

Meeting Agenda
December 7, 2021
11:30 a.m. – 1:00 p.m.



Location: City of Santa Monica
Virginia Avenue Park
Thelma Terry Workshop 3
2200 Virginia Avenue
Santa Monica, CA 90404

For virtual participation, please register for the Zoom meeting via the following link:
<https://us02web.zoom.us/join/9tZcsf-yhqD8sHdym0HbW8iFiaZW3kNVOSKTs>

The mission of Los Angeles Chapter of the WaterReuse Association is to enhance the resiliency and sustainability of Los Angeles County by increasing the safe, beneficial use of recycled water. Its objectives shall be to promote water reclamation and recycling as a sustainable supplemental source of water for the state; to work for the adoption of legislation and regulations that allow the safe use of recycled water; to facilitate the development of technology aimed at improving water recycling; to promote legislation that would increase funding for water recycling projects; to provide mutual assistance and support between and among Chapter members involved with water recycling projects; and to increase public awareness and understanding of related water problems and solutions.

Welcome, Introductions and Instructions..... 11:30 a.m.

1. Host presentation: Update on the Sustainable Water Infrastructure Project (SWIP) (Alex Waite/City of Santa Monica)
2. Sponsor presentation: Monterey One Water – Pure Water Monterey Program (Paul Chau/Kennedy Jenks)
3. Technical Topic: Overview of the Hyperion 2035 Program (Huub Cox)/LASAN
4. Water Recycling Legislative/Regulatory Updates (Raymond Jay)
5. Regulatory Agency Update
 - a. SWRCB Division of Drinking Water (Saeed Hafeznezami)
 - b. Los Angeles Regional Water Quality Control Board (Steven Webb)
 - c. LA County Department of Public Health (Glenn Van Eekhout)
6. California State Section Update (Rafael Villegas)
7. Chapter Updates (Judi Miller)
 - a. August & October 2021 Member Meeting Summary
 - b. Volunteer Opportunities
 - c. Emerging Professionals Committee Update (Alex Waite)
8. Membership Roundtable (Jared Lee)
9. Next Meetings
 - February 8, 2022 – Host: TBD; Sponsor: TBD
 - April 12, 2022 – Host: TBD; Sponsor: TBD
10. Adjournment 1:00 p.m.

Los Angeles Chapter Officers for 2020/2022

Fred Gerringer, President	626-319-1107
Jared Lee, Vice President	626-379-8443
Judi Miller, Secretary/Treasurer	213-228-8236
Rafael Villegas, Chapter Trustee	213-367-1289
Raymond Jay, Past-President	213-217-5777

fgerringer@hazenandsawyer.com
JLee@burbankca.gov
judi.miller@jacobs.com
rafael.villegas@ladwp.com
rjay@mwdh2o.com

City of Santa Monica

Update on the Sustainable Water Infrastructure Project (SWIP)

WaterReuse California Los Angeles Chapter
December 7, 2021



City of Santa Monica

City of Santa Monica – Water Resources Division



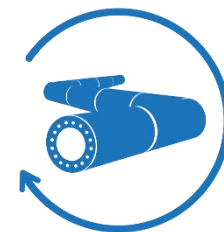
93,000+ residents
2,700+ commercial
customers



Drinking water and
fire protection



groundwater (local)
surface water (MWD)



Sewer collection and
recycled water

9 million gallons
of high-quality drinking
water daily

14 million gallons
of wastewater captured
and delivered for treatment
each day

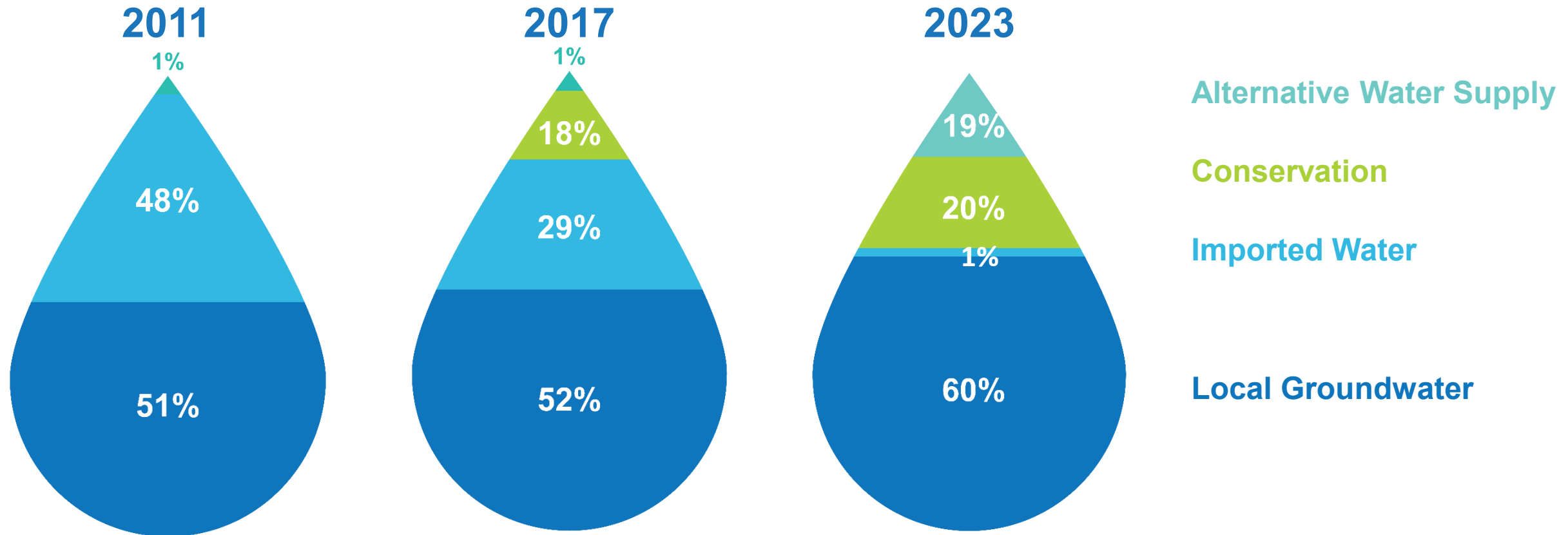
77,000 gallons
per day of recycled
water

