



**CITIZENS WATER ACADEMY**

# Recycled Water 101

*Tim Lewis*

*WWTP Operations Superintendent*

*May 22, 2024*



**Dublin San Ramon  
Services District**

*Water, wastewater, recycled water*



# To Recycle or Not to Recycle?

Treated secondary effluent destined for San Francisco Bay!





# RECYCLED WATER PARTNERSHIP



**1995** DERWA JPA formed between Dublin San Ramon Services District (DSRSD) and East Bay Municipal Utility District (EBMUD)

**2003** DERWA Supply & Sales Agreements set terms for implementation of DERWA Program

**2006** San Ramon Valley Recycled Water Program deliveries began

**2014** Pleasanton becomes the third agency to receive water from DERWA

# Recycled Water 101

- ▶ Embracing a renewable resource
- ▶ Communicating the value of recycled water
- ▶ Public perception has changed





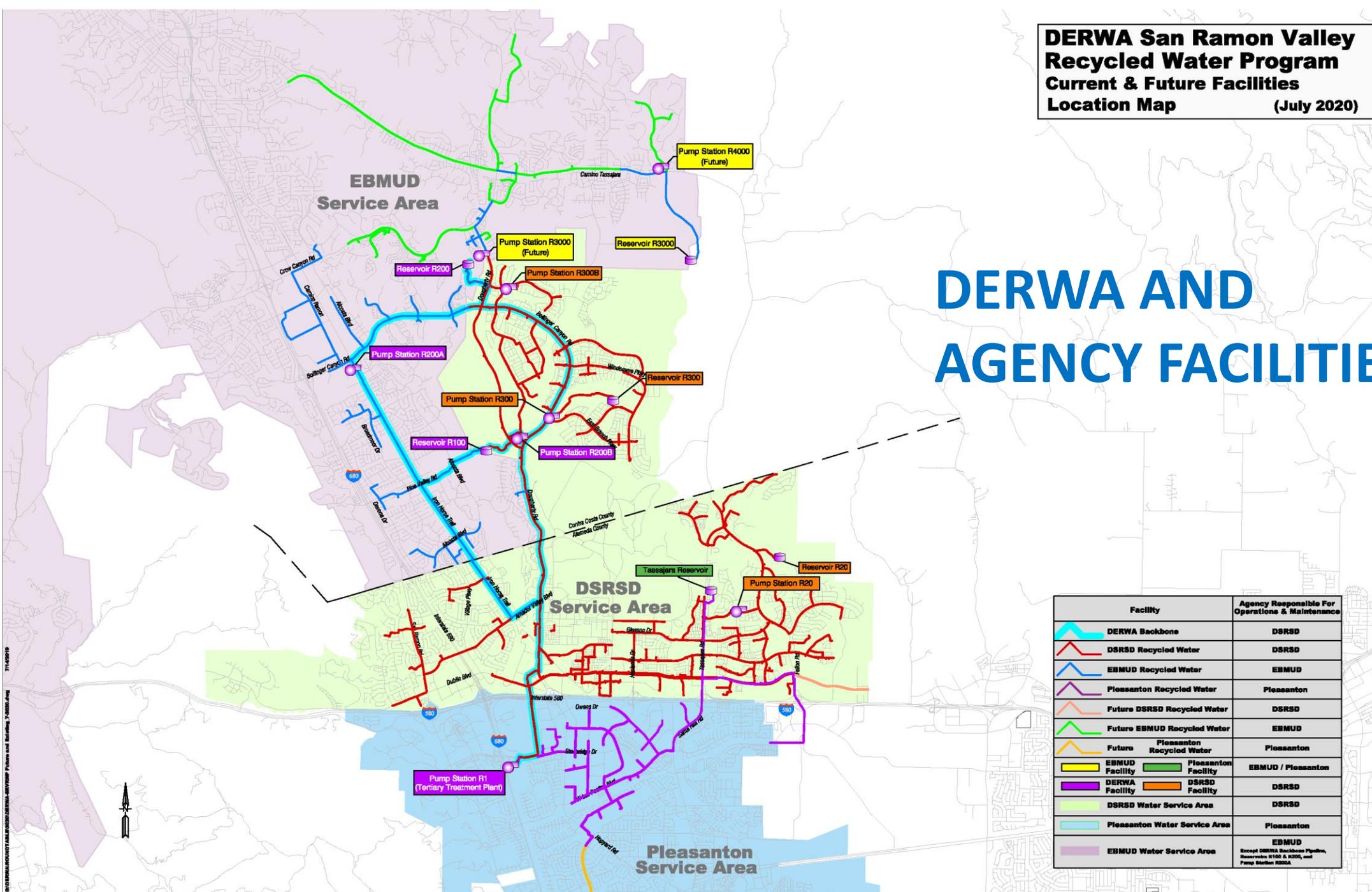
# The San Ramon Valley Recycled Water Program 2023

