



<u>  X  </u>	<b>New Business</b>	<b>For Meeting of:</b> <u>July 1, 2024</u>
<u>      </u>	<b>Old Business</b>	<b>From:</b> <u>Judy K. Adams</u> <u>Marie C. Leal, P.E.</u>
<u>      </u>	<b>Tabled Item</b>	<b>Exhibit:</b> <u>Presentation</u>

**Subject:** Presentation on SRWA Update on Optimization and Expansion Projects

<input type="checkbox"/>	Budgeted Item - Vendor/Contractor	\$ <u>                    </u>
<input type="checkbox"/>	Budgeted Item - Request for Reallocation of Funds	\$ <u>                    </u>
<input checked="" type="checkbox"/>	Other	\$ <u>N/A</u>

<b>Source of Funding:</b> <u>                                    </u>	<b>Account #:</b> <u>          </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>
		<b>Fund</b>	<b>Org.</b>	<b>Account</b>	<b>Program</b>	<b>Activity</b>

**Summary:** The Southmost Regional Water Authority (SRWA) Brackish Groundwater Treatment Facility is not meeting its production capacity of 10 million gallons per day (MGD) and is seeking to improve production capacity and optimization of the plant. On February 13, 2023, the SRWA Board of Directors approved the professional engineering services contract with Carollo Engineers, Inc., for an optimization study for current design capacity. Carollo Engineers, Inc. has since concluded the study that evaluates the operational challenges, identifies the reason(s) that the facility does not meet its nameplate capacity, and has made recommendations to address the production capacity and reliability of the plant.

As part of the Optimization Study, Carollo Engineers engaged Half Associates as a sub-consultant to provide a complete assessment and recommendations on the SRWA's electrical reliability and backup power improvements needed.

BPUB staff will present a summary update of this work and recommended findings.

**Recommended Action:** No recommended action.

<b>Approved for Funding</b>  <b>Miguel A. Perez</b> Chief Financial Officer	<b>Approved for Board Meeting Agenda</b>  <b>Constanza Miner, EDFP</b> Chief Administrative Officer	<b>Approved for Board Meeting Agenda</b>  <b>Mark Dombroski</b> Asst. General Manager & COO	<b>Approved for Board Meeting Agenda</b>  <b>Marilyn D. Gilbert, MBA</b> General Manager & CEO
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# UPDATE ON OPTIMIZATON AND EXPANSION PROJECTS

JULY 1, 2024

● ● ● SRWA BOARD MEETING

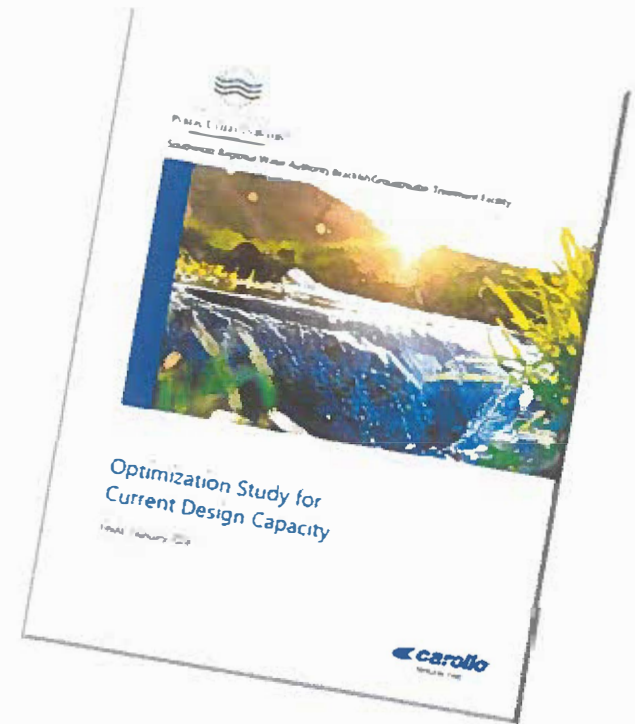
# Agenda

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- ❖ Update on Optimization Project
- ❖ Plant Expansion
- ❖ Well Rehabilitation

# Update on Optimization Study

- ❖ Final Study Report – Completed in Jan. 2024
- ❖ Study recommended 15 projects:
  - ❖ 14 Projects in Tier 1 and 2 (\$32.4 million):
  - ❖ Overall electrical system reliability projects (\$14.4 million):



# Update on Optimization Study

- ❖ Tier 1 and Tier 2 projects (\$32.4 million):
- ❖ Objective: to optimize plant production, treatment, and reliability to achieve and maintain the nameplate capacity of 10 MGD.
- ❖ Includes:
  - \$23.2M, 8 additional or replacement wells
  - \$4.2M, 2 additional microfiltration trains
  - \$4.4M, SCADA and infrastructure upgrades
  - \$0.6M, RO membranes



# Update on Optimization Study

- ❖ Overall electrical system reliability projects (\$14.4 million):
- ❖ Objective: to provide electrical improvements to reliably produce at least 50% of its nameplate capacity.
- ❖ Includes:
  - \$7.6M, backup power generator
  - Resilient power distribution solution
    - Utility power transformers
    - Switchgears
    - Switchboards
    - Motor control centers