**4 water storage
reservoirs**
totaling 40 million gallons



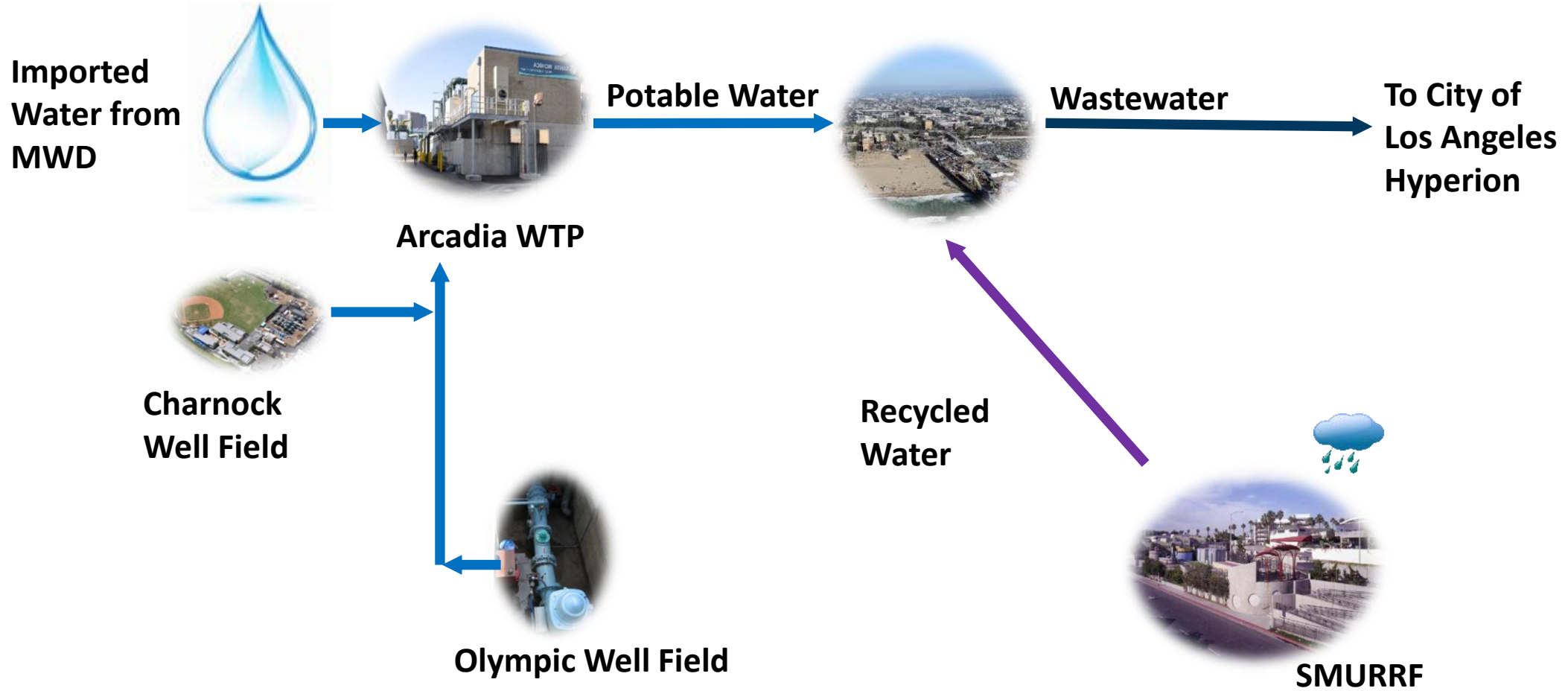
City of Santa Monica

Leveraging Alternative Water Supplies for a Sustainable Future

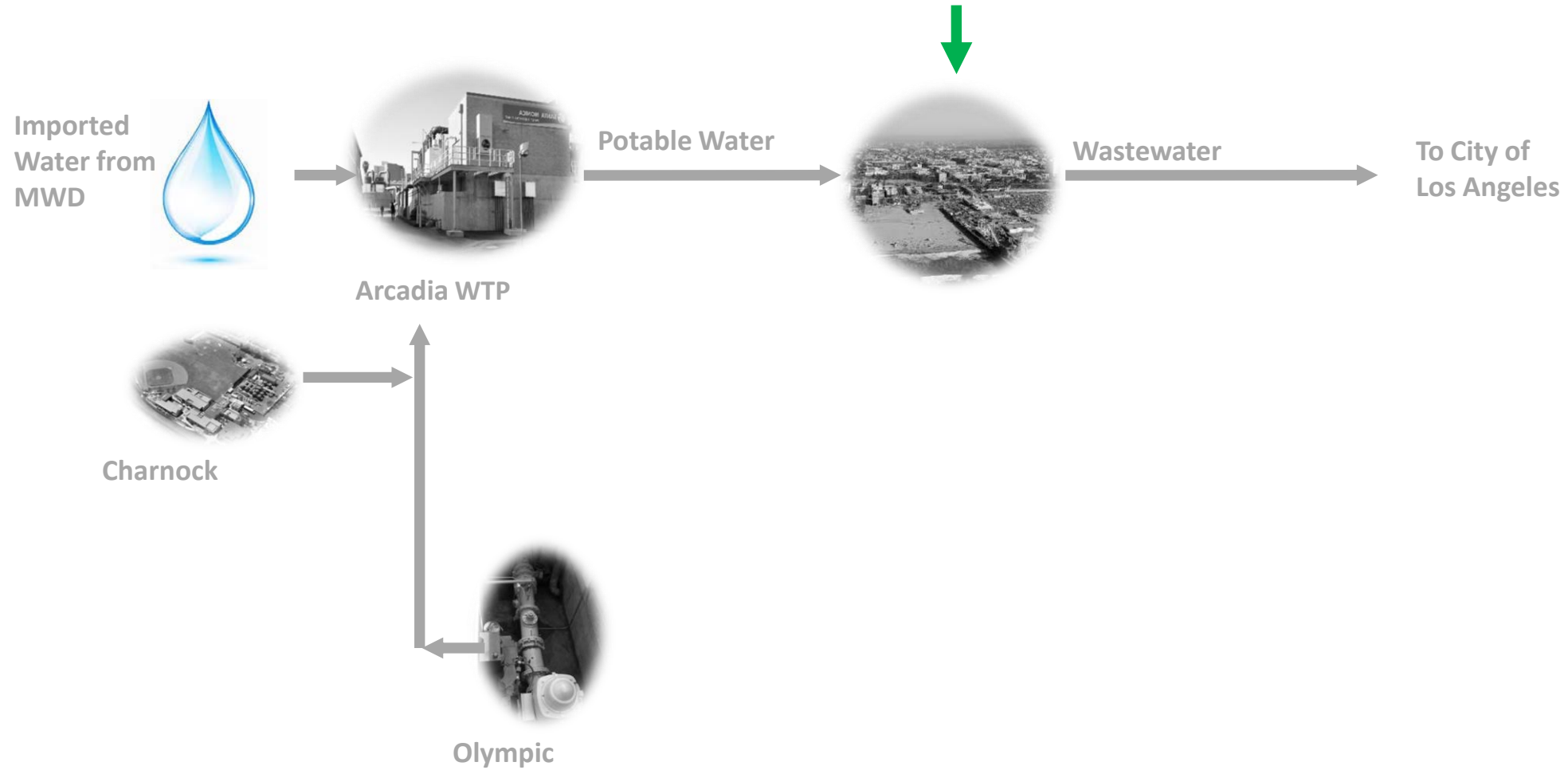


City of Santa Monica

Integrated Approach to Maximize Local Water Resources

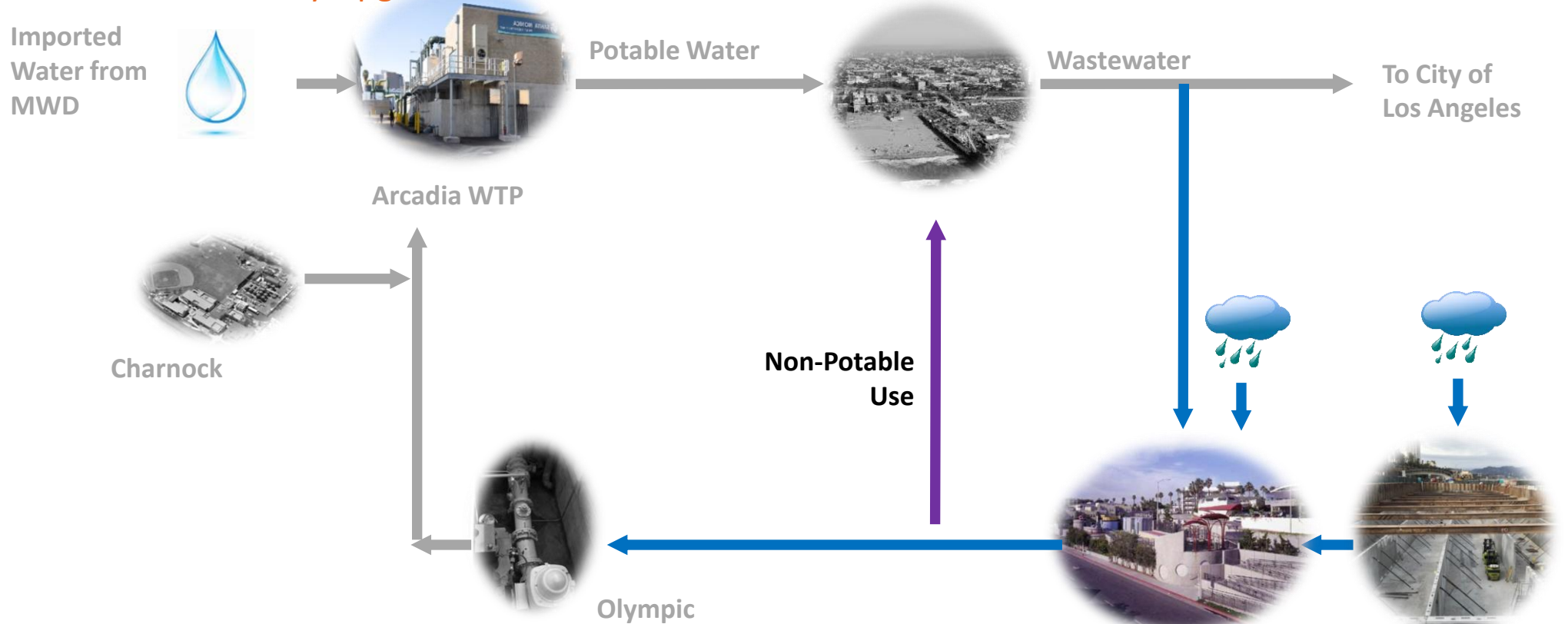


Component 1 – *Optimal* Conservation Plan



City of Santa Monica

Component 2 – Alternative Water Supply Production Efficiency Upgrade at Arcadia



Component 2 – Alternative Water Supply

- Stormwater + Urban Runoff @ **SMURRF** for Non-Potable and Potable Reuse
- Stormwater Capture + Municipal WW @ **SWIP** for Potable Reuse