*DSRSD: 357 customer sites*

*EBMUD: 76 customer sites*

*City of Pleasanton: 84 customer sites*

# DERWA AND AGENCY FACILITIES



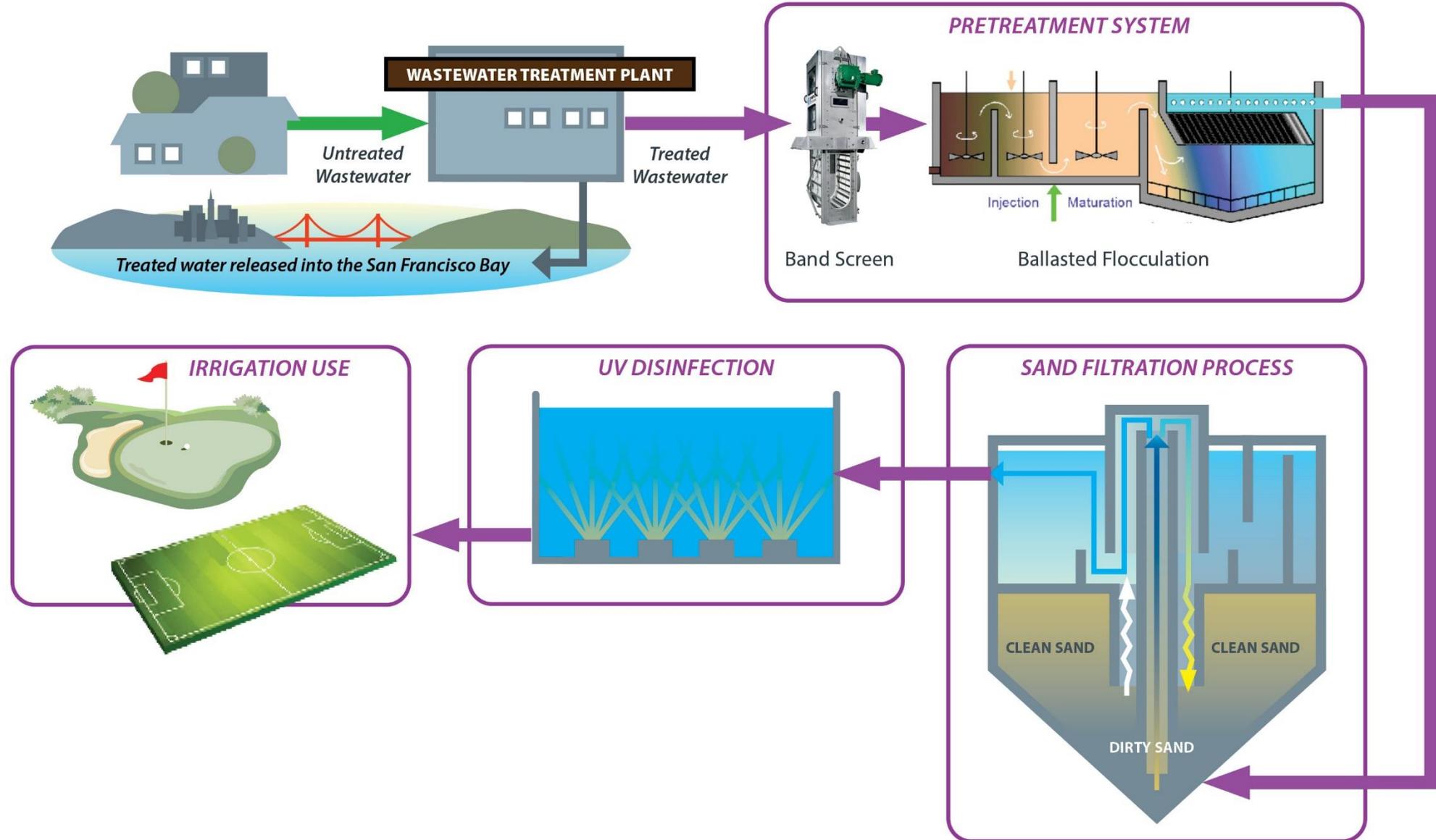
Facility	Agency Responsible For Operations & Maintenance
DERWA Backbone	DSRSD
DSRSD Recycled Water	DSRSD
EBMUD Recycled Water	EBMUD
Pleasanton Recycled Water	Pleasanton
Future DSRSD Recycled Water	DSRSD
Future EBMUD Recycled Water	EBMUD
Future Pleasanton Recycled Water	Pleasanton
EBMUD Facility	EBMUD / Pleasanton
Pleasanton Facility	
DERWA Facility	DSRSD
DSRSD Facility	
DSRSD Water Service Area	DSRSD
Pleasanton Water Service Area	Pleasanton
EBMUD Water Service Area	EBMUD <small>Except DSRWA Backbone Pipeline, Reservoirs R100 &amp; R200, and Pump Station R200A</small>



