

BOARD OF DIRECTORS EAST BAY MUNICIPAL UTILITY DISTRICT

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

Notice of Special Meeting

Long-Term Water Supply Workshop Tuesday, March 27, 2018 8:30 a.m. Training Resource Center 375 Eleventh Street Oakland, California

At the call of President Lesa McIntosh, the Board of Directors has scheduled a Long-Term Water Supply Workshop for 8:30 a.m. on Tuesday, March 27, 2018, at 375 Eleventh Street, Training Resource Center, Oakland, California.

The Board will meet in workshop session to receive presentations on the District's current and planned activities to ensure water supply reliability, updates on the Water Conservation and Water Recycling programs, regional partnerships and activities related to groundwater sustainability, and information on the District's efforts to secure long-term water transfers.

Dated: March 22, 2018

has Cole

Rischa S. Cole Secretary of the District

W:\Board of Directors - Meeting Related Docs\Notices\Notices 2018\032718_LT water supply workshop.doc

.

.



375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

AGENDA Tuesday, March 27, 2018 <u>Special Meeting</u> Long-Term Water Supply Workshop 8:30 a.m. Training Resource Center 375 Eleventh Street Oakland, California

ROLL CALL:

<u>PUBLIC COMMENT</u>: The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

DISCUSSION:

1. Staff will present an overview on the District's current and planned activities to ensure water supply reliability, updates on the Water Conservation and Water Recycling programs, regional partnerships and activities related to groundwater sustainability, and information on the District's efforts to secure long-term water transfers.

ADJOURNMENT:

Disability Notice

If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.

Document Availability

Materials related to an item on this Agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours.

W:\Board of Directors - Meeting Related Docs\Agendas\2018_2018_Ctte_Agendas\Workshop\032718_LT Water Supply Workshop_agenda.doc

.

.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE:	March 22, 2018
MEMO TO:	Board of Directors
THROUGH:	Alexander R. Coate, General Manager
FROM:	Richard G. Sykes, Director of Water and Natural Resources
SUBJECT:	Long-Term Water Supply Workshop

A workshop on the District's long-term water supply will be held on March 27, 2018. The staff presentation, which is attached, offers an overview of the District's current and planned activities to ensure water supply reliability into the future. Staff will present updates on the Water Conservation and Water Recycling programs, discuss regional partnerships and activities related to groundwater sustainability, and provide information on the District's efforts to secure long-term water transfers.

RGS:AET:acr

Attachment: Long-Term Water Supply Workshop Presentation

I:\SEC\2018 Board Related Items\ LT Water Supply Workshop\WNR - Long Term Water Supply Workshop 3-27-18.doc

.

.



Long-Term Water Supply Board of Directors' Workshop

March 27, 2018



Key Strategies for Long-Term Water Supply



- Plan for uncertainty (drought, climate change, regulatory uncertainty)
- Lock in customer conservation levels and maximize the effectiveness of conservation dollars
- Water recycling program expands and plans for potential future potable reuse
- Regional partnerships to diversify supplies and improve reliability
- Sustainable groundwater management with local partners
- Long-term water transfers to backstop CVP short falls

Long-Term Water Supply Reliability Risks



Mokelumne River Historic Water Supply Variability (WY 1921 - 2017)



Long-Term Water Supply Reliability Risks



- Longer and/or deeper droughts
- Climate change and increased variability
- Regulatory challenges
 - Water Quality Control Plan update
 - Mandates from the Governor or State Water Resources Control Board
- Statewide challenges
 - Protecting endangered species
 - Groundwater management
 - Limited resources, competing demands

