

INTEGRATED WATER MASTER PLAN UPDATE

OCTOBER 6, 2014 COUNCIL MEETING



RECOMMENDATION

Approve a purchase order for the Integrated Water Master Plan (IWMP) update with Carollo Engineering in the amount of \$601,509

BACKGROUND

An IWMP is a dynamic master plan that is based on:

- Population and Projections
- Economic Development and Growth
- Redevelopment
- Water Supply Availability and Demand Projections
- Drought Management
- Changes in Water and Wastewater Treatment Technologies
- Engineering and New Water Quality Regulations



BACKGROUND

The existing IWMP that was approved by Council in 2007 was based on information and projections that were determined in 2006 which are now 8 years old.

Since 2006, there have been several new significant key findings that have raised new questions that will need to be answered within this IWMP update.

BACKGROUND

- For the first time, the City has developed a comprehensive groundwater model as part of the City's renewal for its Designation of Assured Water Supply. This model has identified some key findings that include:
 - **Key Finding** - There is not enough physically available groundwater (wet water) within the aquifer under the City for build-out.
 - **Plan to Address** – Where will the needed physical (wet water) originate from and how will it be transported to the City and at what cost?
 - **Key Finding** – The City does not have enough legally available water (paper water) within its water portfolio for build-out.
 - **Plan to Address** – What new water supplies will be available and for how long, and how much will these new supplies cost?

BACKGROUND

- Currently the Arizona Department of Water Resources recognizes less than half of all of the City's Central Arizona Project (CAP) water supplies.
 - **Key Finding** – Because the City is currently not capable of directly treating and delivering CAP water within the contents of an assured water supply (City does not control its CAP destiny) ADWR does not recognize all of the City's CAP water.
 - **Plan to Address** – What are the most cost effective way(s) the City could take direct delivery and treat its CAP water supplies?

BACKGROUND

- Based on updated Economic Development Plans, commercial and industrial corridors are being further defined.
 - **Key Finding** – Post recession, the types and timing of various commercial and industrial developments are being re-assessed.
 - **Plan to Address** – What volumes of water resources, water and sewer infrastructure will be needed and what is the timing for these improvements

BACKGROUND

- Outdoor water consumption remains the highest consumptive use of all water within the City.
- **Key Finding** – Balancing water consumption with a limited water resource supply, prolong projected drought, and the need to increase water efficiencies and sustainability while maintaining the expected quality of life and beauty of the City will require policy discussions.
- **Plan to Address** – What new water conservation and efficiency attributes are needed to effectively balance these aspects?

BACKGROUND

- Reclaimed water is the City's only constantly increasing renewable water supply. The value of this water supply has increased dramatically in that it is comparable to Central Arizona Project water.
- **Key Findings** – Reclaimed water is more efficiently used when recharged back into the aquifer and recovered for indirect potable reuse versus direct deliveries. Also, reclaimed water that is recharged into the aquifer builds the long term storage credit bank account and makes the City more drought proof.
- **Plan to Address** – What new practices and policies are needed to ensure the maximum and most efficient use of reclaimed water supplies?

BACKGROUND

- Significant and prolonged drought is projected to loom over the arid Southwest United States for potentially many years to come.
- **Key Finding** – Central Arizona Project water which originates from the Colorado River comprises 68% of the City's water resources portfolio and will become impacted by drought.
- **Plan to Address** – How can the City ensure it can be “drought proof” and carry out a business as usual for residential, commercial, and industrial water users?

BACKGROUND

- Groundwater well production and water storage are critical components to ensure the City can meet summer peak water demands and the required fire flow.
- **Key Finding** – Based on current groundwater well production and water storage capabilities, it is unclear if the system has enough reliability should one or even possibly two of the City's largest water production wells go down, especially during peak water usage months.
- **Plan to Address** – Should additional reliability be added to the system, and if so, where should it be added, and what are the infrastructure costs?