# Fully Treated Wastewater



# SAN RAMON VALLEY RECYCLED WATER PROGRAM - JEFFREY G. HANSEN WATER RECYCLING PLANT

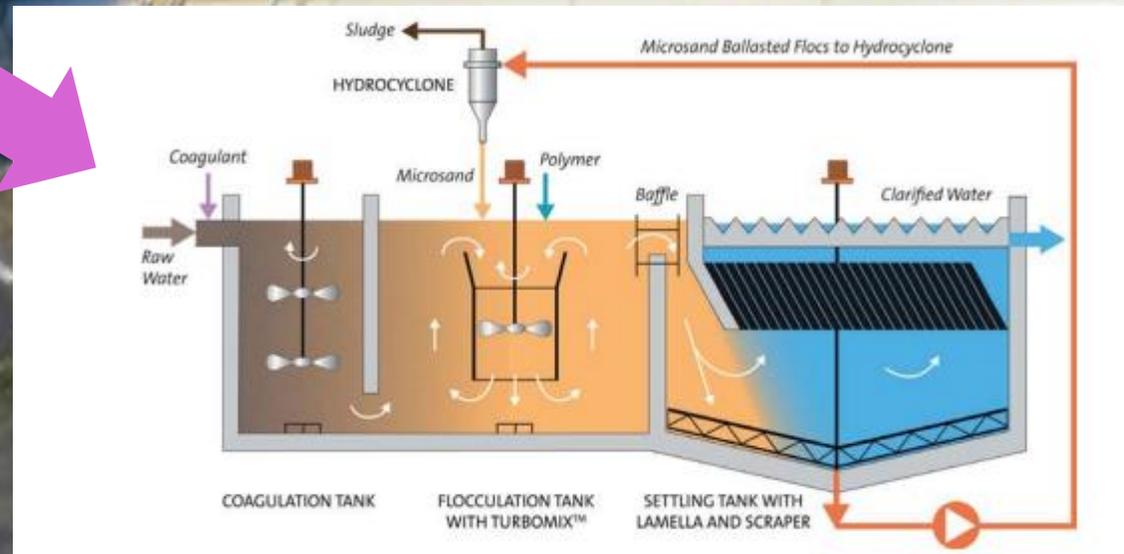
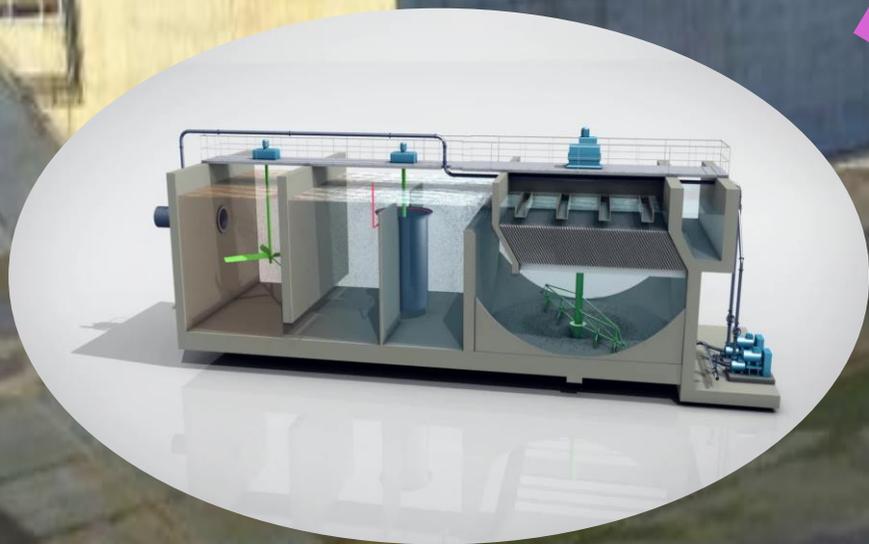