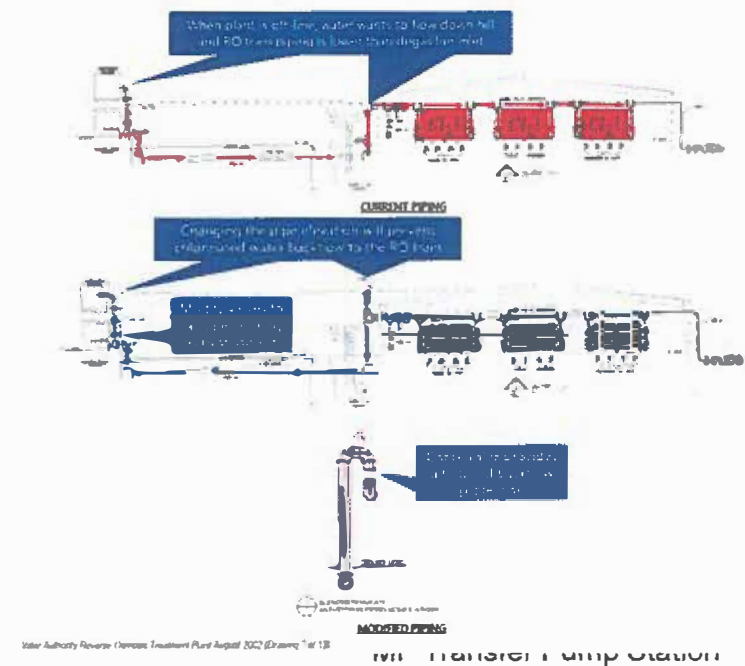
# Update on Optimization Study

Revised estimated costs and funding sources (with backup power):

Estimated Costs \$ millions	Use	Funding Source	Issues/Limitations
\$0.3M	Feasibility study	SRWA Capital	In progress
\$5.2M	Design	\$1.3M-USBR \$3.9M-TBD	USBR to fund 25%
\$27.2M	Construction	\$6.2M-USBR \$21.0M-TBD	USBR to fund 25% of total project cost, up to \$7.5M max federal share
\$7.6M	Backup generator	TBD	
<b>\$40.3M</b>			

# Update on Optimization Study

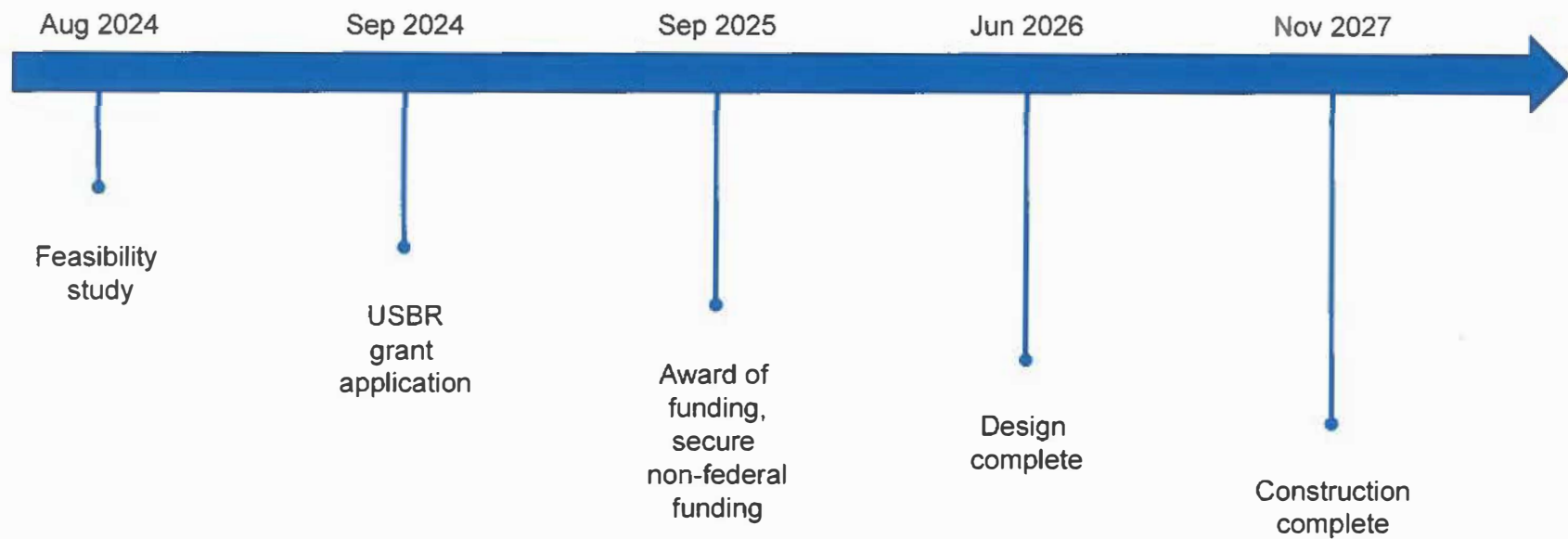
- ❖ Completed:
  - ❖ RO membrane cleaning
  - ❖ Microfiltration membrane clean-in-place
- ❖ In progress by Carollo Engineers:
  - ❖ 1) RO permeate piping—to be funded from SRWA capital budget
  - ❖ 2) Feasibility study for grant application (due Sep. 2024)