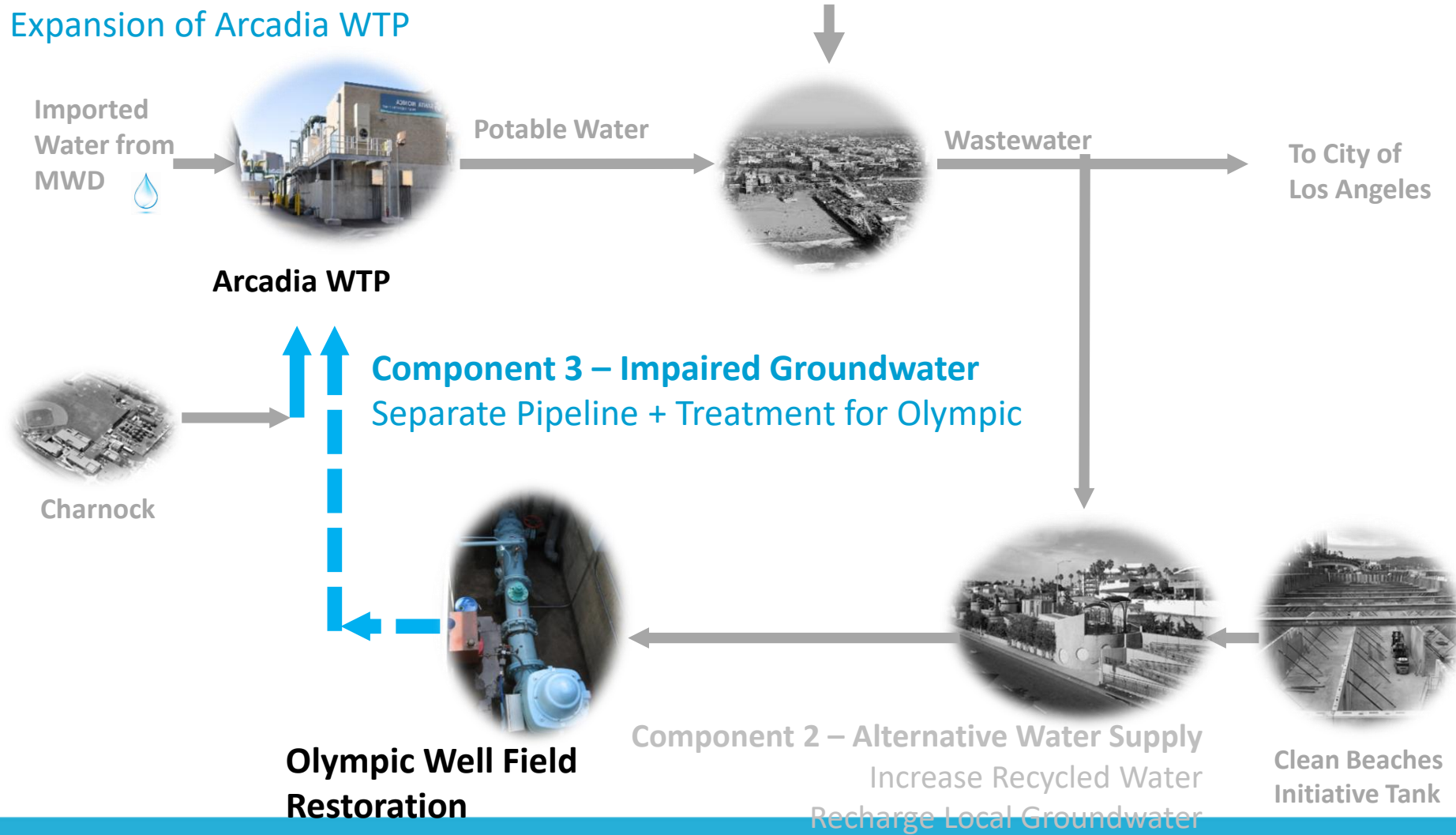
Clean Beaches Initiative Tank



City of Santa Monica

Component 3 – New Local Groundwater
Expansion of Arcadia WTP

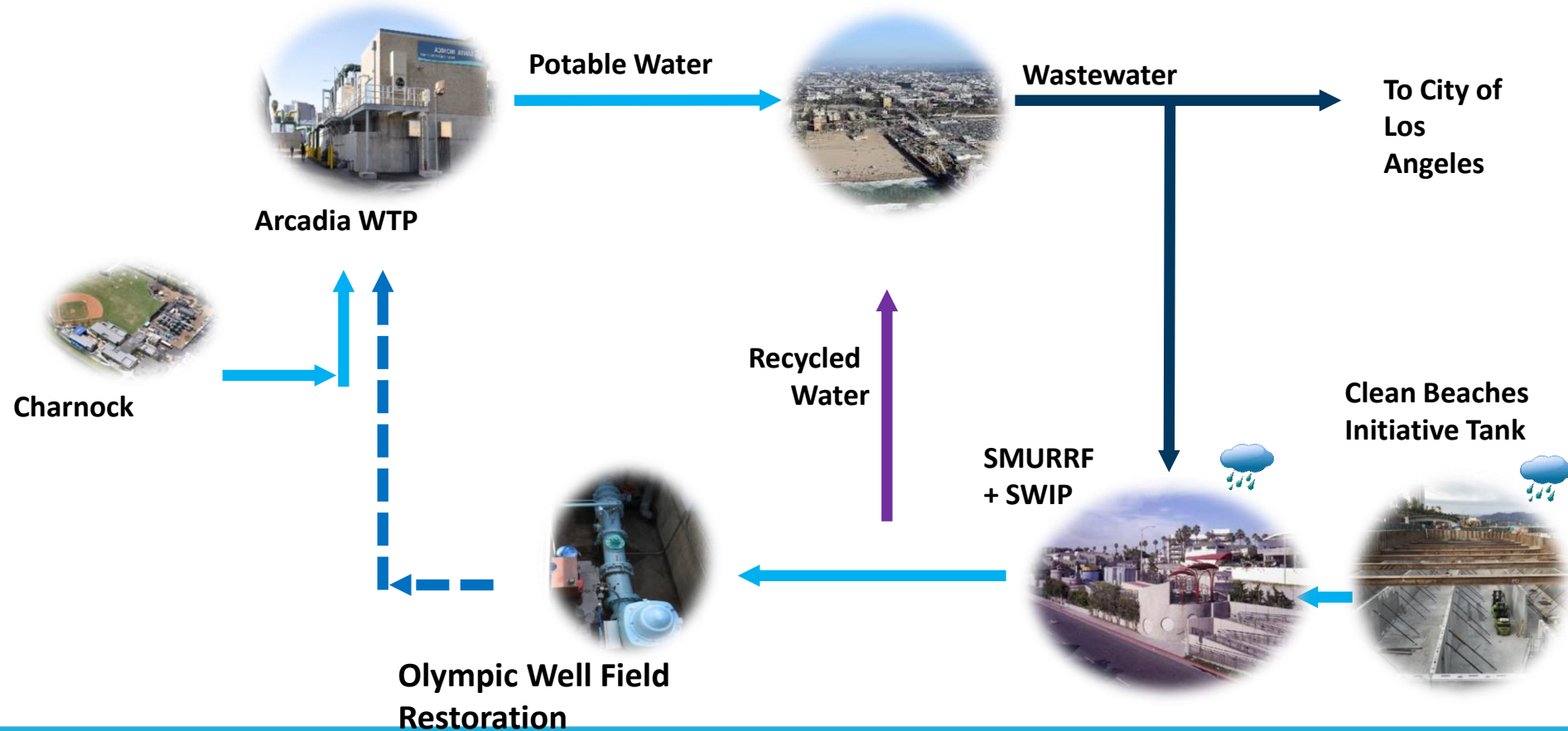
Component 1 – *Optimal* Conservation Plan



Component 1 – Conservation

Component 2 – Alternative Water Supply

Component 3 – New Local Groundwater



City of Santa Monica

Sustainable Water Infrastructure Project (SWIP)



- Element 1
 - 1.5 MG Clean Beaches Tank
 - 0.5MGD Treatment of Stormwater Urban Runoff and Brackish Groundwater
 - Santa Monica Urban Runoff Recycling Facility (SMURRF)
- Element 2
 - 1 MGD Advanced Water Treatment Facility (AWTF)
 - 30%/70% Blend of Stormwater and Wastewater
- Element 3
 - New 1.5 MG Stormwater capture tank



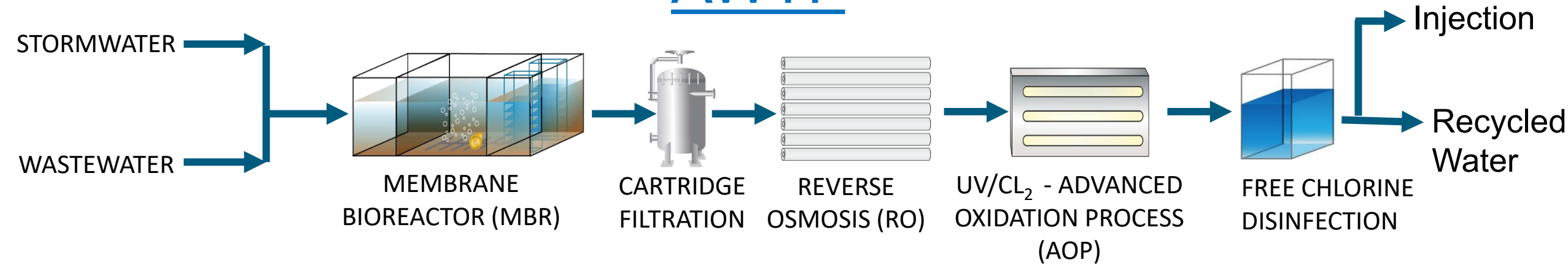
SWIP's Multiple Benefits

- Creates ~1,600 AFY of local water supply for the City
- Improves beach water quality
- Provides EWMP/MS4 compliance
- Drought resilient water supply
- Diversifies City's water supply portfolio
- Increases recycled water production
- Augments local groundwater supply
- New resource to offset imported drinking water

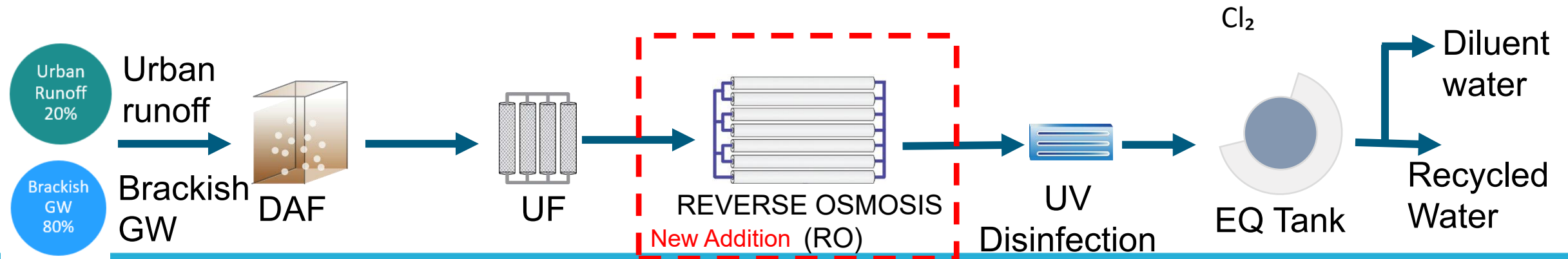


AWTF and SMURRF Treatment Processes

AWTF



SMURRF



City of Santa Monica

SWIP Permitting Phases



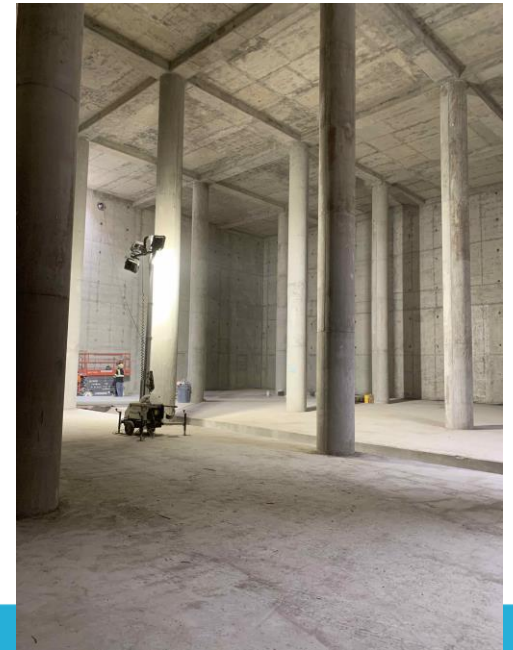
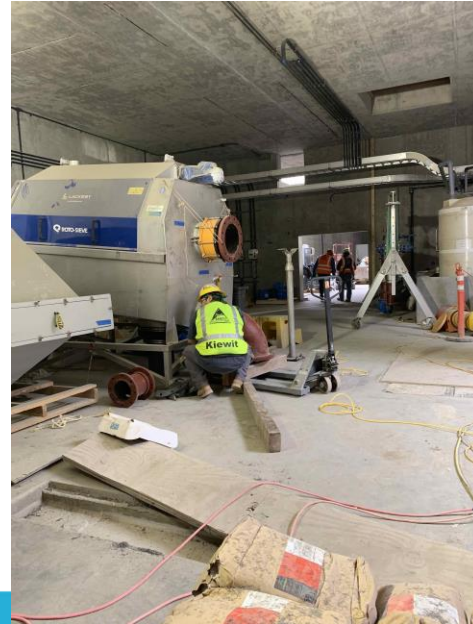
- ✓ Phase 1 – Stormwater Characterization and Use
- ✓ Phase 2 – Non-Potable Use
 - Phase 3 – Potable Reuse



Key Project Dates and Timeline for SWIP

- Construction started in January 27, 2020
- Regional Board Adoption of the Conditional Permit February 11, 2021, for non-potable reuse: [Order No. R4-2021-0044 \(File Number 20-090\) \(ca.gov\)](#)
- Construction 80% complete as of November 2021
- In the process of permitting for groundwater replenishment operations (indirect potable reuse) expected Summer 2022
- Acceptance testing expected April/May 2022
- **Delivery of advanced treated recycled water expected by Fall 2022**

NOVEMBER 2021



City of Santa Monica



THANK YOU...