# Band Screen

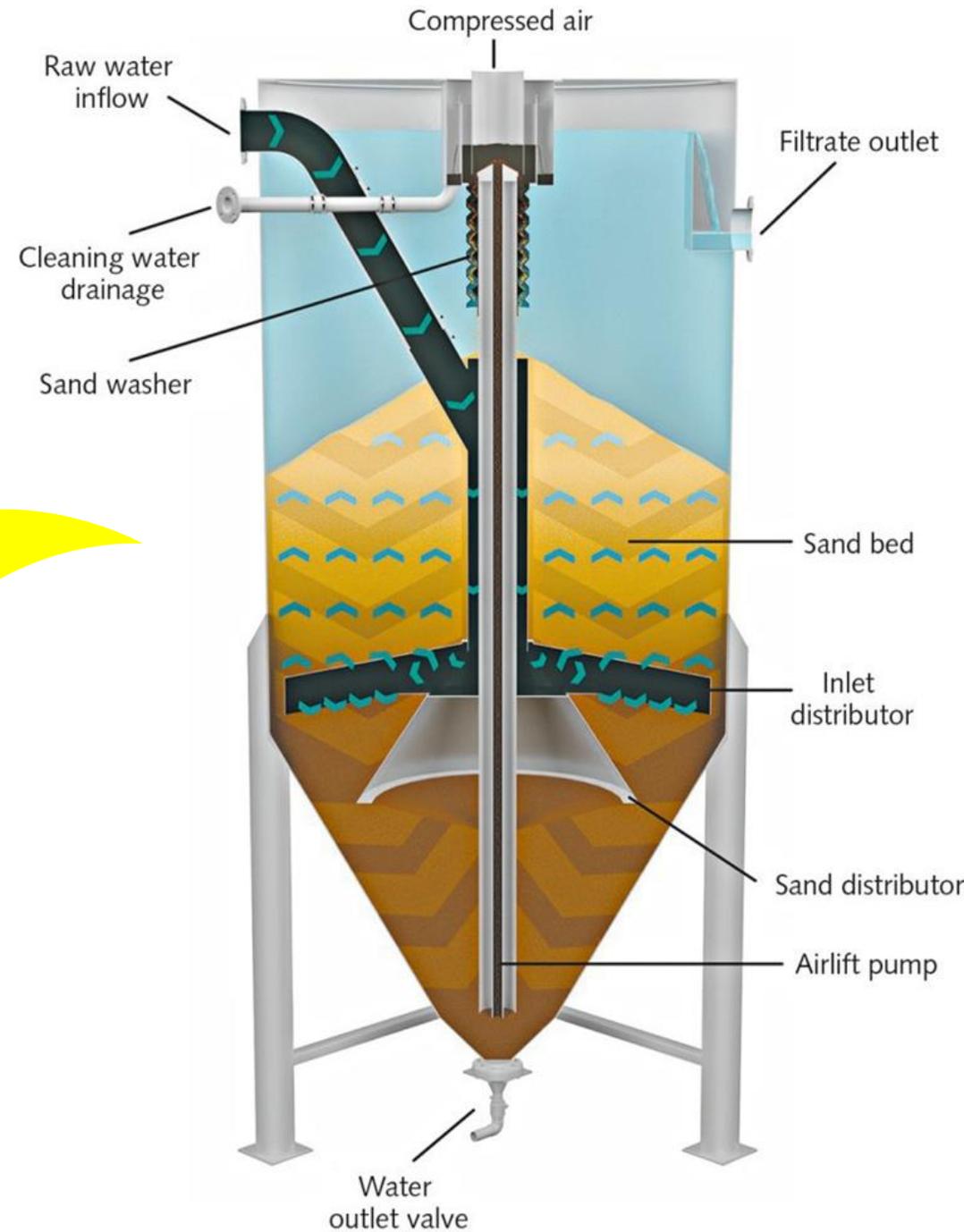
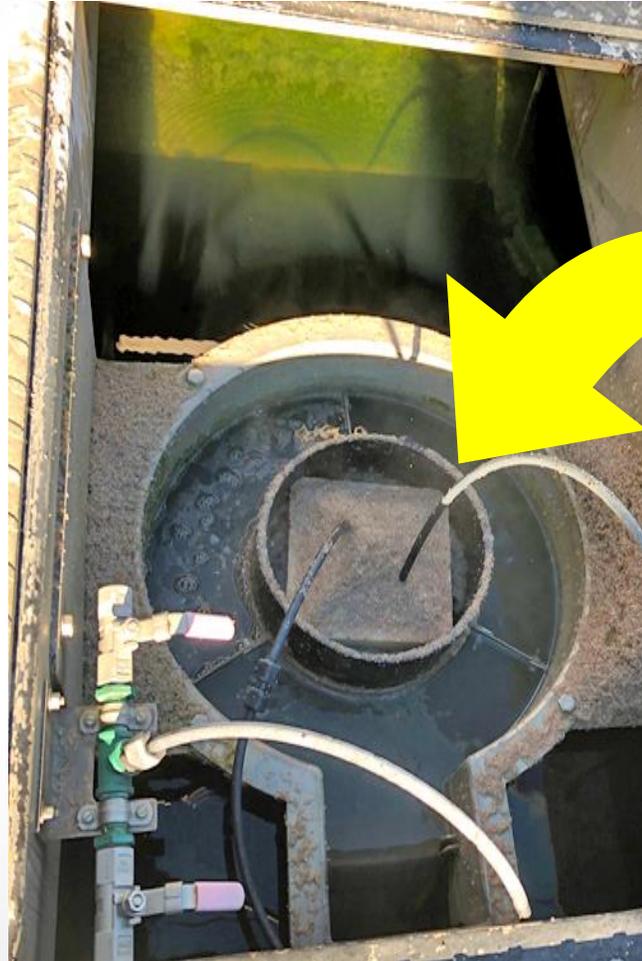
## 2 mm Screening of Treated Wastewater



