





# New Cooperative Agreement

## STAFF RECOMMENDATION

- Authorize the City Manager or designee to execute any and all documents necessary to enter into a cooperative agreement between the United States Bureau of Reclamation and the City to continue the concentrate management wetlands pilot study

# Brine Wetland Projects



## EXISTING PROJECTS

- Pilot Brine Wetland Project – Completed 2013.
- Brine Wetland Feasibility Project – Estimated to be completed by Sep-Oct 2016.

# First Wetland Pilot – Cooperative Agreement



## BACKGROUND INFORMATION

- The Bullard Water Campus generates up to 500,000 gallons of brine concentrate that is discharged to the Goodyear Water Reclamation Facility taking up valuable plant capacity.
  - The City has partnered with the US Bureau of Reclamation since 2010 in exploring an alternative cost effective method of brine concentrate disposal.

# First Wetland Pilot – Cooperative Agreement



## BACKGROUND INFORMATION

- The City of Goodyear and the US Bureau of Reclamation constructed a pilot wetland at the Bullard Water Campus in 2010.
  - Determine if a brine wetland could remove certain concentrations of regulated constituents in the City's brine stream such as arsenic, fluoride, selenium, and nitrates.
  - The pilot successfully demonstrated proof of concept.
  - This project was completed in 2013.

# First Wetland Pilot – Cooperative Agreement



## BACKGROUND INFORMATION



Image showing newly constructed pilot wetlands.

FIGURE 2  
Treatment Trains Plan View

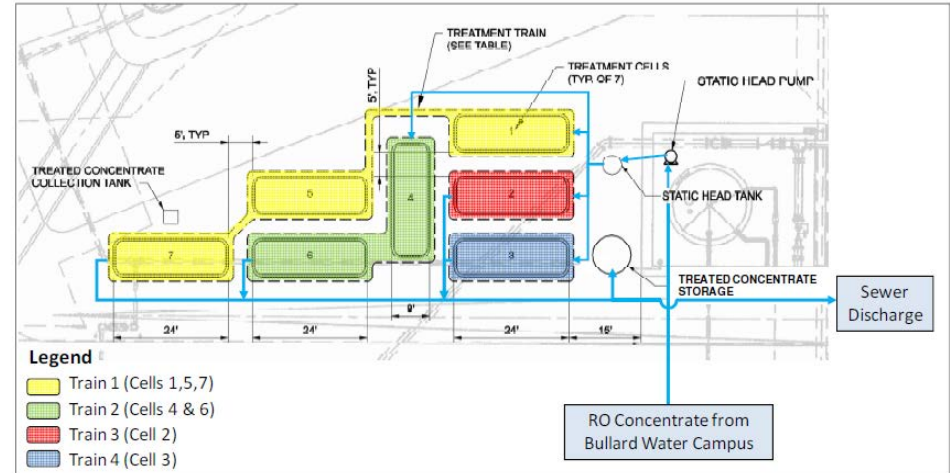


Image showing pilot wetland configurations.



# Brine Wetland Feasibility Study

## CURRENT PROJECT UNDERWAY

This project is designed to analyze the following:

- 1) Selecting the best site within the City for a brine wetland, determining potential sizing, and design configurations.
- 2) Develop an operations and monitoring plan.
- 3) Development of a water blending strategy for the discharge of the wetlands and ultimately discharge into the Gila River.
- 4) Develop a 30% design concept report (DCR) for the optimal configuration.

# Brine Wetland Feasibility Study



## ESTIMATED COMPLETION

- Brine Feasibility Study final report will be completed by Sep - Oct 2016.
- The results of this study will be presented to Council.



# New Cooperative Agreement



## TERM OF AGREEMENT

- The proposed agreement would remain in effect for three (3) years until September 30, 2019.
- At that time the parties will assess the merits of extending the agreement to continue research.

# New Cooperative Agreement



## NEW PROPOSED RESEARCH

- 1) Determine wetland media & plant replacement frequency.
- 2) Determine wetland media & plant toxicity relative to the environment and disposal options.
- 3) Determine wetland sizing for build-out conditions.
- 4) Determine maximum water volume processing based on sizing.

# New Cooperative Agreement



## FINAL REPORT

- Submit a final report within 30 days of the expiration of this agreement.
- This report will become a compendium to the current brine wetland feasibility study.



# New Cooperative Agreement

## FUNDING

- Reclamation estimates it will expend up to \$50,000 per year for three (3) years through its staff.
- The City estimates it will expend up to \$50,000 per year for three (3) years in direct and/or indirect in-kind services.



# New Cooperative Agreement

## TOTAL FUNDING

– Total project costs	-	\$300,000
– City's portion	-	\$150,000
• Direct funding <sup>(*)</sup>	-	\$ 78,000
• Indirect / In-kind funding <sup>(**)</sup>	-	\$ 72,000

(\*) - \$26,000 per year already approved in Water Resources Operations Budget for laboratory analysis specifically for the Pilot Wetland.

(\*\*) - \$24,000 per year is proposed to be funded through indirect / in-kind administration, management, operations, maintenance, and repairs to the pilot wetland which is currently being maintained by City staff.



Questions or Comments?