December 7th, 2021

Pure Water Monterey

Monterey One Water

WaterReuse LA Chapter Meeting



Paul Chau, P.E. | Vice President, Injection Wells Project Manager

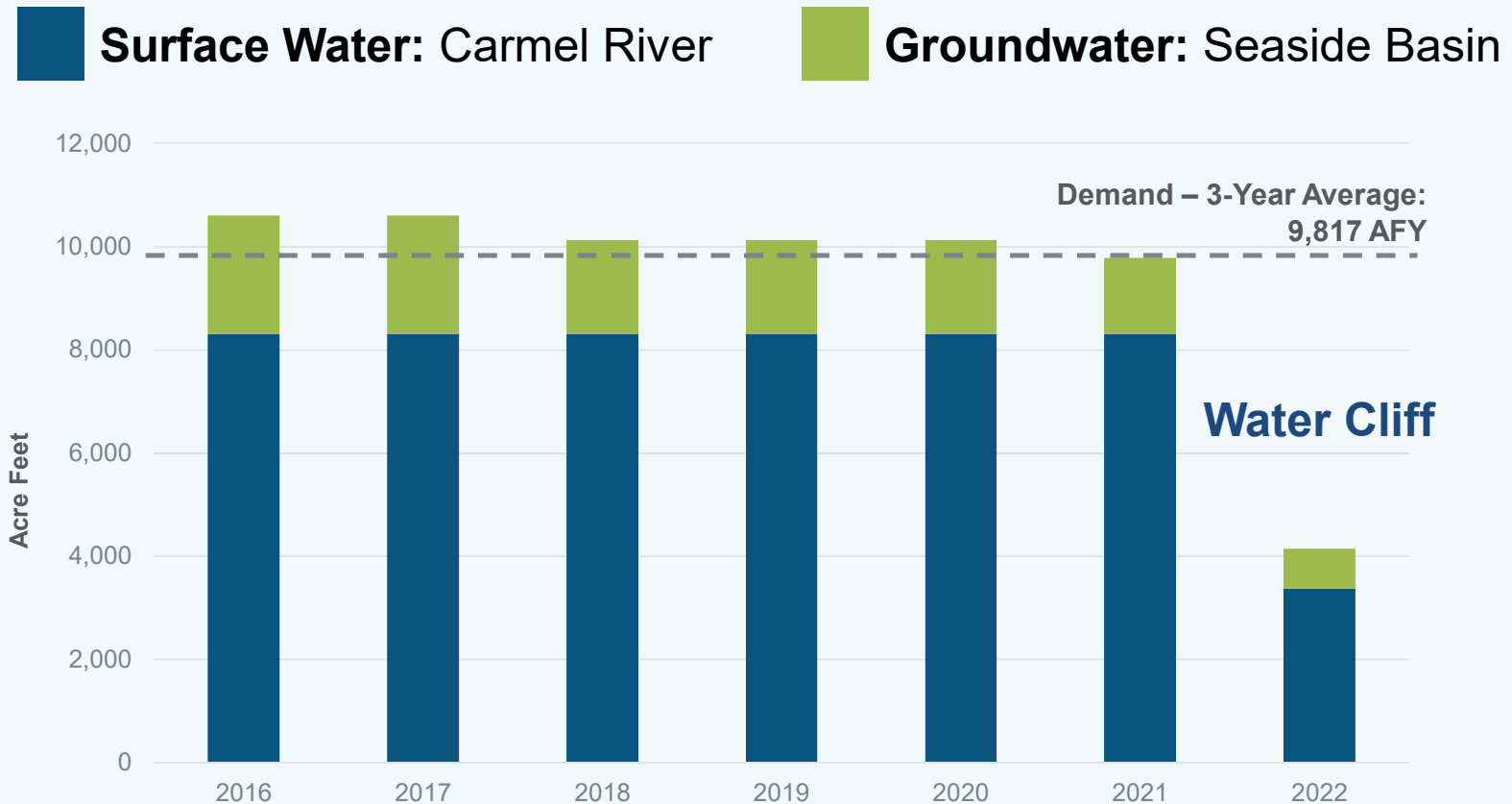
Pure Water Monterey Groundwater Replenishment Project



Central Coast of California

State Order Requires Cutbacks to Local Water Supplies

- “Water Supply Cliff” occurs in 2022 when cutbacks will take effect

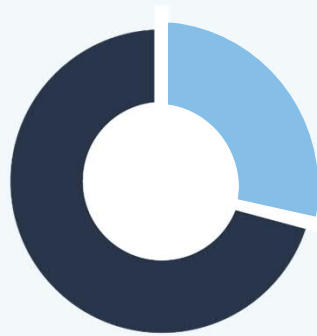


Pure Water Monterey – A Sustainable Water Supply for the Monterey Region



3,500 AFY

produced for groundwater
replenishment of critical
drinking water basin



~33%

of the water supply for
residents and businesses

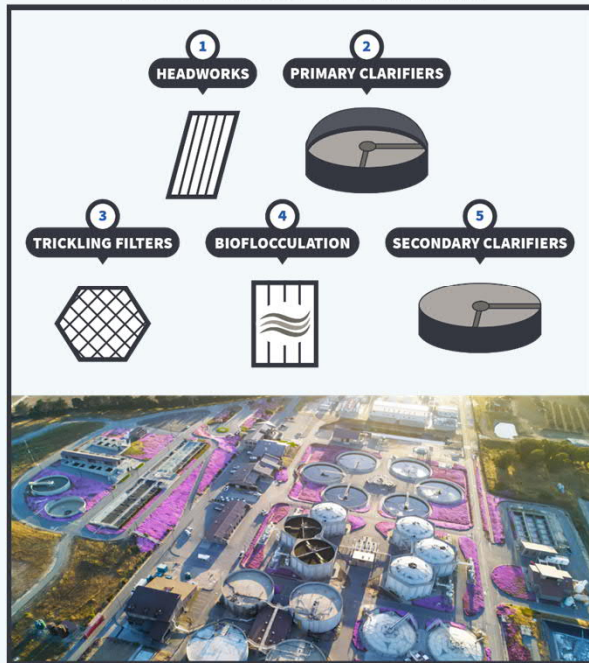


\$130 Million

to construct all project
components

Regional Treatment Plant – IPR builds on success of Ag Reuse Program

Primary/Secondary Wastewater Treatment



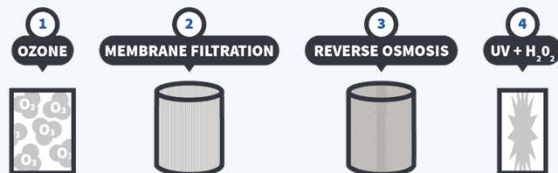
Ocean Discharge *Predominantly Wintertime*



Non-Potable Reuse *Agriculture Irrigation*



Indirect Potable Reuse *Groundwater Replenishment*



Innovative Source Waters help expand both Non-Potable and Potable Reuse



Municipal Wastewater



Agriculture/Packing Wash Water



Agriculture Drainage Water



Urban Stormwater Runoff

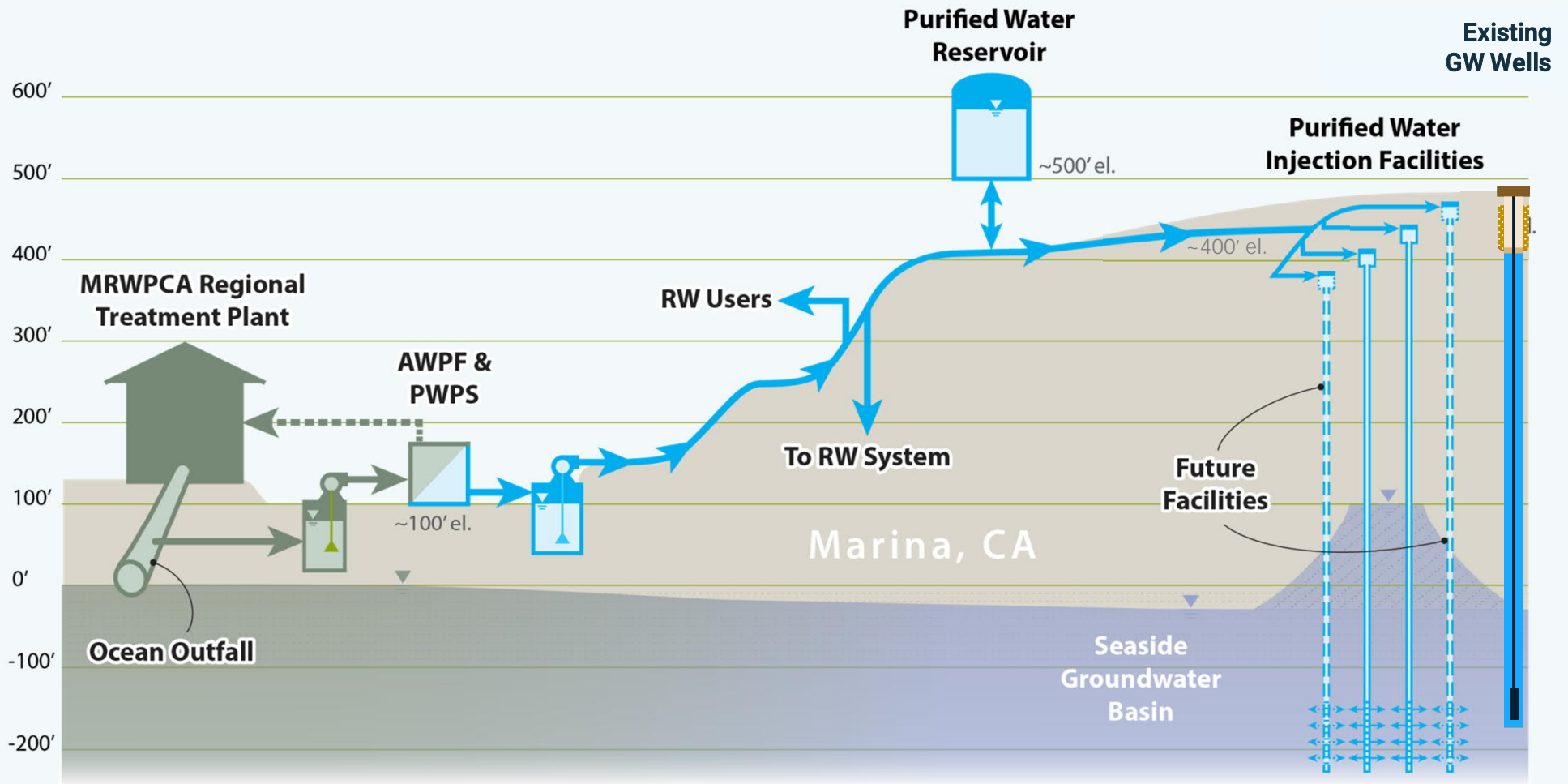
Pure Water Monterey Facilities

Pure Water Monterey

- New Source Water Facilities
- 5 MGD AWPf and PW Pump Station
- ~ 9 miles of Conveyance Pipeline
- 2 MG Purified Water Reservoir
- Injection Well Facilities

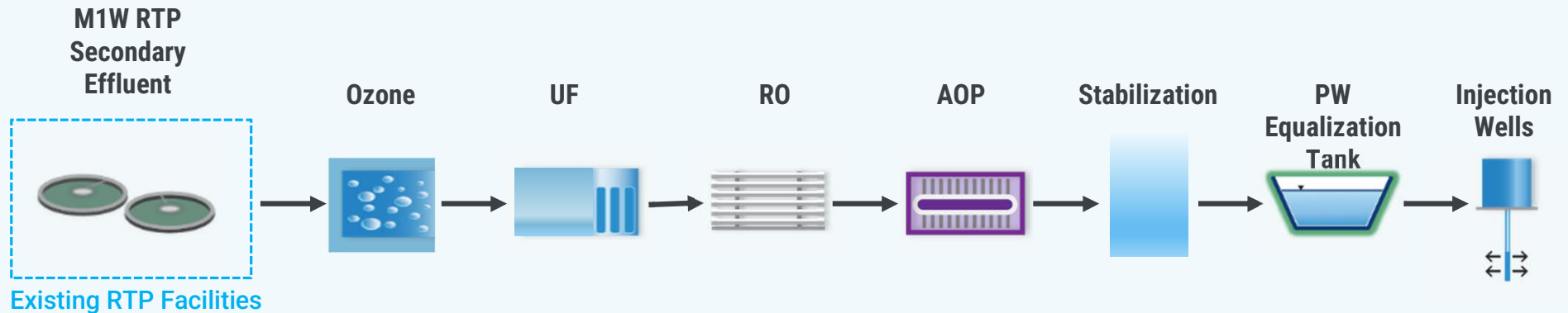
5 MGD Advanced Water Purification Facility