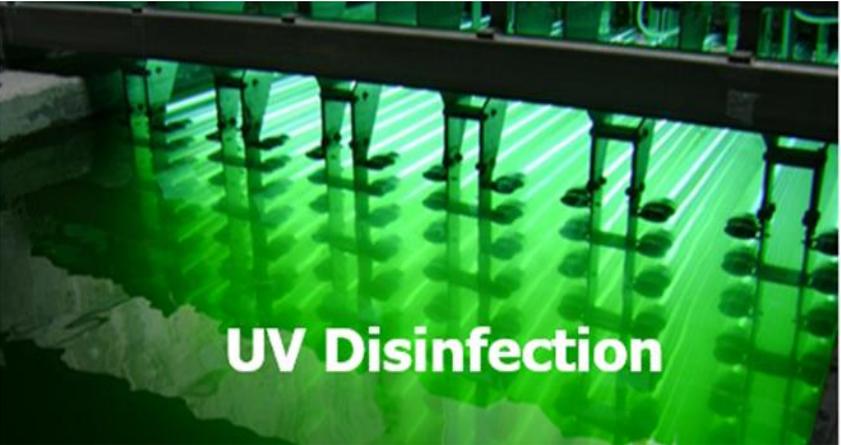
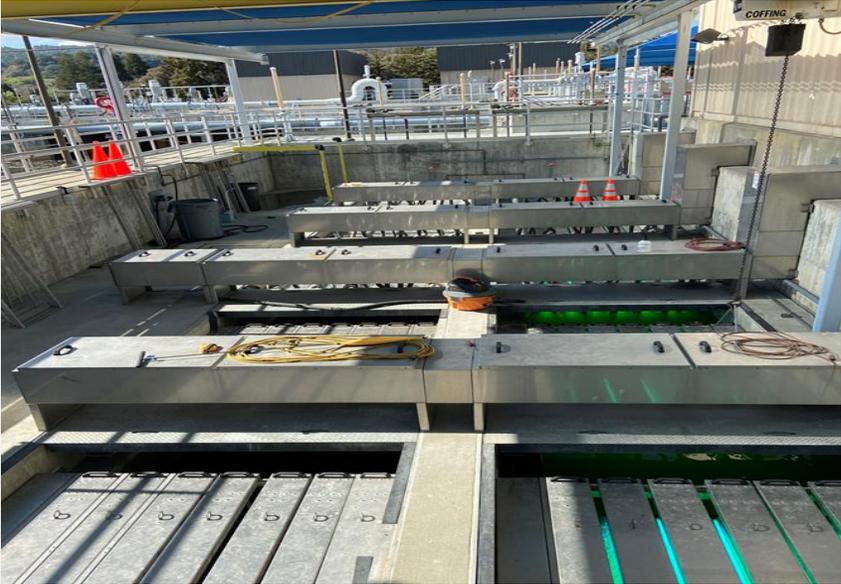
# Recycled Water Pretreatment System



