

# Smart Water Planning

## BACKGROUND & PURPOSE

Sandy has grown to become recognized as one of the best cities in the nation. Sandy residents and businesses have known this for a long time.

As we consider our future, Sandy must make water policy decisions and investments that will help to ensure our successful future growth and high quality of life.

Our safe, high quality, affordable and reliable water supply has been a large part of Sandy's growth and beautification. Yet, high quality water has not always been available. For instance, Sandy had a moratorium on growth in the 1970s because we had run out of water. Becoming an attractive and thriving city required smart planning with significant early investment in our water resources, and adoption of water conservation measures. This has paid off over recent decades and has made Sandy a highly desirable place to live, work and play.

One of the largest challenges of the next century will be the preservation and smart management of our water supplies. Warmer, drier summers and winters are starting to make our climate resemble that of the desert southwest, which is not ideal for many of the landscapes, plants and turf we have traditionally used in Sandy. Expected growth along the Wasatch Front will put pressure on our existing water supplies, even as those supplies diminish with a changing climate.



*Sandy's goal is to make Smart Water Policy decisions and investments now that will help us protect Sandy's high quality of life and preserve a safe, sustainable and affordable water supply for generations to come.*

## QUICK SUMMARY

We have some important initiatives whose successful completion require ongoing investment to assure a future sustainable water supply for Sandy. The following pages provide a summary of these initiatives, including:

1. Increased water conservation
2. Aquifer storage and recovery
3. Purchase of additional water supply

Sandy Public Utilities believe the City must invest in a minimum of two and possibly all three of these programs to meet future water needs and assure a resilient, vibrant, healthy and beautiful future for Sandy. Each of these comes with inherent costs, benefits and drawbacks; none of them provide a singular solution to solving Sandy's future water concerns. The goal of this fact brief is to initiate an introduction and consideration of each of these programs in greater depth, so we can all work together to make decisions and investments that will best serve Sandy's future needs.

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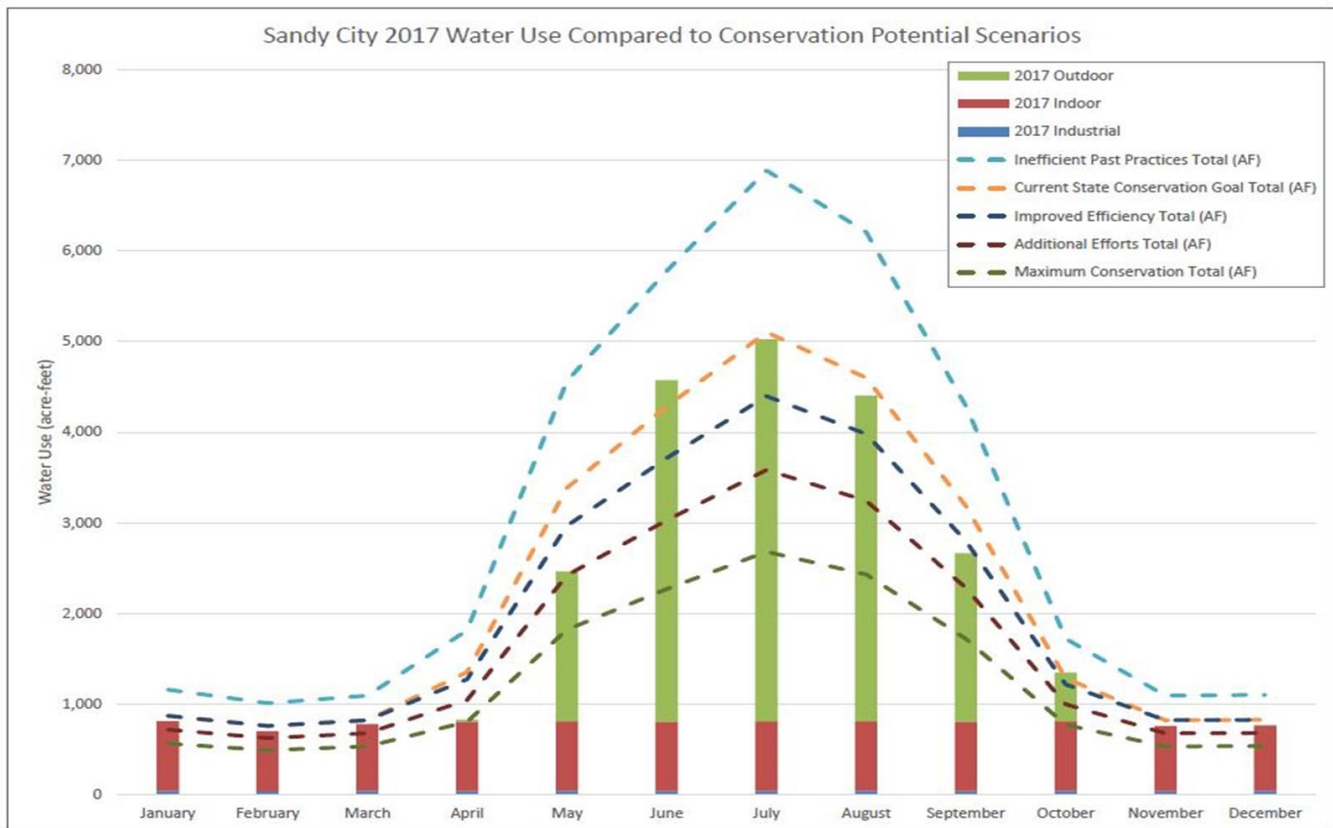
## *An Enhanced Commitment to Water Conservation*