PWM Overall Purified Water System



AWPF Flow Diagram and Log Removal/Inactivation

Password 1:
Sea Otter



	Potential/Target Process Log Removal / Inactivation Credits								
Treatment Processes	Potential M1W RTP	Potential Ozone	UF	RO	UV/ AOP	Aquifer	Total Log Removal/ Inactivation	DDW Required Log Removal/ Inactivation	Potential Total Log Removal/ Inactivation
Virus	1	2	0	1	6	5	12	12	15
<i>Giardia</i>	1	0	4	1	6	0	11	10	12
<i>Cryptosporidium</i>	1	0	4	1	6	0	11	10	12
<i>1-4 Dioxane</i>	0	0	0	0	0.5	0	0.5	0.5	0.5

Ozone Oxidizes Trace Pollutants and Reduces MF Fouling



Two 850 ppd
Ozone Generators (Wedeco)

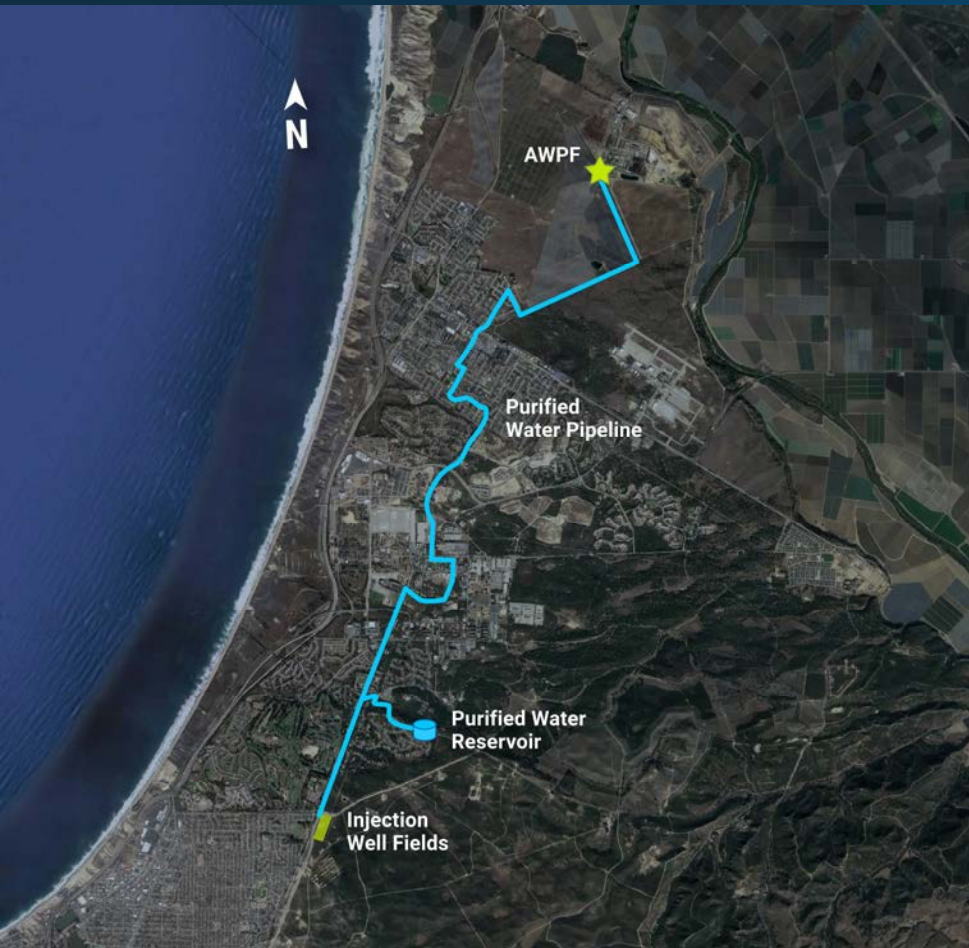
Liquid Oxygen (LOX) supply

12 to 15 mg/L dose
(>1.0 Ozone to TOC Ratio)

Mazzi side-stream injection

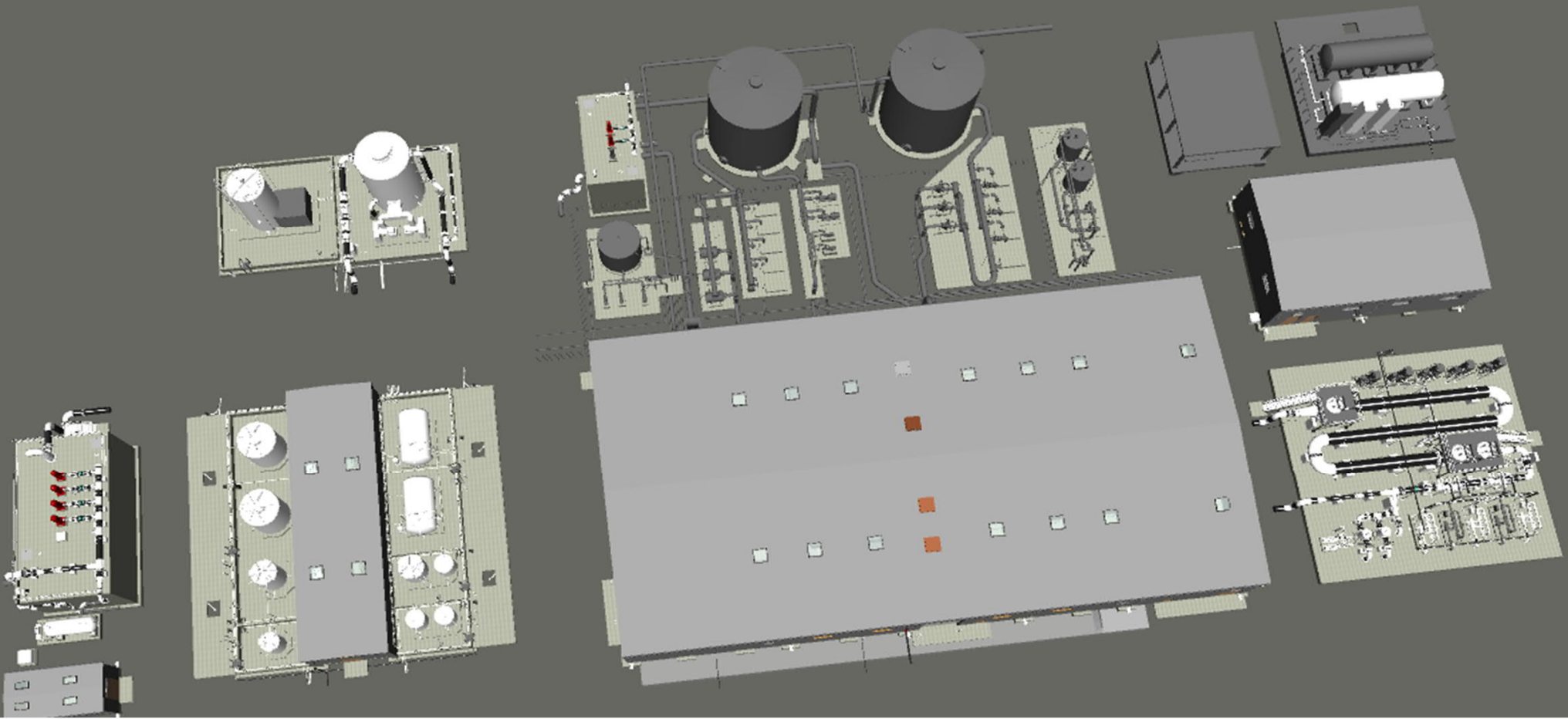
Pipeline Contactor with ~3 minutes
HDT

Purified Water is Conveyed to the Seaside Basin for Groundwater Replenishment

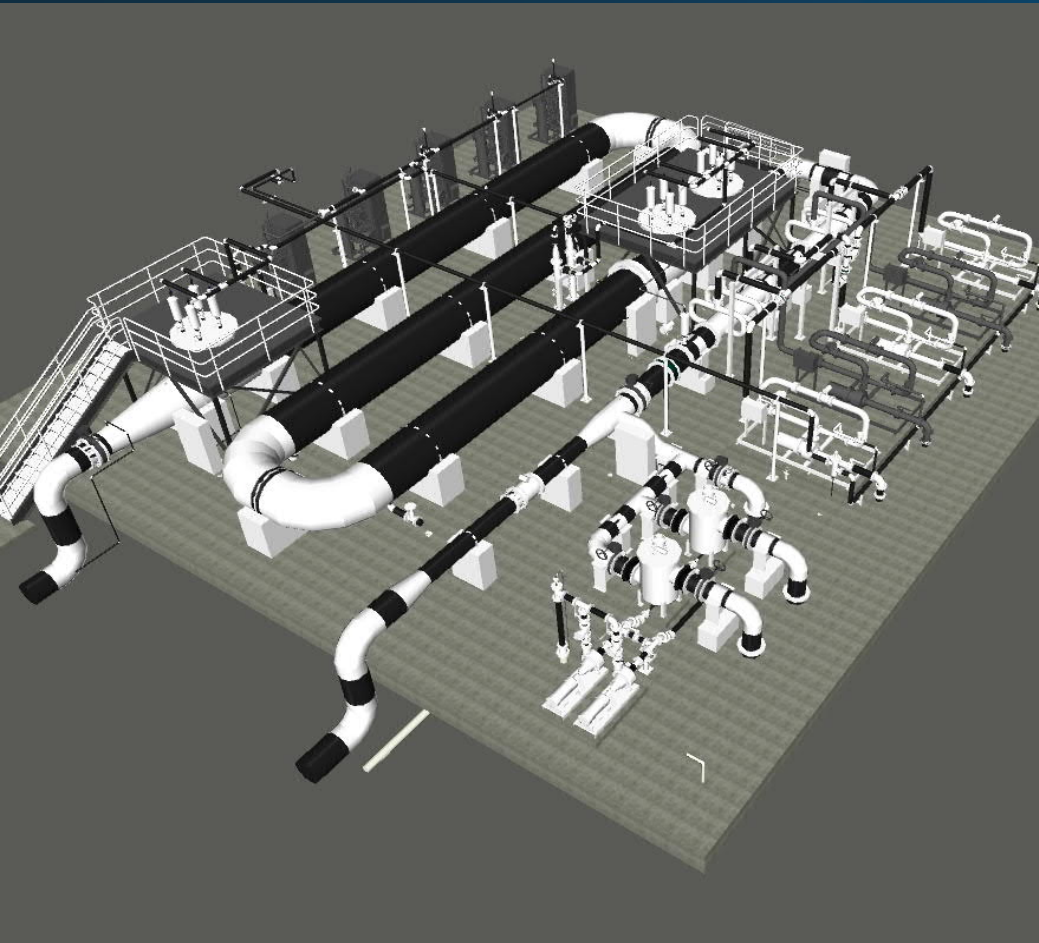


- Purified Water Pump Station
- ~9 miles of Conveyance Pipelines
- 2 MG Balancing and Storage Reservoir
- Two Initial Deep Injection Wells – adding two more.
- Two Shallow (Vadose Zone) Injection Wells
- Monitoring Wells
- Well Backwash System