# Sand Filtration Process

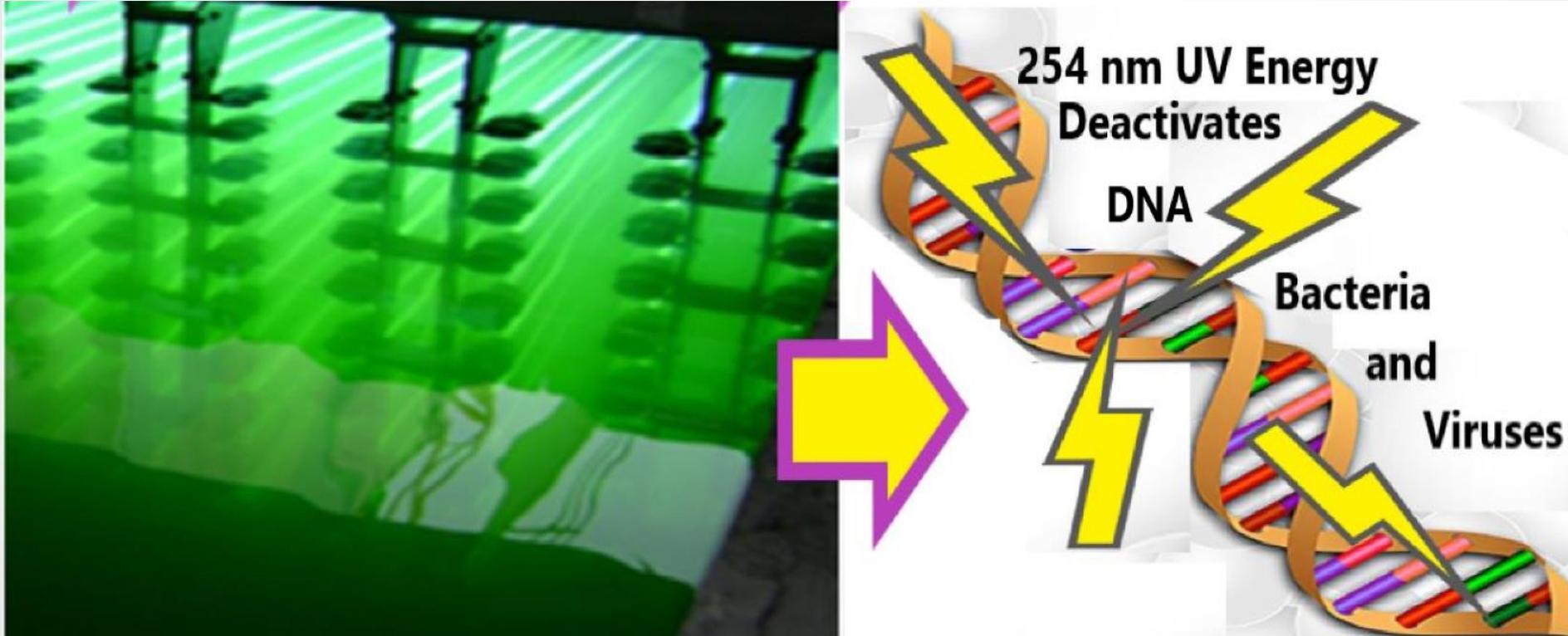


# Disinfection



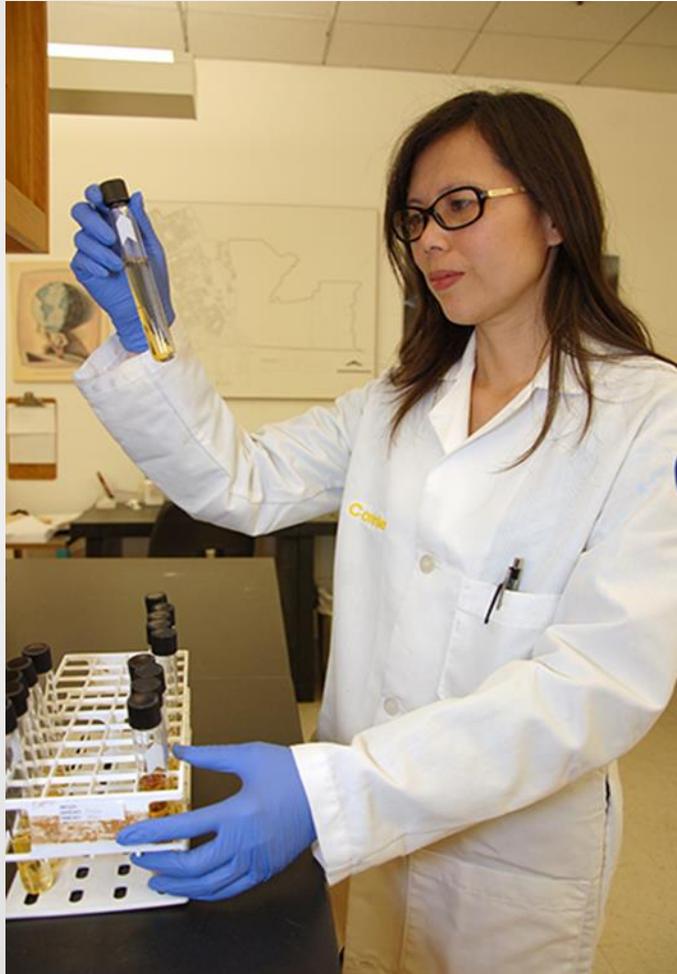
# Ultraviolet Disinfection

## Deactivates Bacteria and Viruses



**Design must demonstrate inactivation and/or removal of 99.999 % of selected disease-causing indicator virus.