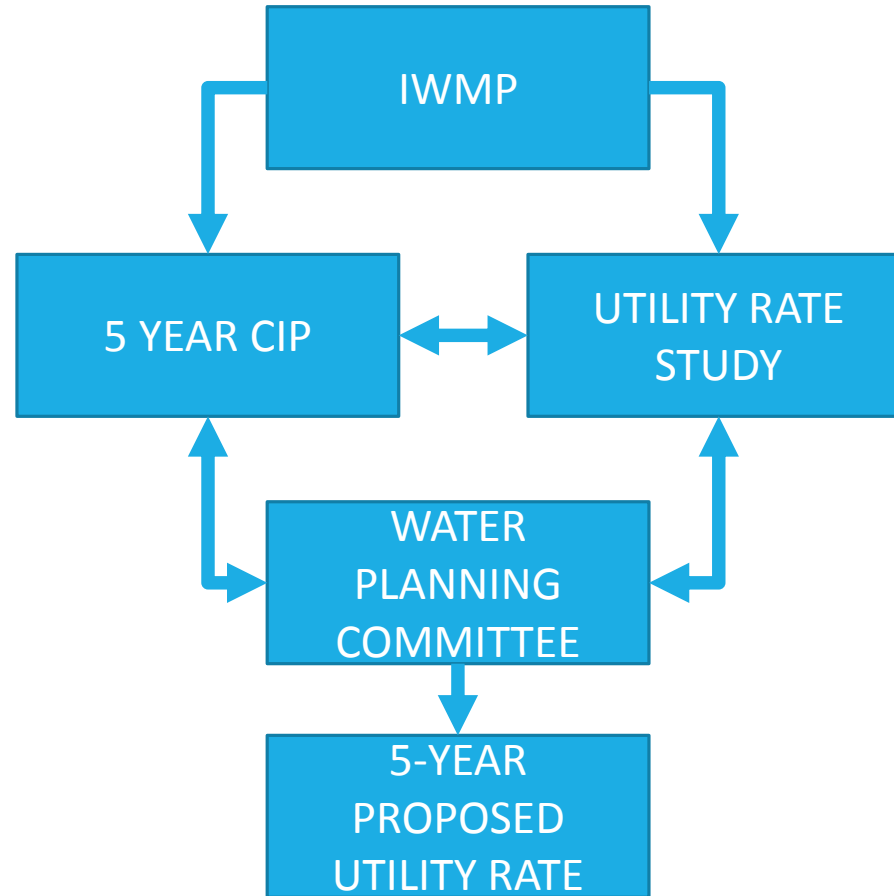
INTEGRATED WATER MASTER PLAN COMPONENTS

- A. Water Resources Master Plan
- B. Water Distribution Master Plan
- C. Wastewater System Master Plan
- D. Reclaimed Water Master Plan

The IWMP is a inter-departmental plan that coordinates between Development Services, Economic Development, Engineering, Water Resources, Environmental Services, and Finance.

The IWMP update will evaluate these components for the short-term (2020), mid-term (2025), and build-out.

INTEGRATED WATER MASTER PLAN OUTPUT



FISCAL ANALYSIS

- Council approved \$720,000 for the IWMP in the Capital Improvement Plan for FY 14-15
- The proposed contract for Carollo Engineering came in under the CIP budget at \$601,509

COMMUNITY BENEFIT

1. The IWMP updated analysis will provide solutions that will allow the City to overcome the many water related challenges and continue to provide the highest level of services to all of its customers.
2. The IWMP, linked to the CIP, Utility Rate Study, and the Water Planning Commission will have the proposed activities evaluated with accompanied rates that will support those activities and if approved will keep the Enterprise Funds self sustaining.
 - Optimizing Investments – minimizing costs
 - Maximizing the results of each investment
 - Improving the ability to analyze a range of alternatives
 - Ensuring sound financial and revenue strategies

Questions or Comments??