3D Models and Workshops help Communicate Design for O&M Staff Review



3D Models also help the Contractor and CM Visualize the Finished Facility



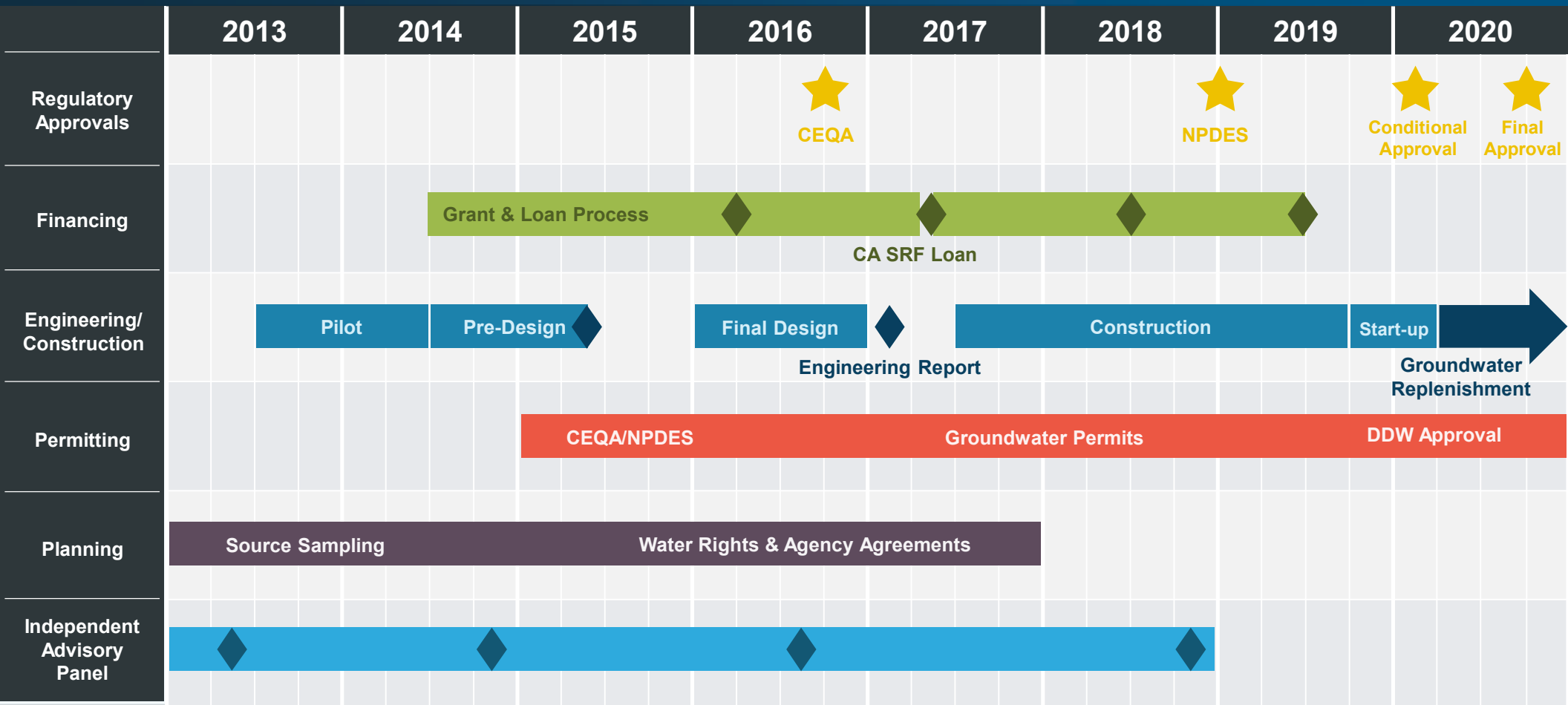
3D Models also help the Contractor and CM Visualize the Finished Facility



Completed AWPf Facilities



Planning, Permitting, Financing Take Time – Plan Ahead!



PWM Started Replenishing the Seaside GW Basin in March 2020



5 MGD Advanced
Water Purification Facility

Stats and Project Status

- \$130M Program
- \$50M AWPf; \$12M IWF
- Cost of Water: ~\$2,400 per AF
- Program has replenished ~5,000 AF to date
- Preparing to expand to 7.6 MGD

Q & A



Drinking purified water from the source!



School groups tour the PWM Demonstration Facility



Hyperion 2035 Program

LA Chapter WaterReuse

Dec. 7, 2021

Huub Cox

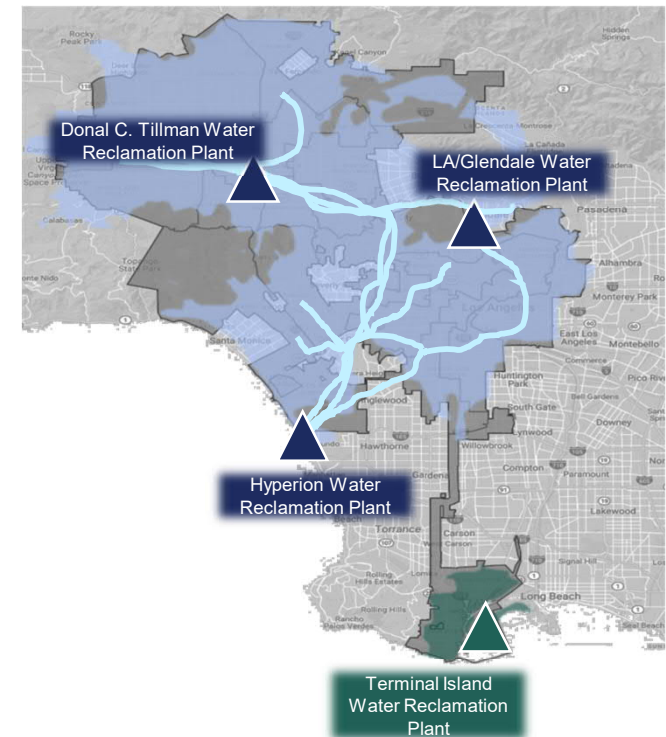
Division Manager, Water Recycling Implementation Division

LA Sanitation and Environment

- City of LA Service Area
 - Population Served: 4,000,000
 - Area served: 600 Square Miles
 - Sewer System Length: 6,700 Miles
 - Average System Flow: 306 mgd
- Hyperion Service Area: 3 Interconnected Plants
 - Tillman Water Reclamation Plant
 - Los Angeles Glendale Water Reclamation Plant
 - Hyperion Water Reclamation Plant
- Terminal Island Service Area
 - Terminal Island Water Reclamation Plant

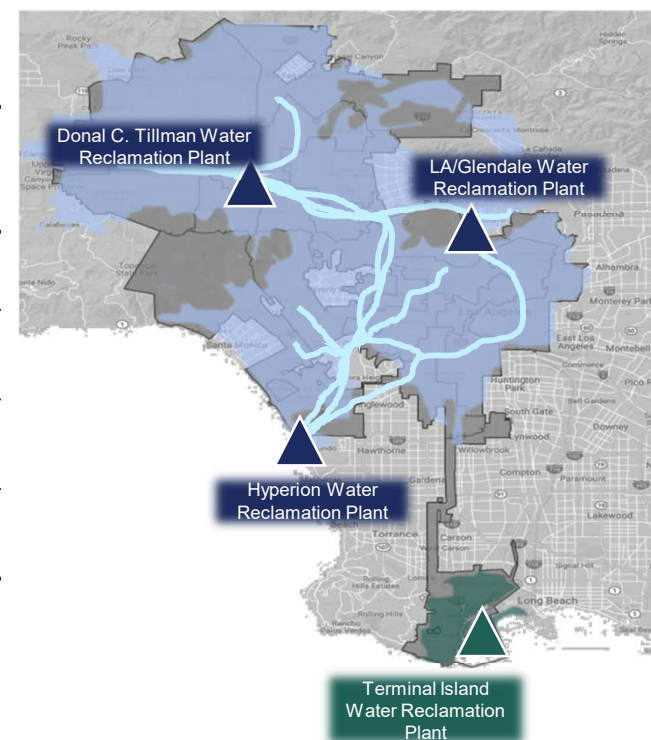


Hyperion 2035 Overview



LASAN's Clean Water Program

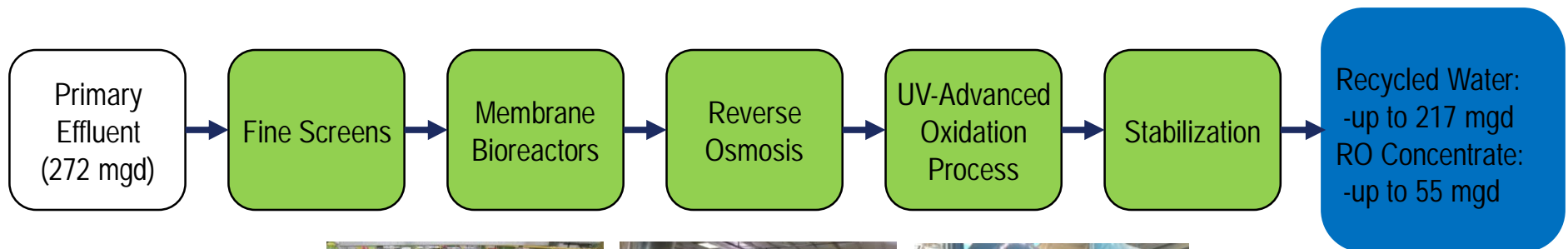
Water Reclamation Plant	Average flow (mgd)	Recycled water/ Beneficial Use (mgd)
Hyperion Water Reclamation Plant	260	71
Los Angeles - Glendale Water Reclamation Plant	18	15
Donald C. Tillman Water Reclamation Plant	43	32
Terminal Island Water Reclamation Plant	12	12
Total	333	130



Hyperion 2035: Overview

Goal: Transform Hyperion to a 100% water recycling facility by 2035 for potable reuse applications

How: Convert the existing secondary treatment process to advanced treatment



Hyperion 2035 Implementation

Conceptual 2020-2023

- Advanced treatment process
- Wet weather flow treatment process
- NPDES permit requirements
- Programmatic EIR
- Program delivery