# Update on Optimization Study

Potential project timeline and key milestones:



# Plant Expansion

Objective and scope:

- The objective is to expand the production capacity of the plant from 10 MGD to 20 MGD
- The scope of the project includes:
  - Additional wells
  - Raw water transmission line and intermediate pump station
  - Pretreatment system
  - RO trains
  - Pumps and ancillary equipment
  - Backup generators
- Projected cost of \$213 million



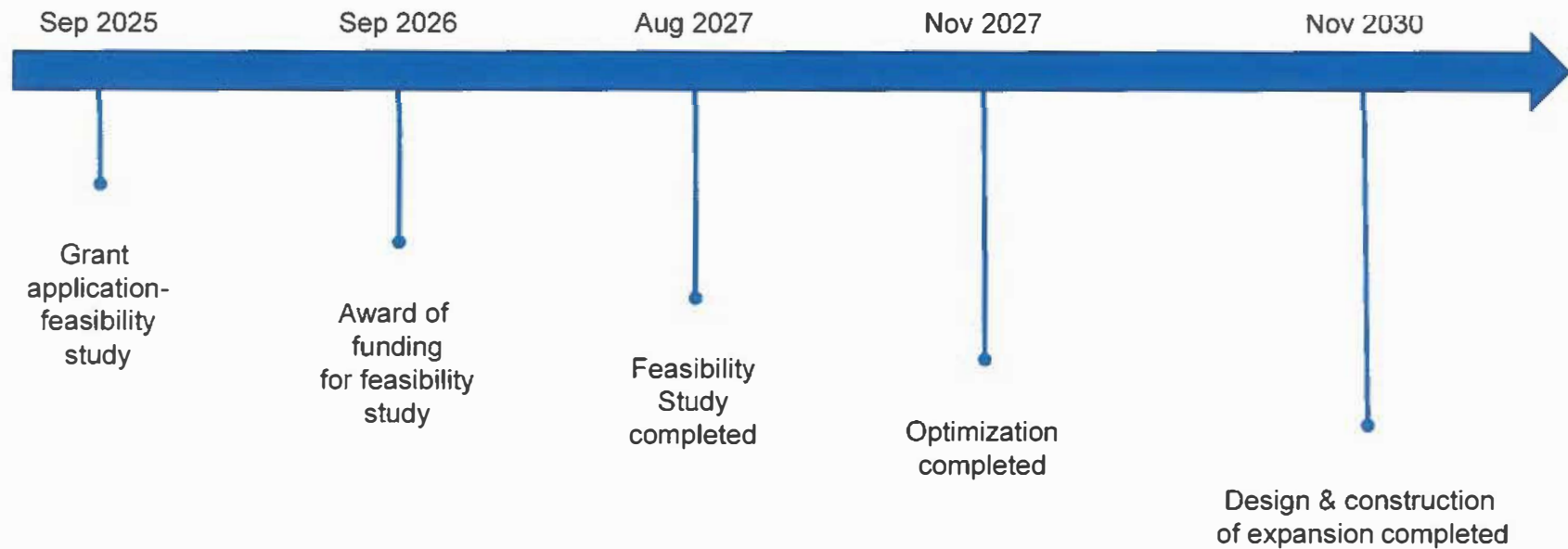
# Plant Expansion

Estimated costs and funding sources:

Estimated Costs \$ millions	Use	Funding Source	Issues/Limitations
\$1.0M	Feasibility study	TBD	
\$26.0M	Design	TBD	(15% of construction)
\$170.0M	Construction	TBD	
\$16.0M	Backup generators	TBD	
<b>\$213.0M</b>			

# Plant Expansion

Potential project timeline and key milestones:



# Well Rehabilitation

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- ❖ Well rehabilitation bid
  - ❖ \$330,000 in FY 2024 O&M Budget
  - ❖ W/WW Engineering is working on bid packet

# Questions?

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# Update on Optimization Study

	Project Name	Est. Capital Cost \$
1	RO permeate piping backflow modification	142,000
2	Replacement wells	23,200,000
3	Wellfield programmable logic controllers (PLC) uninterruptable power supplies (UPS) upgrades	825,000
4	MF clean-in-place	O&M
5	Two additional MF racks	4,190,000
6	MF filtrate transfer pump	575,000
7	Instrumentation upgrades	1,400,000
8	RO membrane replacement	600,000
9	Post treatment chemical flow dosing	271,000
10	PLC AI/AO spares	542,000
11	Pretreatment chemical flow dosing	349,000
12	Citric acid bulk storage	219,000
13	RO permeate piping for MF CIP	123,000
14	RO membrane cleaning	O&M
	<b>Subtotal</b>	<b>32,436,000</b>
15	<b>Electrical system improvements</b>	<b>14,400,000</b>
	<b>Grand Total:</b>	<b>46,836,000</b>