Water conservation is the most cost efficient way to stretch our water supplies. Sandy residents, businesses, parks and institutions have already saved over 23% from previous high levels of use in 2000.

Achieving additional conservation will require focused investment and public/stakeholder coordination, with the specific goal of reducing our water use an additional 10-15% down to 200 gallons per capita per day by year 2040. This investment will save money in the long run, and it will make Sandy more beautiful and resilient. We want our landscapes not just to survive, but to thrive under changing climate conditions. Water conservation action now will help us keep Sandy a beautiful place to live, work and play, even as our climate grows hotter and drier, and as the cost of water continues to rise.

Sandy Public Utilities is considering a program to provide grants, loans and other incentives that save water AND save money. Future water supplies are expected to cost the city 10 to 100 times more. The smart investment we are proposing includes funding and changes in:

- *Landscape code requirements for new development.*
- *Rebate and incentive programs for water saving retrofits for homes, businesses, schools, streetscapes, parks and open space.*
- *Awards programs to recognize, celebrate and incentivize beautiful, sustainable water saving investments in our community.*



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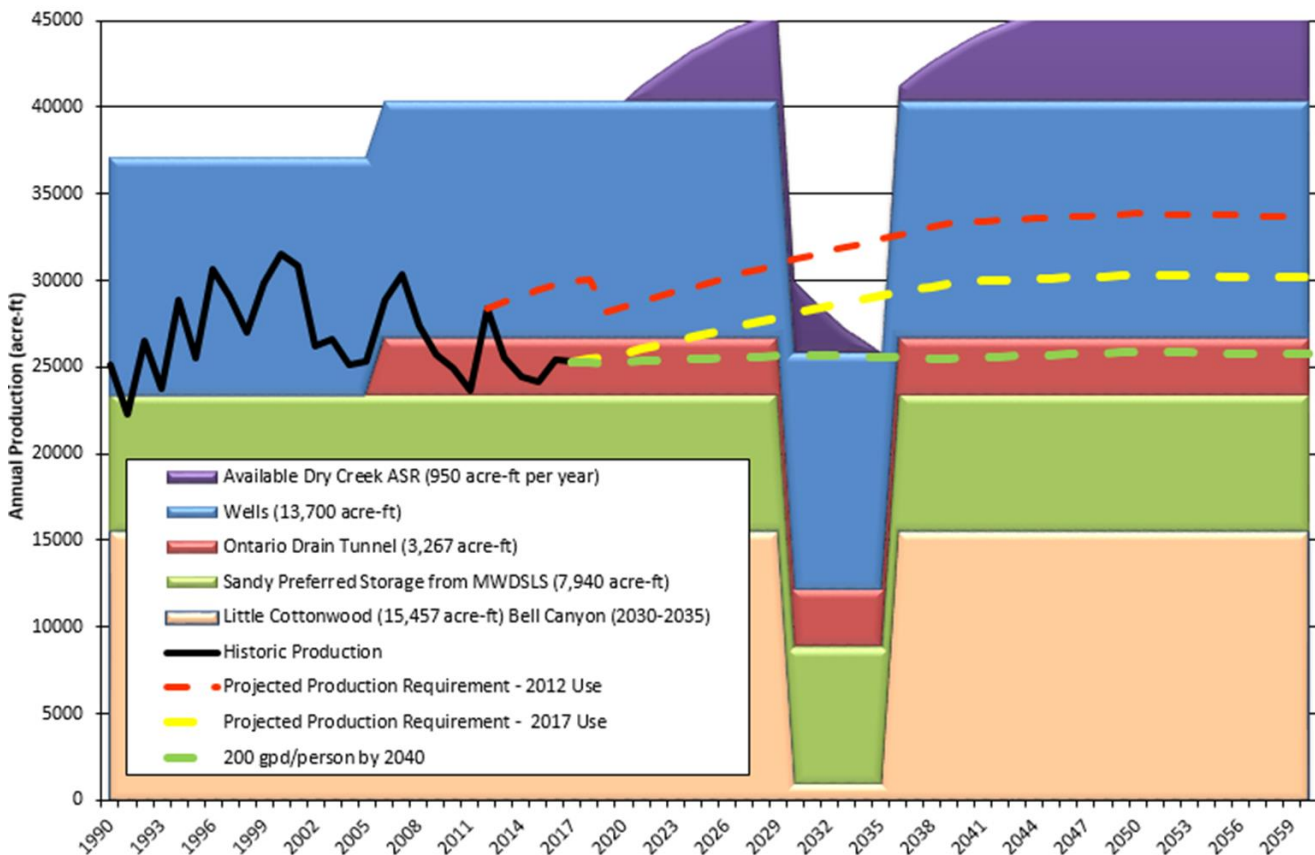
## Aquifer Storage and Recovery (ASR)