Long-Term Water Supply Part of EBMUD's Strategic Plan



Goal: Ensure a reliable high quality water supply for the future

Strategy 1 - Preserve entitlements and obtain supplemental supplies

Strategy 2 - Reduce potable demand through conservation

Strategy 3 - Reduce potable demand through recycling

Strategy 4 - Maintain climate change monitoring and response plan







Freeport Regional Water Project CVP Supplies

- Central Valley Project (CVP) supplies reduced to 25% in 2015
- CVP M&I Shortage Policy finalized in 2017
 - Preserves M&I preference over Ag during shortages
 - Consistent accounting of non-CVP supplies available for Public Health & Safety (PH&S) needs
 - No penalty against PH&S from short-term transfers
- Continue to advocate for EBMUD
 - Coordinated Operations Agreement
 - Reinitiation of Consultation on Long-Term Operations
 - Water Quality Control Plan update
 - WIIN Act implementation



Long-Term Water Transfer Placer County Water Agency (PCWA)

ЕВМИД

- Agreement to purchase PCWA's Water Forum environmental releases during dry years
 - First right-of-refusal until final agreement in place in 2021
 - Purchased 17 TAF of short-term supply in 2014 and 2015
- PCWA completing environmental reviews for American River Water Rights Extension and long-term transfer
- Draft EIR in late 2018



Additional Water Transfer Partnerships

- Reclamation Long-Term Water Transfer Environmental Impact Statement
 - EBMUD included as a buyer
 - Recent ruling found impact analysis to be incomplete
- Sacramento River Settlement Contractors
 - In 2015, EBMUD purchased 13 TAF
 - Working with individual water agencies to develop long-term and short-term agreements
 - Discussing MOU with Sycamore Mutual Water Agency on a long-term water transfer through crop idling





Additional Water Transfer Partnerships



- Yuba County Water Agency
 - Continue to develop long-term transfer concept to lead to a MOA
- Richvale Irrigation District & Western Canal Water District EIR
 - Up to 60 TAF of crop-idling water to be transferred between 2018-2022
 - EBMUD is listed as a potential buyer
 - Final EIR certification expected spring 2018



Bay Area Regional Reliability (BARR)



- Eight Bay Area water agencies working together to improve regional water supply reliability
- Completed USBR-funded Drought Contingency Plan (DCP) last year
- "Task Force" of 25 stakeholder groups (environmental, public policy, wastewater, regional planning) provided input



Bay Area Regional Reliability (BARR) cont'd



- DCP identified 15 potential drought mitigation projects
 - Interties
 - Storage
 - Advanced treatment for new supplies
- Water recycling
- Changes in water management practices
- Preparation of annual Spring Drought Monitor for the region







Bay Area Regional Reliability (BARR) cont'd



- Received additional USBR WaterSMART funding for a Regional Water Marketing Program
 - \$400,000 over three years to pilot regional transfers/exchanges
 - Develop a "roadmap" document to facilitate future transfers/exchanges



Los Vaqueros Reservoir Expansion Project



- EBMUD participating in planning efforts
 - Completion of final SEIS-SEIR in November 2018
 - California Water Commission funding application
- Two options for EBMUD participation
 - EBMUD moves Mokelumne River water into LV during wet years, in exchange for dry year supply
 - EBMUD wheels water for project partners



LV Reservoir Expansion Project Grant Update



- Approval depends on Public Benefit Ratios (PBR); must be greater than 1
- California Water Commission (CWC) issued revised PBRs for all applicants; all less than 1
 - CCWD's ratio revised from 3.58 to 0.46
 - CWC nullified LV ecosystem benefits due to minor changes in CalSim model
- CCWD appealed the revised PBR
 - Expects to have ecosystem benefits reinstated, PBR>1





Major water projects hit funding barriers as California questions value

LV Reservoir Expansion Project Partnership

- Currently 14 agencies signed on as partners
 - Includes Bay Area municipal water districts, Grasslands Water District (wildlife refuges), irrigation districts
- Development of governance structure (JPA or similar)
- JPA concept development two part evaluation
 - Financial evaluation: cost of service, cost allocation, participant cost/benefits
 - Implementation: development of termsheet, agreements, etc.
- Freeport Principles of Unassigned Capacity, adopted by the Board in 2016, address Board's interest in conservation principles

