



City of Arts & Innovation

City Council Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL DATE: MAY 23, 2023
FROM: PUBLIC UTILITIES DEPARTMENT WARDS: ALL
SUBJECT: WATER SYSTEMS WORKSHOP

ISSUE:

Receive and file an update and status of the City's water systems.

RECOMMENDATION:

That the City Council receive and file an update on the status of the City's water systems.

BACKGROUND:

The City of Riverside (City) was founded in 1870 and built on land that was once a Spanish Rancho. The City's water department was established in 1913 when citizens voted to issue a \$1.16 million bond to improve the reliability of domestic water service within the City by purchasing the Artesia Water Co., H.P. Keys distribution system, and the domestic system of the Riverside Water Company. Early Riverside received its water from the free-flowing Santa Ana River and free-flowing artesian wells in the Santa Ana Watershed. Wooden flumes and canals transported water to support Riverside's growing population and citrus industry. By 1882, there were more than half a million citrus trees in California, almost half of which were located in Riverside. Riverside secured its water supplies by acquiring various water companies, such as the Riverside Water Company (est. 1887), the Gage Canal Company, the East Riverside Water Company, and holding shareholder interest in others.

In the early 1960s, the City fought to further secure its water rights through two significant court judgments that dictated water rights throughout the Santa Ana Watershed from the base of the San Bernardino Mountains to the Pacific Ocean. As done in the early 20th century, Riverside produces water from groundwater basins in San Bernardino and Riverside Counties to serve over 300,000 residents. Today, the Public Utilities Department operates 50 groundwater wells, six water treatment plants, 60 pressure facilities, and 16 distribution storage reservoirs to ensure a reliable and safe water supply.

DISCUSSION:

Over the years, the Public Utilities Department (RPU) has continuously invested in its water system through effective planning and timely water system improvements. Over the last quarter of a century, the City's water supply has been challenged by groundwater contamination, declining groundwater production, and aging infrastructure. RPU has met these challenges by negotiating favorable legal settlements, collaborating with regional agencies to manage groundwater basins, and continuously improving its water system through responsible management. These challenges are still the same today and have been exacerbated by the prolonged unprecedented drought, new persistent and ubiquitous emerging contaminants, and inflationary factors, which are outpacing the replacement rate of critical water infrastructure.

Water Supply and Water System Management

Water supply management is an essential function of the Public Utilities Department. Management of our water supply is focused on three key areas: water resource management, water use efficiency, and water reuse. Water resource management involves investing in regional projects such as stormwater capture and groundwater recharge to ensure reliable groundwater supplies now and into the future. Water department staff works collaboratively with regional agencies to monitor the groundwater basin to ensure they are used sustainably and responsibly. Riverside's participation in these efforts is vital to securing water for the City and has resulted in an additional 1,719 acre-feet of groundwater supply. An acre-foot of water can serve two households for one year.

Ensuring responsible water use is also a function of RPU and is accomplished through water use efficiency and conservation programs. These programs reduce inefficient water use in both the residential and commercial sectors. The amount of water used per person in the City has decreased by 32% since 2004. Education and rebate programs will continue to improve the water use efficiencies of RPU customers. The State, through the State Water Resources Board, is currently proposing greater targets for water conservation.

The third critical water supply management program is water reuse, which has been underutilized over the years. Water reuse provides a vital drought-proof water source that has been limited due to its high infrastructure costs. Entirely using this water supply would allow the City's water to be used twice, reduce demand on potable water supplies, and greatly help to support landscape, recreation, and the environment. A study is in progress to maximize the value and opportunities of the City's recycled and non-potable water supplies.

Maintaining the City's groundwater wells, pipelines, valves, reservoirs, pumping facilities, and treatment plants is important to ensuring a safe, reliable, affordable, and clean water supply. Groundwater wells, pipelines, valves, pumping facilities, and reservoirs are planned and scheduled for replacement or repairs based on their condition, age, and probability of failure. Meeting the City's growing needs requires sensible long-range planning to ensure adequate water services using properly maintained water infrastructure. In 2009, the City became water independent through its \$25 million dollar investment in the J.W. North Water Treatment plant and no longer relies on imported water because of our continued planning and proactive approach to maintaining our water system. Continued investment, robust planning, and responsible management will ensure our water independence as we move into the future.

Challenges and Solutions

RPU estimates that customer water demand will exceed available groundwater supplies by 2030

without investments to secure additional water supplies. In addition, regulation of new emerging contaminants at the State and federal levels will jeopardize the use of existing water supplies without new treatment systems. Investments in expanded groundwater recharge programs, recycled water expansion, and the development of advanced water treatment systems to access usable groundwater are needed to meet current and future water demands. The City has access to higher-cost imported water, but the impacts of the drought have made the availability of this source uncertain. The RPU team has been participating in and planning water supply projects and programs to meet the City's water supply needs over the next 20 years and is actively seeking funding through grants, bonds, revenue streams, and rates to secure funding. These projects include additional groundwater recharge, development and use of the City's recycled water resources, and construction of advanced water treatment systems to access groundwater supplies that are high in salinity.

The attached presentation provides a detailed history of Riverside's water supply development along with discussion of current challenges and solutions. Additional detailed information about the City's water resources can be found in the published Water Atlas. The report can be accessed at <https://riversideca.gov/utilities/about-rpu/reports-finance>.

STRATEGIC PLAN ALIGNMENT:

This item contributes to all of the Envision Riverside 2025 Strategic Plan Priorities and the following goals:

Arts, Culture & Recreation

Goal No. 1.3 – Water reuse will provide a continuous water supply to parks and therefore will enhance recreational experiences.

Community Well-Being

Goal No. 2.6 – An important function of the water system is to prepare for emergencies and ensure effective response and recovery from catastrophic events.

Economic Opportunity

Goal 3.5 – Protecting and developing water resources will provide much needed water to grow the capacity of the local food system.

Environmental Stewardship

Goal 4.2 – Sustainably manage local water resources to maximize reliability and advance water reuse to ensure safe, reliable and affordable water to our community.

High Performing Government

Goal 5.3 – Enhance communication and collaboration with community members to improve transparency, build public trust, and encourage shared decision-making.

Infrastructure, Mobility & Connectivity

Goal 6.3 – Identify and pursue new and unique funding opportunities to develop, operate, maintain, and renew infrastructure and programs that meet the community's needs.

This item aligns with each of the five Cross-Cutting Threads as follows:

1. **Community Trust** – RPU is transparent in providing historical information to the public

regarding the prior water resources decisions that have been made based on sound policy and community engagement. These water resources activities have clearly strengthened the City's water interests and have resulted in greater public good.

2. **Equity** – All water customers benefit equally from the prudent operation and management of the water system.
3. **Fiscal Responsibility** – Riverside's historical water resources development has demonstrated the City is a prudent steward of public funds and ensures responsible management of the City's financial resources while providing quality public services to all.
4. **Innovation** – Riverside's founders and the prior Water Utility and City staff navigated the complicated challenges of securing the City's water interests through inventive and timely efforts, meeting the community's changing needs and prepared for the future through collaborative partnerships and adaptive processes.
5. **Sustainability & Resiliency** – Riverside has spent the last 152 years meeting the water supply needs of the community by persevering through water resources and legal challenges to ensure the City continues prospering from a resilient water supply.

FISCAL IMPACT:

There is no fiscal impact report associated with this item.

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Attachment: Presentation