Design 2023-2025

- Facility design
- Project specific EIR
- Permitting

Construction 2025-2035

- Program phasing and packaging
- Project alternative delivery

Extensive Planning and Key Projects

Hyperion MBR Pilot Facility



Hyperion AWWPF Project



Technical Studies



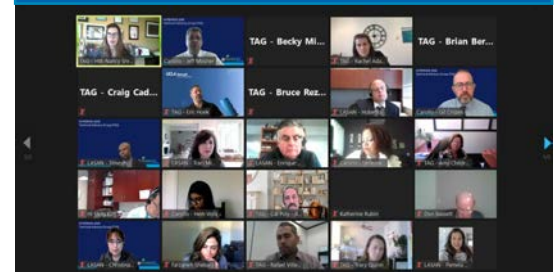
Program Planning



CEQA and Permitting

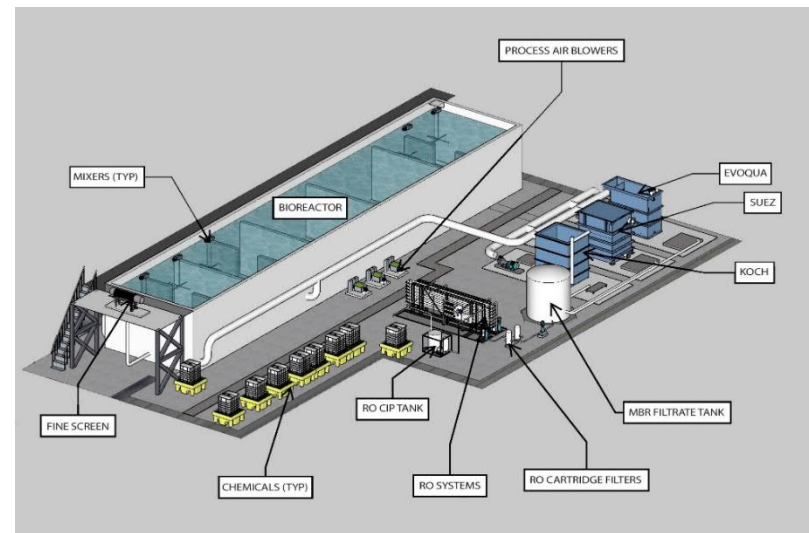


Outreach



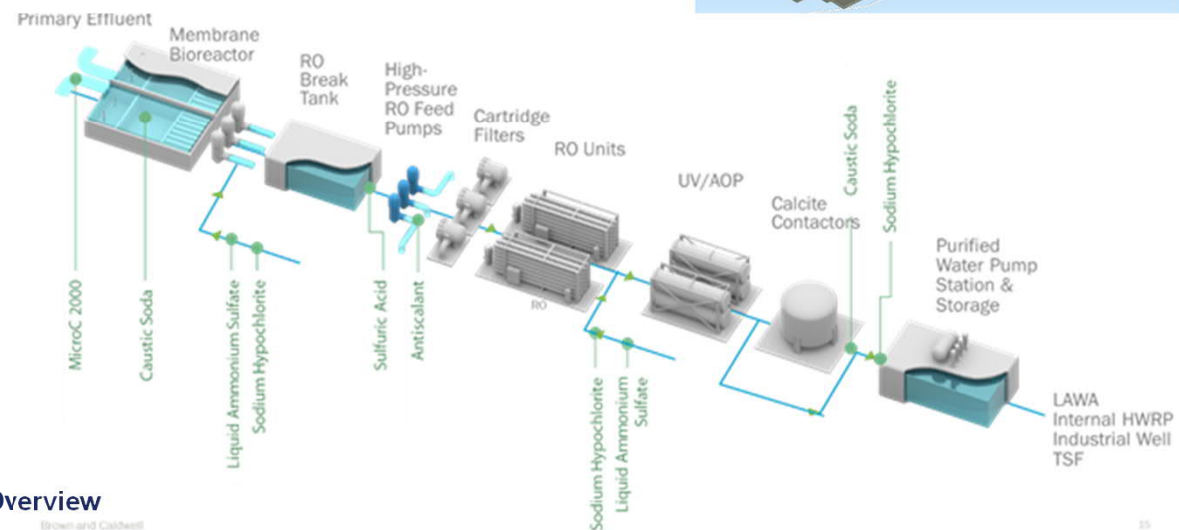
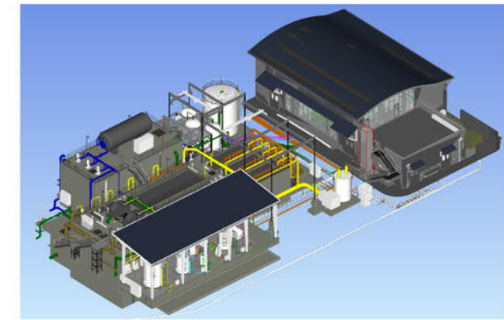
Hyperion MBR Pilot Project Facility

- Goals
 - Regulatory approval of MBR for pathogen reduction
 - Side-by-side comparison of 3 MBR systems
- Project Partners: LADWP and WBMWD
- Construction: ~\$18 million
- Current status: in construction
- Pilot testing: 2022/23



Hyperion Advanced Water Purification Facility

- Goals
 - 1.5 mgd for LAX and HWRP
 - Proof of concept for 100% water recycling
- Project Partners: LADWP and LAWA
- Guaranteed Maximum Price: ~\$92 million
- Current status:
 - Construction



Hyperion 2035: Program Outreach

- Technical Advisory Group (TAG)
 - Technical discussions around recycled water, environmental impacts, and Santa Monica Bay
- Community Advisory Group (CAG)
 - Broader discussions around impacts and benefits of recycled water on Los Angeles, local communities, and other interests



Hyperion 2035 Overview



Thank you!

LACITYSAN.ORG/RECYCLEDWATER

Email: sanrecycledwater@lacity.org



@LACITYSAN

WateReuse California Los Angeles Chapter Meeting



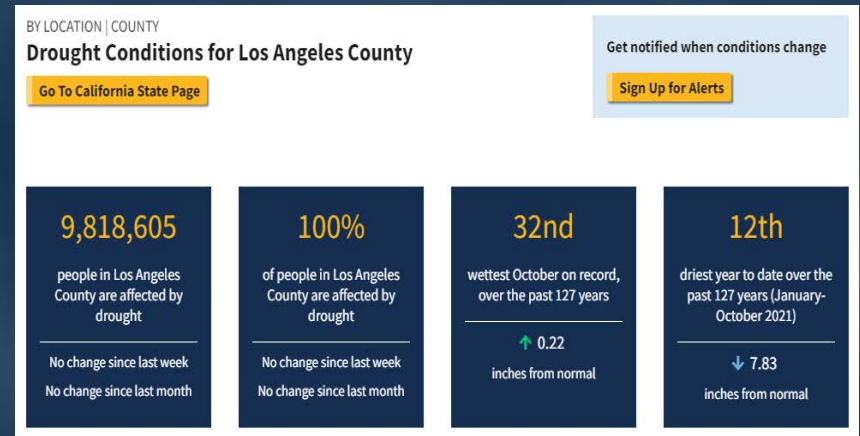
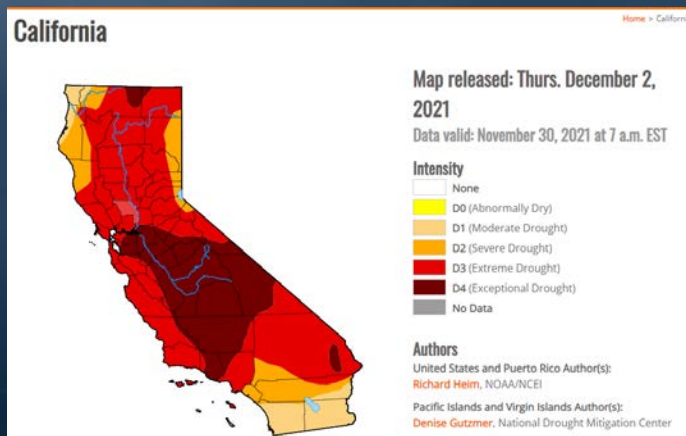
December 7, 2021

Legislation & Regulation Update

Raymond Jay
Metropolitan Water District of Southern California
(213) 217-5777 or rjay@mwdh2o.com

Drought

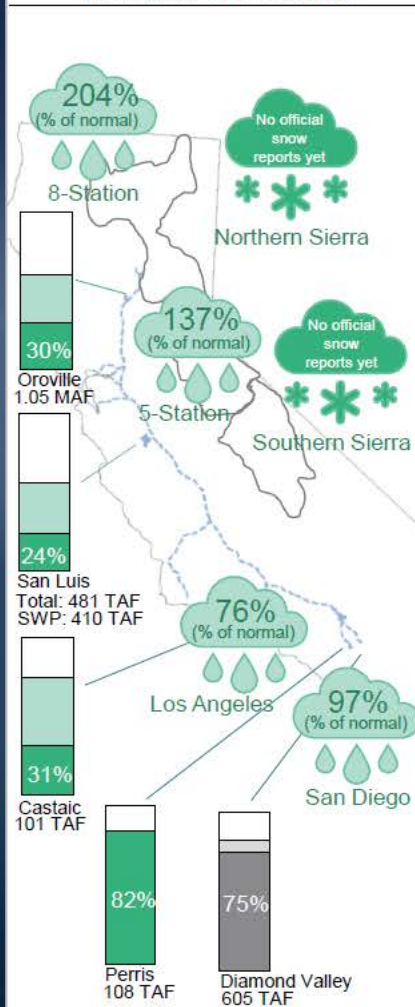
- Drought emergency in all 58 counties; some emergency curtailments
- California enacted 15% voluntary conservation
- Metropolitan adopts Water Supply Alert - agencies implement Drought Contingency Plans
- Water Supply Conditions Report
https://www.bewaterwise.com/water_supply_conditions/water_supply_conditions.pdf
- Initial zero SWP allocation in 2022



Water Supply Conditions

State Water Project Resources

SWP Table A – 5% - 95,575 AF



WATER SUPPLY CONDITIONS REPORT

Water Year
2021-2022

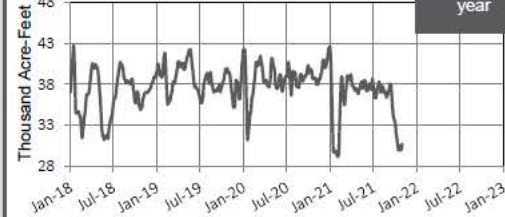
As of: November 28, 2021

Metropolitan Resources

Lake Skinner Storage

Capacity: 43.8 TAF

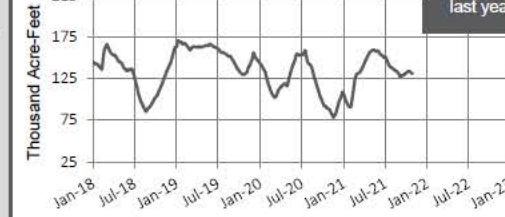
8 TAF less
than last
year



Lake Mathews Storage

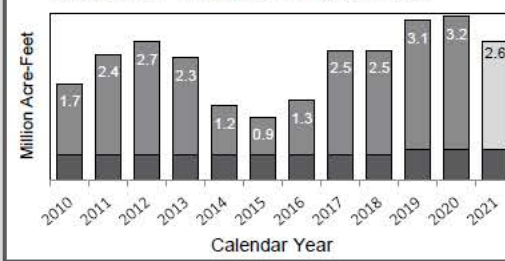
Capacity: 182 TAF

43 TAF
more than
last year



MWD Storage Reserve Levels

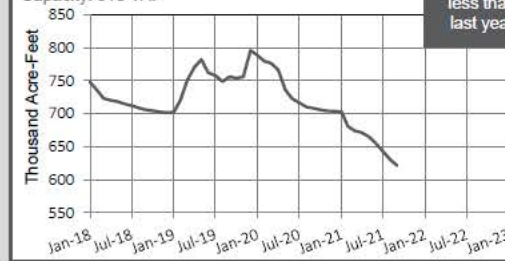
Potential Balance Storage Balance Emergency Storage



