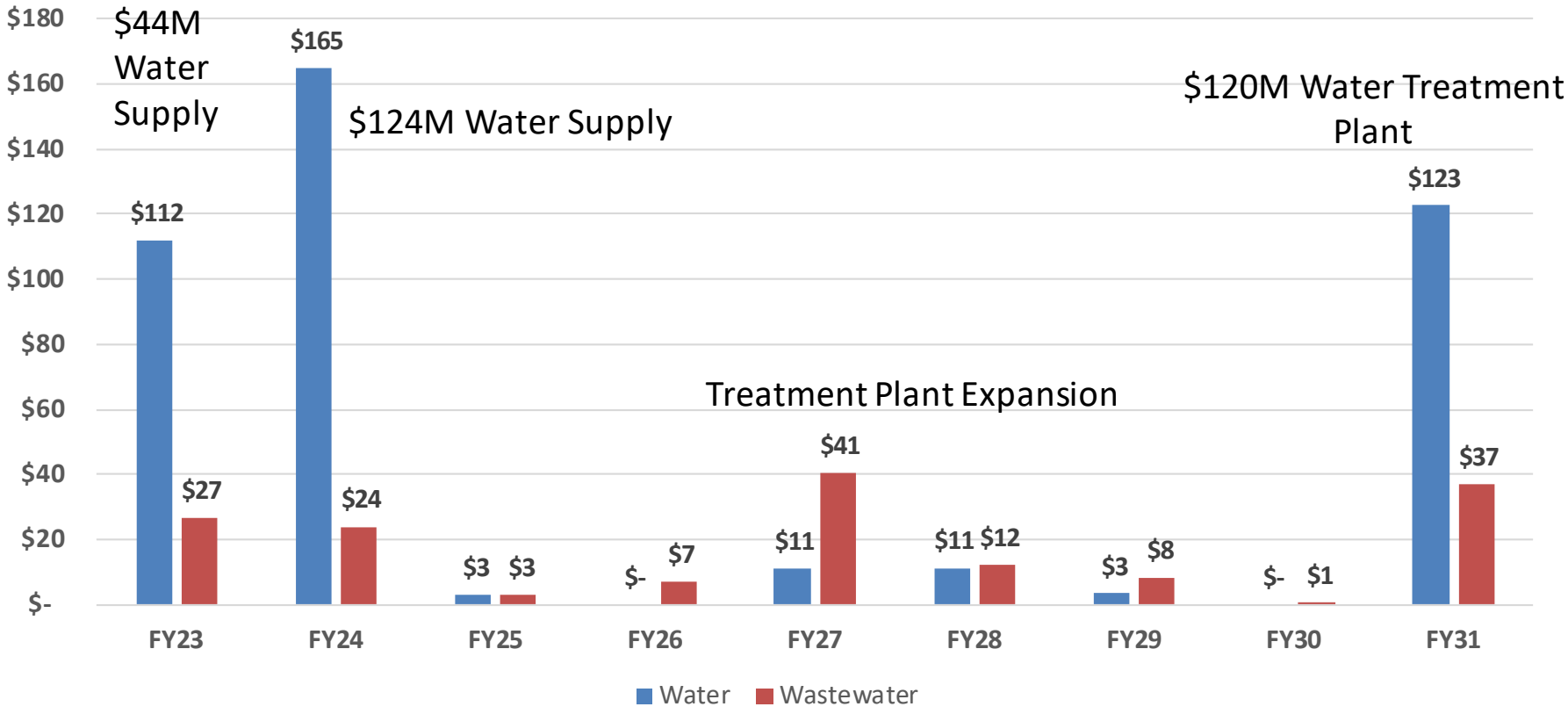
COST DRIVERS

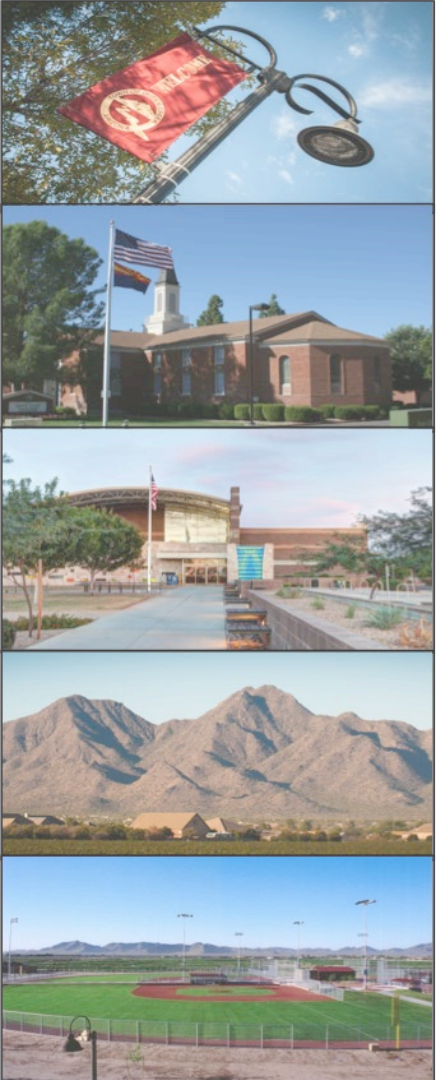
- Wastewater Treatment
- Water Recharge

10-Year CIP Cost Comparison

	Growth	Non-Growth	10-Year Total	Existing 10-Year Amount	Increase
Water	$387M	$42M	$429M	$106M	$323M
Wastewater	$96M	$63M	$159M	$68M	$91M
Total	$483M	$105M	$588M	$174M	$414M (+238%)
Percentage	~80%	~20%			
Third Party Funding			$52M		

10-Year CIP Costs





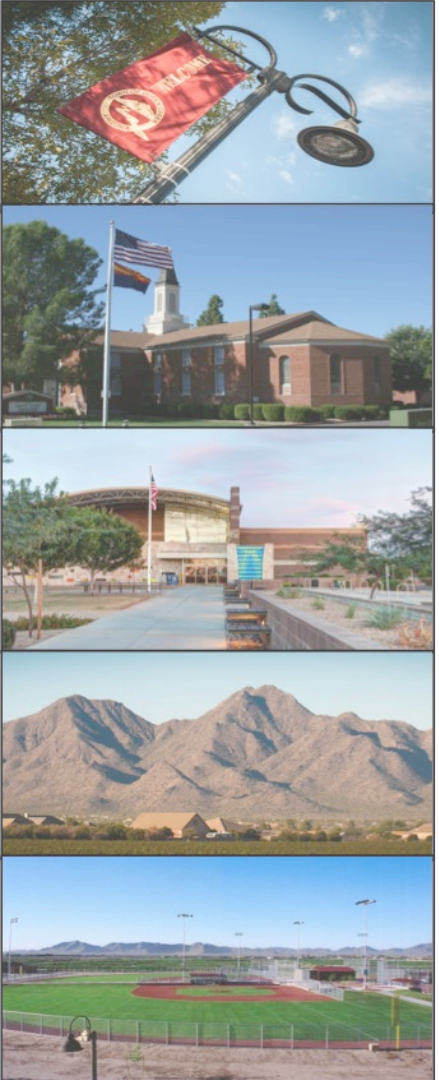
Timeline

2023 and 2024

- Capacity Fee Study
- Monthly Rate Study
- Acquire Water Supply
- Water Conservation Program
- Evaluation of the 2% Portion of Construction Sales Tax as a Potential Funding Source

2025

- Designated Water Provider
- Initial Utility Bond Rating
- Capacity Fees Implemented
- Monthly Rates Implemented



Proposed Motion

Move to approve the adoption of the 2022 Comprehensive Utility Master Plan (CUMP)