LV Reservoir Expansion Project Next Steps



- CWC final PBRs in May; funding decision in July
- Completion of Final SEIS-SEIR in November 2018
- Ongoing EBMUD internal evaluation of project benefits, costs, operational issues
- Staff will continue to update Board on this project and on findings from internal evaluation



Local Groundwater Stewardship & Leadership



- Sustainable Groundwater Management Act (SGMA)
 - New state regulatory framework to promote sustainable groundwater management
 - EBMUD and Hayward are Groundwater Sustainability Agencies (GSAs) for the East Bay Plain
 - July 2017 MOU commitment to work together to prepare a single Groundwater Sustainability Plan (Plan) for the Basin, apply for grant funding



Recent SGMA Milestones



- EBMUD and Hayward selected for \$1 million grant to fund Plan development
- Stakeholder communications and engagement
 - Cities, counties, private pumpers, nonprofits, academic institutions, neighboring basins
- Cooperating Agreement with City of Hayward for Board consideration April 24
 - Single Plan covering the entire East Bay Plain
 - Cost sharing framework
 - Covers Plan development, not implementation

SGMA Next Steps



- Execution of Cooperating Agreement with City of Hayward
- Grant agreement with DWR
- Plan development
 - Consulting contract for hydrogeologic modeling & Plan development
 - Continued stakeholder engagement
 - Complete Plan by 2021, prior to January 2022 SGMA deadline



Bayside Groundwater Project



- EBMUD injects treated potable water into the aquifer during wet years, can extract in dry years
- Understanding basin recharge/production capacity will be an important part of SGMA Plan development





DREAM Project



- Pilot groundwater banking project
 - EBMUD
 - NSJCWD
 - San Joaquin County
- EBMUD provides 1,000 AF of Mokelumne River water for irrigation
- In exchange, EBMUD receives up to 500 AF of groundwater





DREAM Project cont'd

- Recent developments
 - County issued Export Permit in April 2017
 - Execution of funding and operations agreements
 - Detailed design underway
 - Water rights change petition filed
- Next Steps
 - Complete design
 - Construction of EBMUD components in FY19
 - Operations dependent on hydrology



Recycling: 20 MGD by 2040 (Non-potable)



- Recycled water master plan update
- East Bayshore
- DERWA/San Ramon Valley
- North Richmond and RARE
- Satellite opportunities
- Fill stations

Recycled Water Master Plan Update - Overview

Scope

- Evaluate future non-potable reuse
- Evaluate potential for potable reuse
- Determine goal and implementation plan

Schedule

- Master plan update began in mid-2017
- Upcoming Board briefing in mid-2018
- Complete master plan update by end of 2018



Master Plan Update - Progress



- Completed
 - Preliminary project evaluation approach
 - Draft evaluation of future non-potable reuse opportunities
 - Draft evaluation of potential for potable reuse
- Upcoming
 - Comprehensive economic evaluation
 - Finalize project alternatives evaluation



Master Plan Update -Potable Reuse

ЕВМИД

• State-level updates

- Surface water augmentation regulations recently adopted
- Raw water augmentation regulations targeted for end of 2023 at the earliest
- No timeframe for treated water augmentation regulations
- Complex potable reuse options for EBMUD



East Bayshore



- Emeryville/Christie pipeline
 - Design of 10 site conversions in progress (40,000 gpd)
- I-80 pipeline segments
 - Gilman intersection improvements FY20
 - Buchanan N. interceptor improvements FY19
- I-80 pipeline from Emeryville to Albany
 - Design FY19-20, construction FY20-22
- Alameda crossing
 - In FY20, evaluate repurposing pipeline crossing for recycled water
- Water quality/improvements study
 - Treatment alternatives
 - Study complete by 2018