Diamond Valley Lake Storage

Capacity: 810 TAF

100 TAF
less than
last year



Highlights

- The average precipitation for Los Angeles during the new "normal" period (1991-2020) is practically the same as the average for the previous period (1981-2010)
- The average precipitation for San Diego during the new "normal" (1991-2020) is 5.3% lower than the average for the previous period (1981-2010)
- California Department of Water Resources will publish the initial runoff forecasts on December 8



This report is produced by the Water Resource Management Group and contains information from various federal, state, and local agencies. The Metropolitan Water District of Southern California cannot guarantee the accuracy or completeness of this information. Readers should refer to the relevant state, federal, and local agencies for additional or for the most up to date water supply information. Reservoirs, lakes, aqueducts, maps, watersheds, and all other visual representations on this report are not drawn to scale. Questions? Email mfeneira@mwdh2o.com

<http://www.mwdh2o.com/WSCR>

Colorado River Resources

Projected CRA Diversions – 1,076,000 AF



2022 California Legislative Calendar

- Jan. 1 Statutes take effect
- Jan. 4 Legislature reconvenes
- Jan. 10 Governor submits budget to Legislature
- Feb. 18 Last day for bills to be introduced
- Apr. 29 Last day policy comm. to report fiscal bills
- May 6 Last day fiscal comm. to report fiscal bills
- June 4 Last day for bills to pass house of origin
- June 15 Last day to pass budget
- Sept. 10 Last day for any bill to be passed
- Sept. 30 Last day for Governor to sign or veto bills
- See: <http://assembly.ca.gov/legislativedeadlines>

2021-22 Legislation: 2-year bills

- SB 45 (Portantino): Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2022
- AB 1500 (Garcia): Safe Drinking Water, Wildfire, Drought, Flood Protection, and Workforce Development Bond Act of 2022
- AB 377 (Rivas): Water quality: impaired waters
- AB 836 (Gabriel): CBSC: recycled water: nonpotable water systems
- AB 1434 (Friedman): Urban water use objectives: indoor residential water use
- SB 230 (Portantino): SWRCB: Constituents of Emerging Concern Program

California Budget and RW Funding

- Governor's Budget- \$262.6 billion
- \$5.1B for Water & Drought Resilience
- \$400M for recycled water & groundwater recovery
 - \$200M in FY 21-22
 - \$100M in FY 22-23 & FY 23-24
- \$100M for PFAS support

Regulatory Update

- Cross Connection Control Handbook – Title 17
 - Use of Swivel-ell requirements
 - First Public Hearing April 27
 - DDW is still evaluating comments (per website)
 - Second public comment, Public Hearing, & Board adoption : TBD
 - https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/cccp/cccph_draft_feb2021.pdf
 - https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/cccph.html
- Water Use Efficiency Implementation
 - RW variances and potable use credit Workshops
 - Potential variances for RW with >1,000 mg/l TDS
 - Proposed adoption in December 2021?

DPR Draft Regulations Update

- Adopt regulations by 2023
- Framework Addendum March 3, 2021
 - https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/direct_potable_reuse/dprframewkaddendum.pdf
- Comments/concerns submitted June 25, 2021
 - RWA vs TWA requirements
 - Operator requirements
 - Pathogen LRV requirements
 - Treatment flexibility
 - Direct Potable Reuse Responsible Agency (DiPRRA)
 - Technical, Managerial, and Financial (TMF) Capacity
- Expert Panel December 1, 2021
- Additional info:
 - https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/direct_potable_reuse.html

Federal Infrastructure Update

Infrastructure Investment and Jobs Act (IIJA)

- \$1 billion for western water recycling
 - \$550M over 5 years for Title XVI WIIN program
 - \$450M Large-Scale Water Recycling and Reuse
- \$48 billion for nationwide programs
- Reauthorizes Alternative Water Source Grants
- Establishes federal interagency water reuse group

\$1.75B Build Back Better package

- Under Senate consideration
- \$125M for Alternative Water Source Grants

Federal Update

- Government operating under continuing resolution at FY 2021 levels
- FY22 appropriations
- WRDA 2020
- Hearing on Emerging Contaminants

Questions?

If you have any questions, please contact:

Raymond Jay, Past President



c/o Metropolitan Water District of Southern California
700 N Alameda Street
Los Angeles, CA 90054
(213) 217-5777
rjay@mwd.h2o.com



Regulatory Agency Updates

- State Water Board Division of Drinking Water
- *Saeed Hafeznezami*
- Los Angeles Regional Water Quality Control Board
- *Steven Webb*
- Los Angeles County Department of Public Health
- *Glenn Van Eekhout*

Chapter Trustee Updates

WaterReuse LA Chapter – December 7, 2021



Last WaterReuse CA Board of Trustees Meeting: September 19, 2021

Next WaterReuse CA Board of Trustees Meeting: December 10, 2021

HAPPY
Holidays

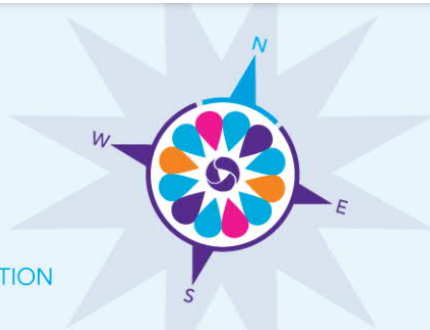
Chapter Trustee Updates
WateReuse LA Chapter – December 7, 2021



2022 WateReuse Symposium

2022 WateReuse
SYMPOSIUM

IN COLLABORATION WITH THE WATER RESEARCH FOUNDATION



SHAPING OUR PAST &
CHARTING OUR FUTURE

MARCH 6-9, 2022 • SAN ANTONIO

- Early Bird Registration – Nov 1, 2021 – Jan 6, 2022



Chapter Trustee Updates

WaterReuse LA Chapter – December 7, 2021



WRCA Budget Adoption

- Special Board Meeting Nov. 15
- 2022 WRCA Budget Adopted
- Revenue expected to go up by about 6%
- Expenditures expected to increase by about 26% due to increased conference cost, staffing, and special projects



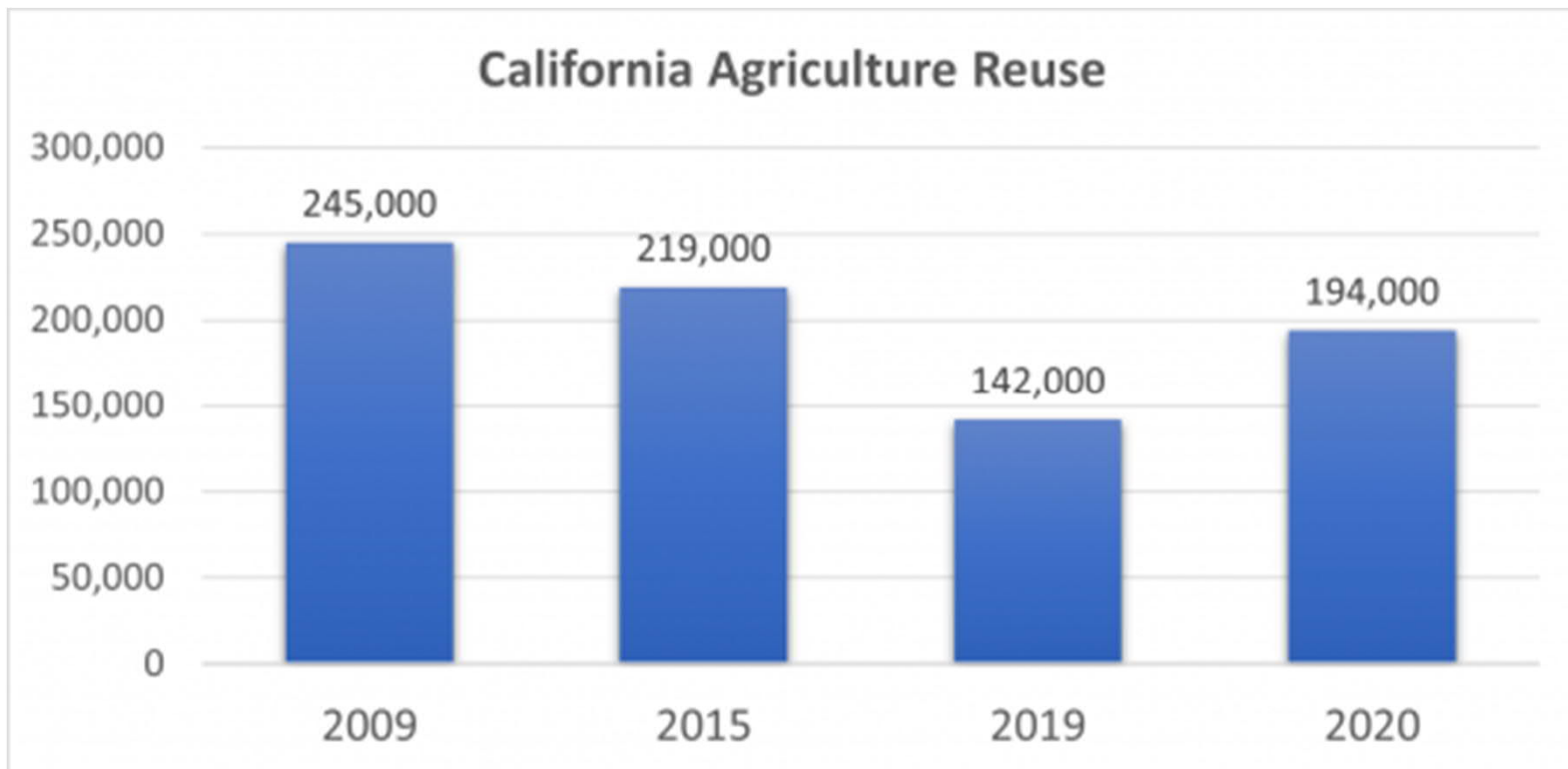
Chapter Trustee Updates

WaterReuse LA Chapter – December 7, 2021



WRCA Ag Reuse Committee

- WRCA sent letter to DDW on November 4 to discuss Engineering Report streamlining efforts for simple agricultural reuse projects



Chapter Trustee Updates

WaterReuse LA Chapter – December 7, 2021



Water Utility Resilience Forum – December 13-15 in Miami, FL

- WaterReuse is a supporting organization for the Water Utility Resilience Forum
- Forum will explore practical strategies for water utilities to ensure a resilient and sustainable future
- <https://www.waterresilienceforum.org/wp-content/uploads/2021/11/published-agenda-resilience-forum.pdf>



Chapter Updates (*Judi Miller*)

- August Meeting Summary Approval
 - Voting by one rep from each member org
- WRCA Monthly Newsletter
 - LA Chapter member highlights by **Jan. 14** (send to Judi)
- Volunteer Opportunities
 - Chapter Photographer
- Emerging Professionals Committee Update
 - Chair: *Alex Waite*
alex.waite@smgov.net
- Membership Committee
 - Chair: *Everett Ferguson*
eferguson@wrd.org
- Technical Topics Committee
 - Chair: *Alex Franchi*
alex.franchi@aecom.com

Membership Roundtable (*Jared Lee*)

Next Meetings

- Tuesday, February 8, 2022 – Hybrid
- Tuesday, April 12, 2022 – Hybrid

