

# WATER RESOURCES ELEMENT

A key area of concern for the Town is the ability to provide high quality water to meet the needs of our current and future residents and businesses within the Town’s Planning Area and the Town’s Utility Services Area. The purpose of this element is to outline the goals, strategies, and action items to conserve the Town’s water resources while meeting the needs of current and future customers.

A core component of water management is the ability to provide an Assured Water Supply for all new development. An Assured Water Supply is defined by State law as the ability of the water provider to provide a water supply for at least 100 years to all new water customers. At build-out for the Town’s current General Plan Planning Area (2050 projections) and Utility Service Area, there will be nearly 69,000 water connections, an estimated population of nearly 213,000 people, and a water demand of nearly 40,000 acre feet of water per year. The Town is able to meet the anticipated build-out water demands using groundwater, surface water, and reclaimed water resources.

## Planning Considerations

### Groundwater Pumping

The Town relies primarily on groundwater pumping as a water source. Central Arizona Groundwater Replenishment District (CAGR) is a groundwater replenishment authority operated by the Central Arizona Water Conservation District (CAWCD) throughout its service area, Phoenix, Tucson, and Pinal County. As a member of the CAGR, subdivisions must obtain a Certificate of Assured Water Supply (CAWS) and pay the CAGR to replenish any groundwater pumped that exceeds the pumping limitations imposed by the CAWS rules. When CAGR was first formed, the cost per acre foot of groundwater was \$250 or about \$125 per home. In 2016, the cost was \$652 per acre-foot and \$326 per home, and in 2020, the cost will be \$700 per acre foot or \$350 per home. The Town is evaluating strategies to use other water supplies such as CAP water and reclaimed water to help supplement pumping of groundwater to reduce costs of CAGR obligations for homeowners and homeowners’ associations.

### Surface Water Use

The Colorado River Basin is the source for the Central Arizona Project (CAP) water system. The Town currently receives an allotment of CAP surface water and plans to obtain additional allotments as quantities become available. The Town is analyzing innovative ways to better utilize CAP water allotments by recharging it into the ground water system via the Town’s washes or by entering into agreements with neighboring irrigation districts to use CAP water in exchange for receiving groundwater pumping credits. Both recharged water and pumping credits allow the Town to pump groundwater without incurring CAGR obligations.