**

# Laboratory Analysis and Finally “Residual” Chlorine is Added to the Distribution System



# Preventive Maintenance





Public sends this to the plant

After primary and secondary treatment effluent is pumped to SF Bay

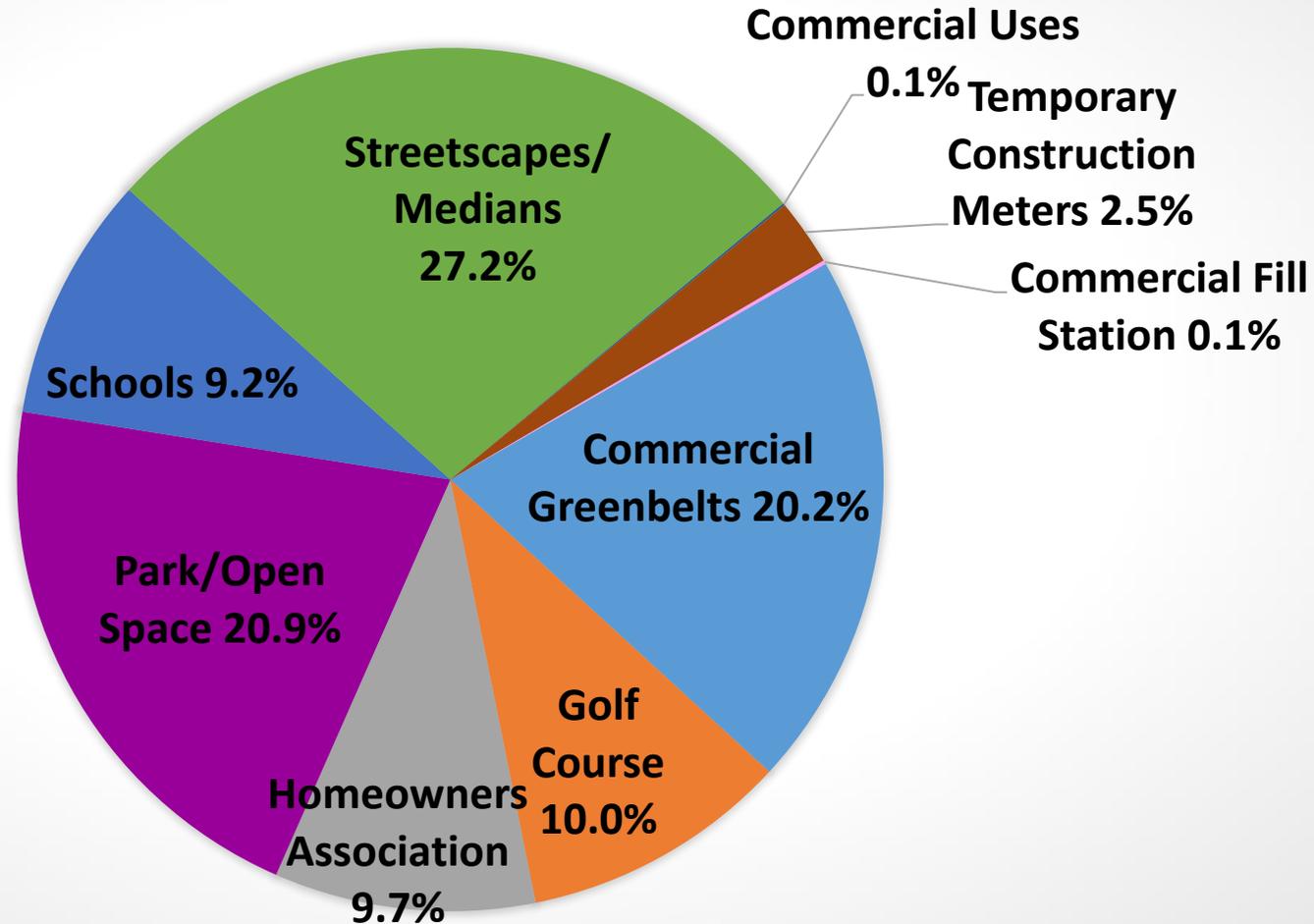
After tertiary treatment, this is sent to irrigation customers