DERWA Priorities

ЕВМИД

- DERWA treatment expansion
 - Expand from 9.7 to 16.2 mgd
 - Actiflo, new pumps, UV improvements
 - Construction 2017-2018
- Supplemental supply
 - CCCSD
 - Groundwater
 - Potable
- Demand management strategy
- Supply & Sales agreements update
 - Pleasanton partnership
 - Current operations



San Ramon Valley

- Bishop Ranch (Phase 2)
 - 20 of 32 sites converted (0.7 mgd)
- Phase 3 pump station
 - CEQA, property acquisition 2018
 - Design FY19
- Phase 3 pipelines
 - Design FY19-20





North Richmond

ЕВМИД

- Facility out of service (since May 2016) due to WCWD WWTP improvements construction (near completion)
- Critical infrastructure maintenance at North Richmond in FY18-19
- Backup potable water provided to Chevron's cooling towers
- Anticipate North Richmond back online in late 2018 (avg. 4 MGD)



North Richmond & RARE

ЕВМИД

- Continue agreement negotiations with Chevron on key terms: rate, water quality specifications, indemnity, dispute resolution
- Supply agreement negotiations will resume after WCWD recruits a new general manager
- RARE remains online and produced
 3.3 MGD of recycled water in 2017





Satellite/Scalping Plants



- Diablo Country Club
 - Financing by country club, complete by 2019-2020 (0.2 mgd)
 - CCCSD to complete CEQA in 2018
- Moraga Country Club
 - MOU with EBMUD, country club to conduct feasibility study
- Oakland Hills Sequoyah CC/Oakland Zoo
 - EBMUD completed alternative water supplies study in 2017
 - Study results are being considered in master plan update
- Rossmoor
 - 27-hole golf course (0.3 mgd)
 - Interested in exploring satellite option



Recycled Water Fill Stations

EBMUD stations

- SD-1 (commercial truck station)
 - In 2017, 1.6 million gallons supplied
 - Station relocated to outside of WWTP
- SD-1 (future residential fill station)
 - Evaluate layout, traffic control, administration

Other agency stations

- San Leandro (residential & commercial)
 - Possible opening in summer 2018
- DSRSD (Pleasanton)
 - Closed residential fill station, commercial only
- CCCSD (Martinez)
 - Residential fill station remains open





Water Conservation Update

- Water Use and Savings Trends
- Water Conservation Master Plan
 - Water Management Programs
 - Regulation and Legislation
 - Conservation Incentives
 - Education and Outreach
 - Water Loss Control Initiatives
 - Conservation Research

Water Conservation

Master Plan

2011

water

Municipal Utility District





Fiscal Year Gross Production Per Capita Water Use (1970-2017)



Metered Customer Potable Water Use* - CY2013, CY2016 & CY2017



Residential Estimated Winter & Summer Per Capita Use







Water Management: Home Water Reports



- >110,000 SFR, MFR, CAP households
- >465,000 Home Water Reports
- ~24,000 registered on web portal
- >6,000 account leak alerts
- >1,100 customers reported leaks found or planned use



Check for leaks

Did you know

Even a small leak can add up to big water loss. According to the U.S. Environmental Protection Agency's WaterSense Program:

- 10% of American homes have leaks that waste 90 gallons or more per day.
- More than one trillion gallons of water per year are wasted in the United States due to leaks.

What to do next

Take one or more of the following steps to ensure that your home is leak free:

Follow the step-by-step procedures on this site to check for leaks.

Read "Find and Fix Leaks" on ebmud.com/watersmart

Order a WaterSmart Home Survey Kit that will provide you

Nov 3, 2017 Customer comment: "I wish I had this information sooner! The only way I can tell I have a leak is from your reports. I'm very glad to get them; I just wish they came more often."