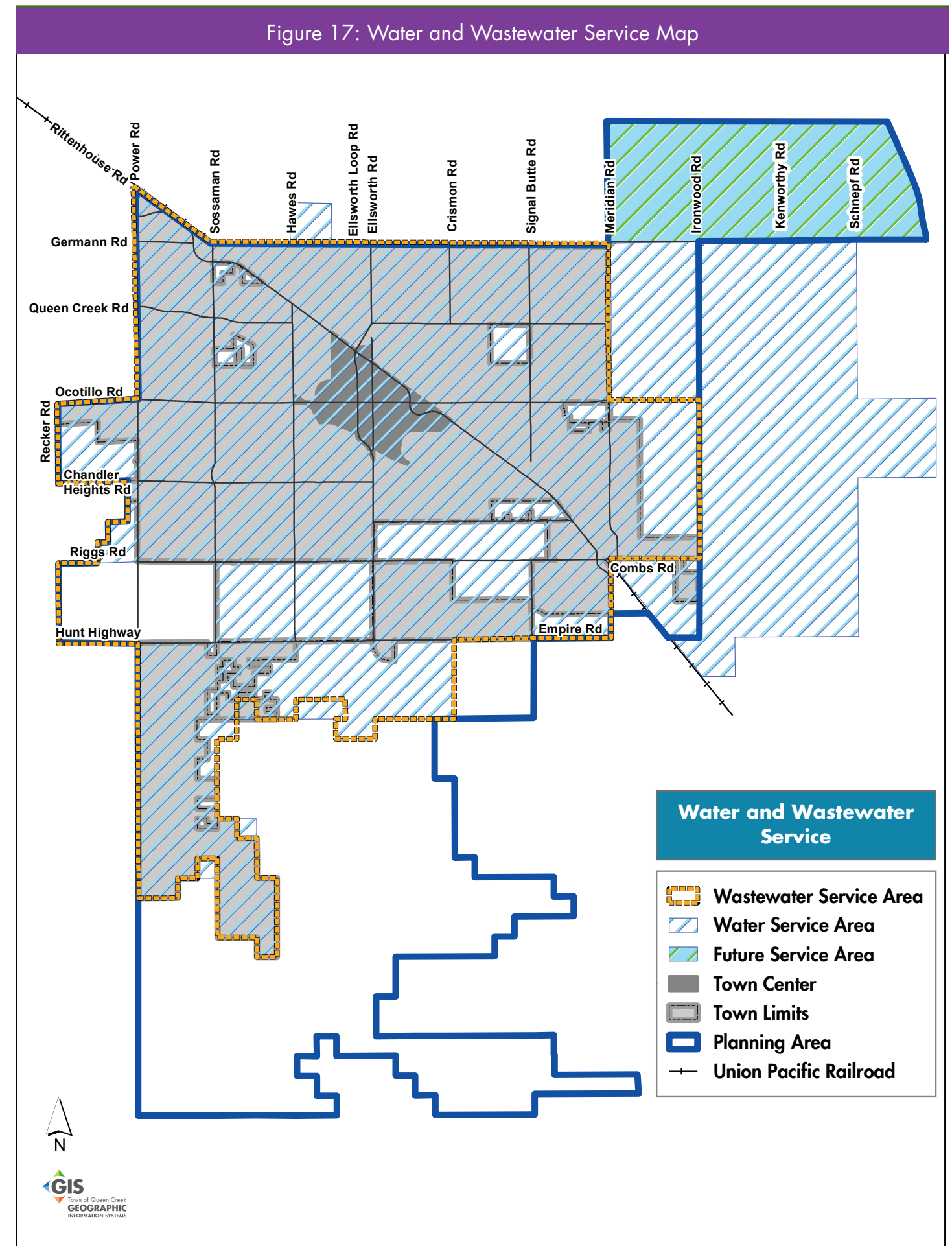
### Reuse of Wastewater Resources

Currently, the Town collects on average two million gallons per day (GPD) of wastewater, which it conveys to the Greenfield Wastewater Reclamation Plant (GWRP) for treatment. At build-out, the Town will have the ability to treat up to 12 million gallons of wastewater per day at the GWRP. Treated effluent, otherwise known as reclaimed water, is a resource that provides the Town with an opportunity to reduce the amount and cost of pumping groundwater. Like CAP surface water, reclaimed water can be recharged into the ground or exchanged to entities such as irrigation districts that are allowed to use the resource. Reclaimed water recharged into the ground utilizes the land and soil as filters and allows the water to be pumped out for landscaping and irrigation needs for developments. As with surface water, this strategy would significantly reduce the pumping of potable groundwater for irrigation needs, reduce the amount of potable water storage facilities at build-out, and reduce the CAGR groundwater pumping costs for homeowners and homeowners’ associations.

### Infrastructure

While the Town is able to meet projected water needs at build-out, water infrastructure must keep up with future demands. The Town’s 2015 Water Master Plan identifies a framework for water infrastructure improvements that, upon construction, will satisfy the Town of Queen Creek’s water needs through build-out of the service area.

Figure 17: Water and Wastewater Service Map



## Goals, Strategies, & Actions

### GOAL 1: EFFECTIVELY AND EFFICIENTLY MANAGE WATER RESOURCES.

#### Strategy 1.A: Proactively manage the Town's potable water resources.

**Action 1.A.1:** Analyze and implement programs to reduce reliance on groundwater by recapturing and reusing other water resources including CAP water and effluent.

**Action 1.A.2:** Promote the use of water conservation techniques in the design and construction of all new public and private development projects.

**Action 1.A.3:** Develop programs that promote responsible water use applications while maintaining an attractive landscaped environment on new public and private projects.

**Action 1.A.4:** Promote a policy of groundwater recharge and rainwater harvesting where feasible and possible.

#### Strategy 1.B: Promote effective use of reclaimed water within the Town.

**Action 1.B.1:** Develop programs to implement the effective reuse of the Town's share of the reclaimed water generated by the Greenfield Water Reclamation Plant.

**Action 1.B.2:** Investigate the option of using reclaimed water as well as ground water recharge facilities as an amenity within the Queen Creek Wash to create resident accessible water-oriented recreational opportunities identified in the Parks and Recreation Master Plan.

**Action 1.B.3:** Develop options to use reclaimed water in lieu of potable water in public and private development open space and landscape areas within the Town.

**Action 1.B.4:** Encourage development and landowners to construct lakes as a public amenity and as the main source of irrigation for landscaping inside the development using Town reclaimed water from the GWRP or effluent credits recovered through Town-owned wells.

#### Strategy 1.C: Protect the quality of the Town's groundwater assets.

**Action 1.C.1:** Develop programs that effectively reduce contamination of stormwater and runoff of contaminated stormwater to downstream areas.

**Action 1.C.2:** Promote use of stormwater retention/detention basins to retain stormwater on-site, reduce sedimentation of public and private stormwater collection facilities and stormwater runoff.

**Action 1.C.3:** Develop programs that identify and reduce sources of groundwater contamination.

#### Strategy 1.D: Promote responsible use of the Town's wastewater system

**Action 1.D.1:** Educate residents and business owners on the effects and costs of treating materials that are illegal or unsuitable for the Town's wastewater system.

**Action 1.D.2:** Develop programs that effectively reduce the discharge of illegal materials into the Town's wastewater system.

**Action 1.D.3:** Implement innovative strategies to reclaim and reuse effluent water resources.

#### Strategy 1.E: Proactively plan for water infrastructure needs.

**Action 1.E.1:** Coordinate and construct the recommended infrastructure improvements as outlined in the 2015 Water Master Plan.

### GOAL 2: PROTECT AND CONSERVE WATER RESOURCES.

#### Strategy 2.A: Continue to implement programs that encourage and facilitate water conservation.

**Action 2.A.1:** Continue to provide education programs to the public regarding water conservation strategies including special events, new resident welcome packets, and public workshops.

**Action 2.A.2:** Continue to send high-use notification letters to users with high water usage to notify them of their actions and provide solutions to reduce their water consumption.

**Action 2.A.3:** Continue the water meter repair and maintenance program to ensure water meter equipment function properly.

**Action 2.A.4:** Continue to analyze the Town's changing characteristics to determine the best and most appropriate water conservation practices to implement.

**Action 2.A.5:** Evaluate water conservation best management practices and programs on an annual basis to determine effectiveness.

#### Strategy 2.B: Evaluate and implement innovative water management solutions.

**Action 2.B.1:** Develop a reclaimed water recharge program utilizing the Queen Creek and Sonoqui wash system.

**Action 2.B.2:** Implement "smart water meter technology" to capture water use in real time.