RECAP OF THE RECLAIMED WATER JOURNEY

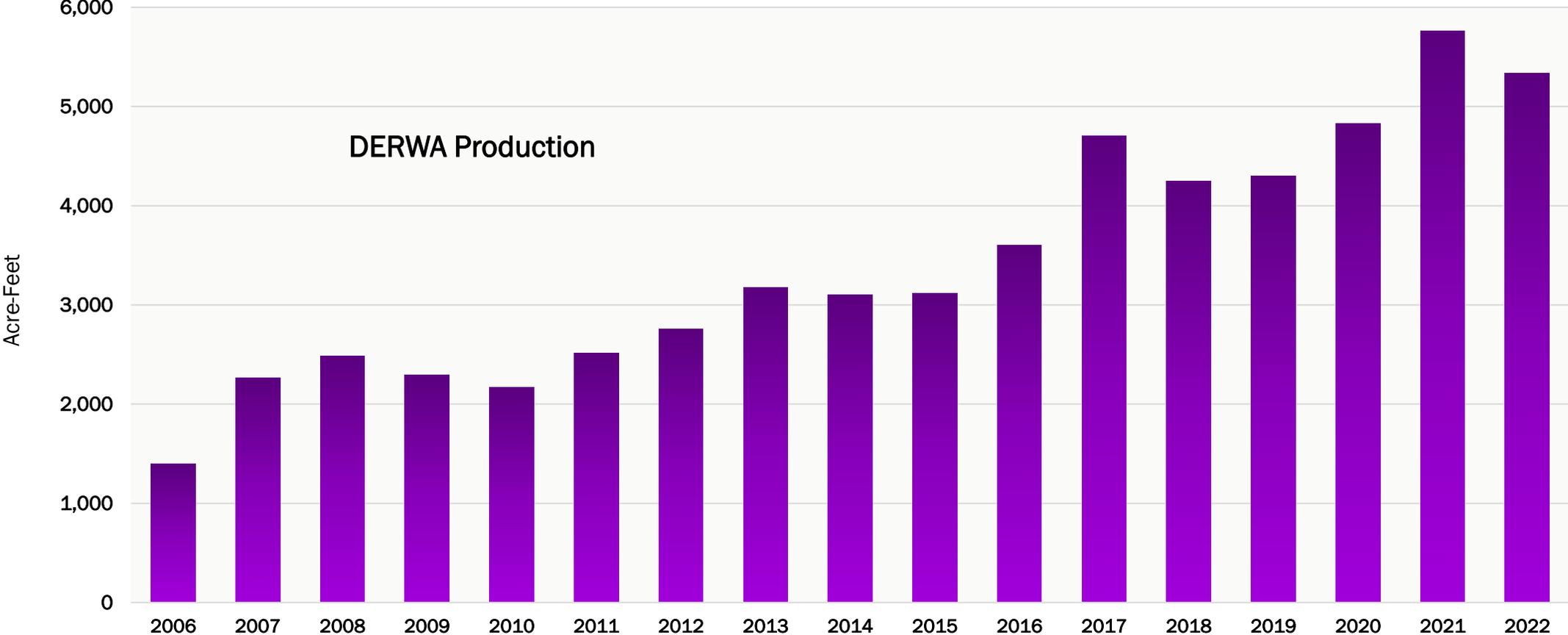


# DSRSD Recycled Water Uses

- RW 25% of DSRSD water sales
- Annually 47% of wastewater is recycled



# Growth in Recycled Water Program

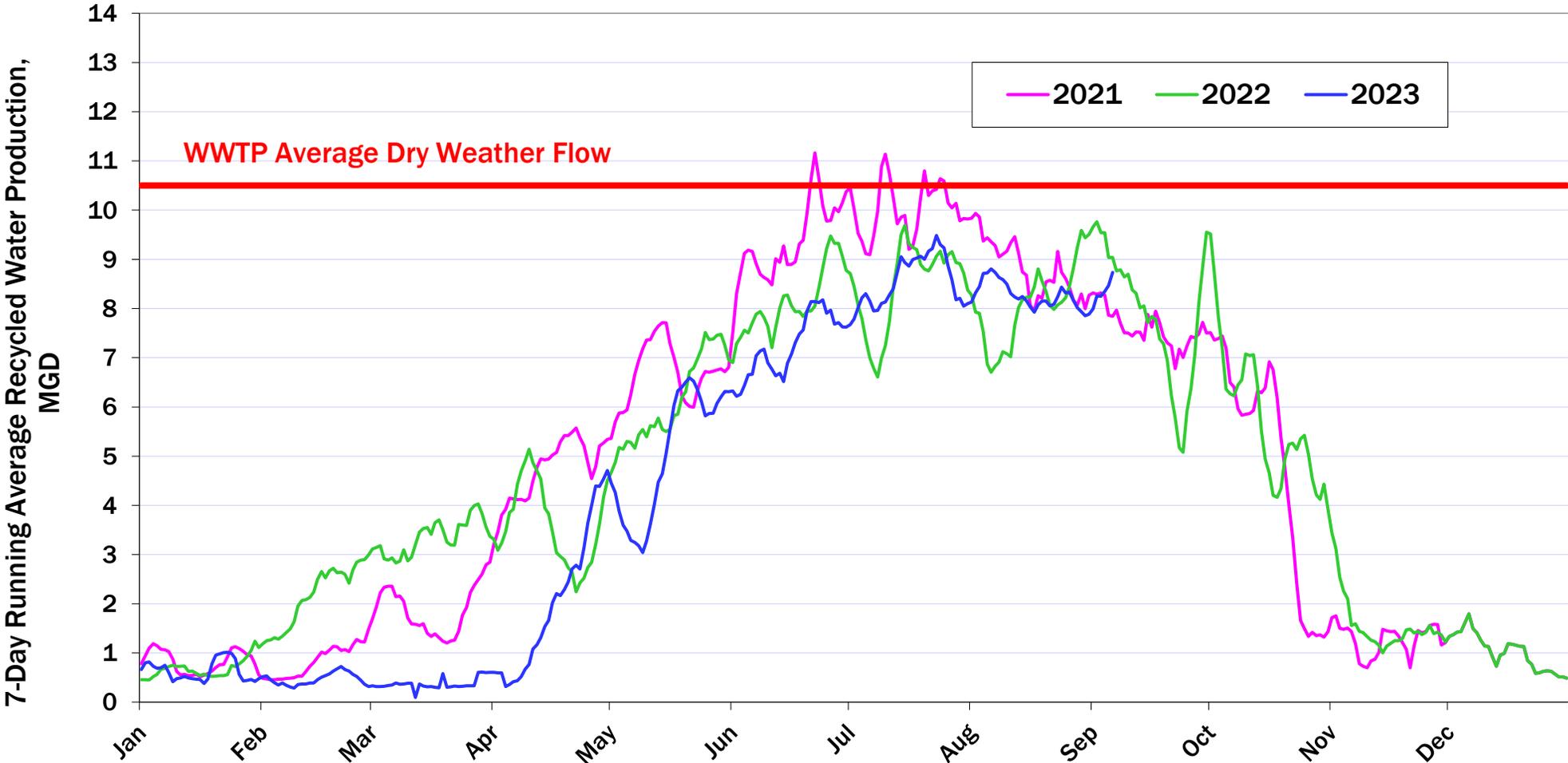


**20 Billion Gallons Recycled**

**3 million Kilograms nutrients diverted from the Bay**

**July 2021 – 17 days with every drop received turned into recycled water**

# Limited Supply during Peak Summer Months



Note: 2021 demands do not include Crow Canyon and Canyon Lakes golf courses

# Improvements & Creative Solutions

- ▶ **2015** Added a sixth sand filter for City of Pleasanton
- ▶ **2017** Added BF and additional UV
- ▶ **2018** Capacity Expansion to 12.3 MGD
- ▶ **2020** Completed performance tests to expand capacity to 16.2 MGD
- ▶ **2020** 5-year agreement with Central Contra Costa Sanitation District to take 1 MGD of sewage for peak summer recycling. **2021** utilized to meet peak demands



# Ongoing creative solutions



Cross-over was open in 2021 for June 21-September 10 during the irrigation season

Successful pilot project: Storing secondary effluent in Equalization Basins during irrigation season



# Questions?

*Tim Lewis*

*WWTP Operations Superintendent*

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# Approved Uses of Recycled water

## Irrigation for:

- **Food crops where recycled water contacts the edible portion of the crop, including all root crops**
- **Parks, playgrounds and school grounds**
- **Golf courses & Cemeteries**
- **Freeway landscaping and Pasture**
- **Any other irrigation uses not specifically prohibited by other provisions of the *California Code of Regulations***