Leak Found - 968 Gallons Per Day Confirmed as Outdoor Watering System



Home Water Report: Leak Alert Survey



Strong preference for standalone email alerts

	Email	Alerts in Water	Voice	Text message	Door	l do not wish to receive
Row Labels	alerts	Report	alerts	alerts	hanger	alerts
Robocall List Only	69%	21%	8%	30%	16%	0%
Robocall, Standalone, HWR	70%	28%	19%	35%	46%	4%
Standalone and HWR	75%	17%	5%	23%	7%	1%
Standalone Only	82%	18%	<mark>6%</mark>	23%	4%	0%
Grand Total	74%	20%	7%	25%	12%	1%



Business Water Reports and New Communication Tools

ЕВМИД

- Presents account water use trends
- Web services, online calculators, water management tips
- Marketing WaterSmart Business Certification
- Allows group communications to selected geographic areas





Water Management: Landscape Water Budgets



- ~23,500 irrigation account water budgets distributed in 2017
- Large irrigation customers (e.g. golf courses) maintained efficiency levels
- Provides data to focus on the least efficient irrigated areas
- Lawn strips 207% of budget



AST BAY MUNICIPAL UTILITY DISTRIC





Regulation & Legislation: EBMUD & State Requirements



• EBMUD Water Efficiency Requirements

- 430 new service plan checks
- Online application tools
- Welcome resource packet

• Senate Bill 7 - Individual Metering

- Effective Jan. 1, 2018
- Applies to new multi-residential units
- Conducted outreach to all cities, counties
- District submetering pilot to end FY18
- Senate Bill 555 Water Loss Control
 - DWR to release utility-specific regulations in 2020
 - Utilities required to meet water loss limits by 2026







State Long-Term Conservation Framework



Draft Water Use Prohibitions

Regulation overview

Section 963(b)(1)

- (A) Don't allow runoff
- (B) Don't wash vehicles without shutoff nozzle attached to hose
- (C) Don't water driveways and sidewalks
- (D) Don't use potable water in fountains, unless...
- (E) Don't irrigate in the rain •
- (F) Don't serve drinking water, unless a customer asks *
- (G) Don't irrigate turf on medians and 'parkways,' unless...2025 Section 963(c)
- Hotels and motels: Give guests the option of laundering linens Section 963(d) and (e)
- (d) HOAs: Don't violate existing law
- (e) Cities and counties: Don't violate existing law

* Enacted during Gov. declared drought only

Making Water Conservation A California Way Of Life

Prohibiting Wasteful Water Use Practices

Office of Research, Planning & Performance **Consideration of a Proposed Resolution, Item 5** February 20, 2018







What's specifically exempt?

Restaurants, hotels

cafes, cafeterias, bars









Conservation Incentives



- 1,950 rebates totaling ~\$0.5M
- >0.4 million sq. ft. of lawn replaced
- 2,500 free devices
- 64 multi-family household plumbing upgrades funded through On-Bill Financing Pilot
 - Low-income
 - Senior housing







Education & Outreach



- 6,100 educational materials to restaurants, hotels, health clubs, schools
- 2,100 WaterSmart Home Survey Kits
- 780 water waste report actions
- 26 community events, workshops, presentations

EBMUD





Education & Outreach Landscape Advisory Committee



• Landscape conversion water savings calculator



- Interactive demonstration garden map
- Sustainable Speaker Series

EBMUD Lawn Conversion Water Savings Calculator (Part 1)

Thirsty lawns use a lot of water. Join other Californians to help make our water supply sustainable by converting your lawn to a water efficient landscape. See now much water you can save in the table below by selecting your city and entering the lawn area you would like to convert. You may also be eligible for a lawn conversion rebate!