Investment in aquifer storage is one of the next most affordable ways to stretch our water supplies. This will allow us to store water in high snowpack/runoff years for use in extended drought or emergency. Additionally, this plan will provide “added value” for our parks and open space environment by adding water to Dimple Dell Park and Quail Hollow Park.

In years of high water supply, Sandy replenishes water storage in reservoirs and aquifers. When our reserves are full, additional surplus water is shared through conjunctive management and surplus water sales agreements with other water agencies. In turn, other agencies can make their surplus water available when they have water in Sandy’s time of need.

The graph below shows our water portfolio in a dry year. The lines on the chart show Sandy’s projected water demand with growth under three conservation scenarios: our per capita water use in 2012 (red line), our per capita use in 2017 (yellow), and our goal of 200 gallons per capita per day (green). If we conserve additional water (green line) and develop aquifer storage reserves (purple), it is likely that we can meet Sandy’s water needs even if one source is lost for 5 years, such a fire/landslide in Little Cottonwood Creek.

**Sandy Water Resources vs. Demand - Without Little Cottonwood Creek 2030-2035**

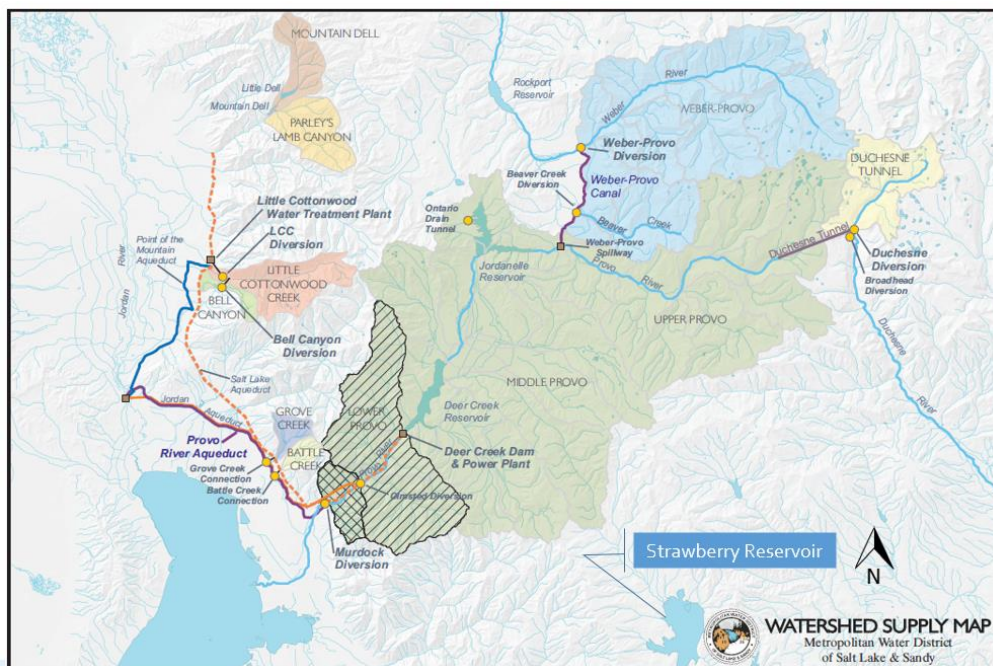


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## Additional Water Supply Purchases

Sandy planned for, and reserved, future water supplies years ago. The latest of those supplies will become available in the next 10 years. Due to the success of Sandy's water conservation to date, as well as our overall reduction in water use, Sandy may have an opportunity to revisit the decision about how we will manage, defer, or opt out of those water purchases.

Sandy's 2010 Water Master Plan identified the need for an added 2,500 acre feet of water supply, about 8% supply increase. This water was secured on Sandy's behalf by the Metropolitan Water District of Salt Lake & Sandy (Metro) via a petition to Central Utah Water Conservancy District (CUWCD) for part of their Strawberry Reservoir / Utah Lake System (ULS) water. This is a reliable supply from a watershed Sandy currently does not have access to in Strawberry Reservoir.



A strong case can be made to continue with Sandy's planned water supply purchase. Many cities are struggling to cope with disappearing water supplies and hotter/drier climates. If the City does not move forward with the purchase of additional water supplies, there is a risk that Sandy will not be prepared to weather a sustained long term drought, or a "new normal" in which historically reliable water sources produce less water. A strong case can also be made that Sandy's additional investment in water conservation and aquifer storage may allow the City to further delay or even seek to opt out of its Strawberry Reservoir/ULS contract water.

Due to the exceptional water conservation over the past 20 years, Sandy has been able to grow without increasing demand. Therefore Sandy is in a position to work with Metro and Salt Lake City to consider deferment of 5 to 10 years for water payment and delivery under our agreement. Payment and delivery of that water was to begin this next year. Public Utilities is intending to ask Metro for a 5 to 10 year deferment. During that timeframe we will begin to see the level of effectiveness in our enhanced conservation and aquifer storage and recovery efforts. In addition, we will be reviewing conjunctive water management scenarios with Salt Lake City, Metro and others to see how best to provide the most reliable, safe and affordable water for the vibrant and sustainable growth of our communities. Sandy's long range plan includes initiation of the \$1.2M payment and delivery of the Strawberry/ULS water in 5 years. This investment will require an increase of about \$2.70 per month on the average residential water bill.

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## SANDY WATER FACTS

- ❖ Sandy's water rates (and most of Utah's) are among the lowest in the nation, yet we use much more water per person due to our desert climate. Most of that water is used to irrigate landscapes.
- ❖ Sandy grew rapidly in the 1970s to the point where there was not enough water for growth. For a time, there was a moratorium on development (unless the developer provided its own water).
- ❖ Sandy has strategically expanded its water supply over the past 30 years, including joining Metro in 1990.
- ❖ Metro was formed in after the 1930s dust bowl era when the Cottonwood Creeks nearly dried and Utah Lake was completely dry.
- ❖ Little Cottonwood Creek flows in 2018 are near record low flows set in the 1930s.
- ❖ Sandy has invested over \$150 Million into the acquisition, management and protection of a diverse and robust water portfolio to ensure our future sustainability and growth.
- ❖ Water conservation in Sandy has resulted in 23% water use reduction since 2000 from 287 to 231 (GPCD).
- ❖ Through planning and strategic investment, Sandy has enough water during a multi-year drought, but not if a major source is lost.
- ❖ Sandy has lost 5 wells to contamination from careless business chemical and salt storage.
- ❖ Preventing contamination of source waters is a high priority. It is the least expensive and most effective way to maintain the reliability, quality and affordability of our water.

## SANDY'S WATER GOALS

- ❖ Preserve and protect our water resources to provide the highest quality, most reliable, efficient, and sustainable water for existing and future customers in Sandy's service area.
- ❖ Serve as a leader in thought and action with Utah's ongoing water dialogue, legislation, conservation, and stewardship efforts.
- ❖ Remain a committed partner to conjunctive water use and management to benefit Sandy, our neighbors, and the environment.
- ❖ Implement program to divert and store water in the groundwater aquifer during surplus wet years for use during long drought periods.

## PUBLIC INPUT & DECISION SCHEDULE

Sandy Public Utilities is in the process of refining our water operations analyses and developing recommendations for a successful, sustainable water strategy. Part of that process includes engagement and input from our general public customers and stakeholders, our Public Utilities Advisory Board, and other City Departments (such as Parks and Public Works, the Administration, Mayor, and City Council). Our proposed schedule is as follows:

Summer 2018	Consultant evaluation & analysis
Fall 2018	Initial briefings with Advisory Board, Mayor/Admin and City Council
Winter 2018/19	Public / stakeholder workshops
Winter 2019	Sandy City and Metro Water budget process review
Spring 2019	Final plan review and budget approvals