tep	Input Message / Guidance Text		Field	Field Description / Notes			
1	Step 1: Tell us where you live by selecting your City from the drop down list			Alamo	1 out of 30 cities from EBMUD district list		
2	Step 2: How many square feet of lawn are you interested in converting?			2,000	Lawn area (square feet)		
	This is the estimated water you are using for your lawn (gallons per year):			52,303	Existing lawn use, gallons per year (100% of ET)		
	(This is the estimated water use in billing units):				Existing lawn use, CCF per year (100% of ET)		
	This is the estimated water you would use for a water efficient residential landscape:			28,767	MAWA calculation without SLA, gallons per year (55% of ET)		
	lf you convert	your lawn to to a water eff	ficient landscape you could save:	23,536	Water savings, gallons per year (difference)		
					CLICK HERE TO DESIGN YOUR WATER EFFICIENT LANDSCAPE		



Education & Outreach



- I Heart My Garden Photo Challenge
- Fix a Leak Week
- Smart Irrigation Month
- Website updates
- Social media
- Nursery partnerships
- E-newsletter



Home / About us / Community activities / I♥ my Garden

Show us your gorgeous garden! Enter your photos for a chance to win prizes! Submit photos by May I5.

Do you HEART your WaterSmart garden? If you're an EBMUD customer who has traded a thirsty lawn for a lowwater landscape, it's time to flaunt your flora for a chance to win great prizes.

Prizes include:

- Our award-winning book, Plants and Landscapes for Summer-Dry Climates
- A feature on EBMUD.com
- An irrigation consultation with EBMUD's landscape genius Dave Langridge
- A \$100 gift certificate to Orchard Supply Hardware
- Free admission to the Ruth Bancroft Garden

To enter, upload before and after images of your landscape and tell us what makes your garden special. This contest is for those that have converted their yard from grass to a low-water use garden.

Getting started is easy

- Upload a before and matching after high resolution photo of your landscape. Submit 2 photos.
 Fill out the form.
- Vote for your favorites to select the "People's Choice" winner.
- 4. Follow us on Twitter to share submissions!

"We used the EBMUD directions on how to use cardboard to get rid of the lawn, and the EBMUD list of plants for water conservation. It turned out great and we get compliments all the time from our neighbors."

- Moraga resident





Education & Outreach WaterSmart Gardener Programs



- Graywater and Landscaping Workshops
- Garden Grants
- Partnerships
 - CA Native Plant Society
 - Master Gardeners
 - Rescape
 - Nurseries
 - NorCal Resilience Network







CII Strategic Plan

Strategy 1: Outreach to 50% of CII customers by 2020

Strategy 2: Enhance/expand WaterSmart Certification

- CA Green Business
- Surfrider Foundation
- Expand networking events and ceremony

Strategy 3: Target 200 CII water use audits/yr.



EBBMU



Water Loss Control Initiatives



- Goals
 - Better understand water loss
 - Improve leak detection
 - Better quantify unmetered (non-revenue) water
 - Reduce overall water loss
 - Extend life of infrastructure
 - Become a leader in water loss control
- CY17 Highlights
 - 1,362 miles of pipe surveyed
 - Deployed 510 leak detection data loggers
 - Repaired 948 main breaks
 - Repaired or replaced 1,907 service laterals

Pipeline **R&BUILD**

Replace. Renew. Reliable.





Conservation Research



 Advanced Metering Infrastructure (AMI) Water-Energy Studies

UC Davis-PG&E-EBMUD Study

US Bureau of Reclamation-EBMUD Study

Grant Funding: \$250,000 Up to 10,000 meters Grant Funding: \$1,000,000 Up to 3,000 meters







Conservation Research cont'd



- Soil Moisture Sensor Testing
 - US EPA WaterSense labeling
 - CEC Title 20 labeling
 - Fresno State, Texas A&M, Univ. of Florida
- Dipper Well Study
 - Partnership w/ Jamba Juice and Food Service Technology Center (FSTC) (~94% savings)
 - Pursuing expanded pilot with FSTC, SCVWD
- Community-Based Social Marketing Study
 - Partnership CalWEP, EBMUD, Long Beach, Rancho California Water District
 - Lessons on why homeowners do/do not retrofit their landscapes







A Chapter of the Alliance for Water Efficiency



Public Comments

Director Comments