

# **FY20 & FY21 Budget Workshop #2**

Board of Directors

March 26, 2019

# Workshop Agenda



- Introduction
- Workshop #1 Recap
- Budget Priorities
- Recommended Budget
- Break
- Recommended Rates and Charges
- Workshop Conclusion
- Board Discussion

# Introduction

# Workshop #1 Recap



- Reviewed progress on the long-term financial stability goals
- Presented a preliminary rate projection for FY20 & FY21
- Summarized the wastewater cost of service study
- Provided update on recent affordability for ratepayer activities

# Budget Priorities

# FY20 & FY21 Biennial Budget



## Budget Priorities

- Continue investments in and maintenance of aging infrastructure
- Plan for long-term financial stability



## **Continue Investments in and Maintenance of Aging Infrastructure**

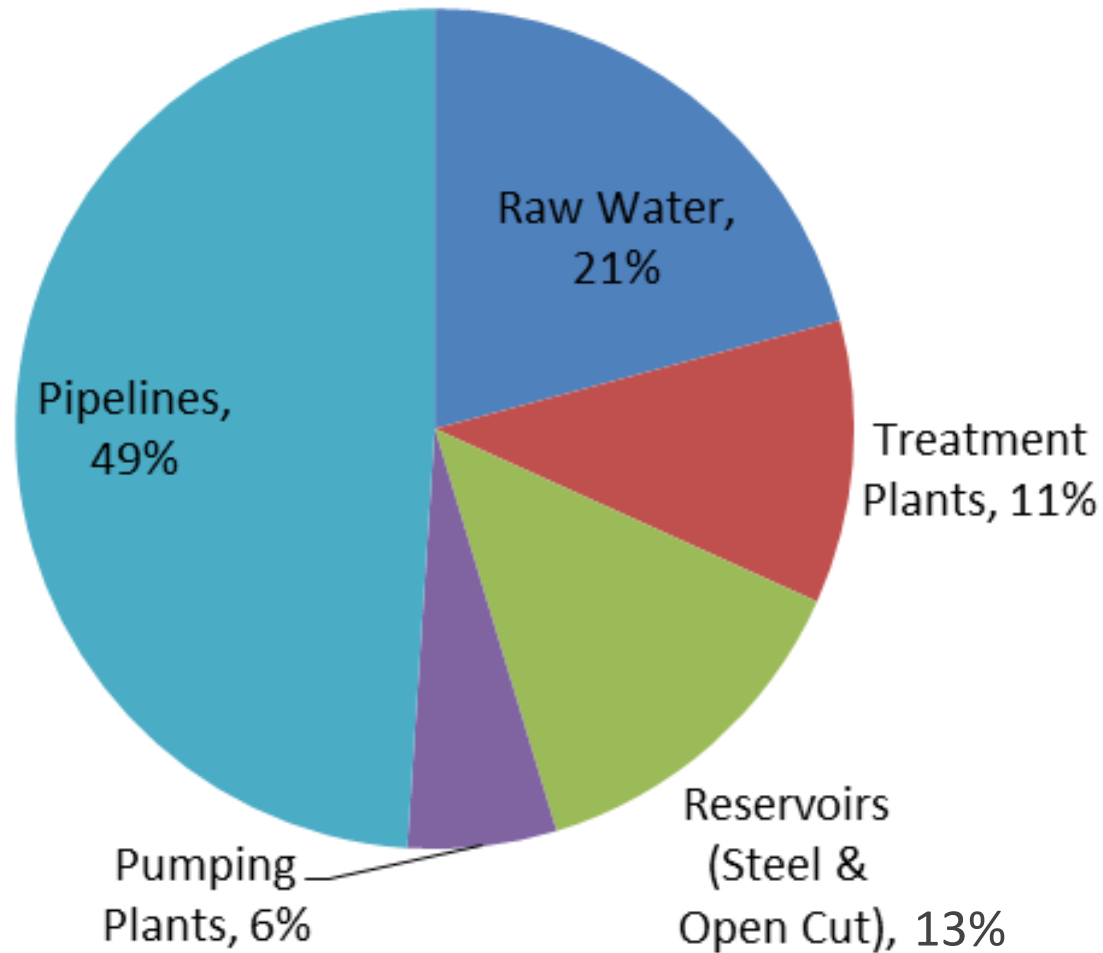
# CIP Drivers and Priorities



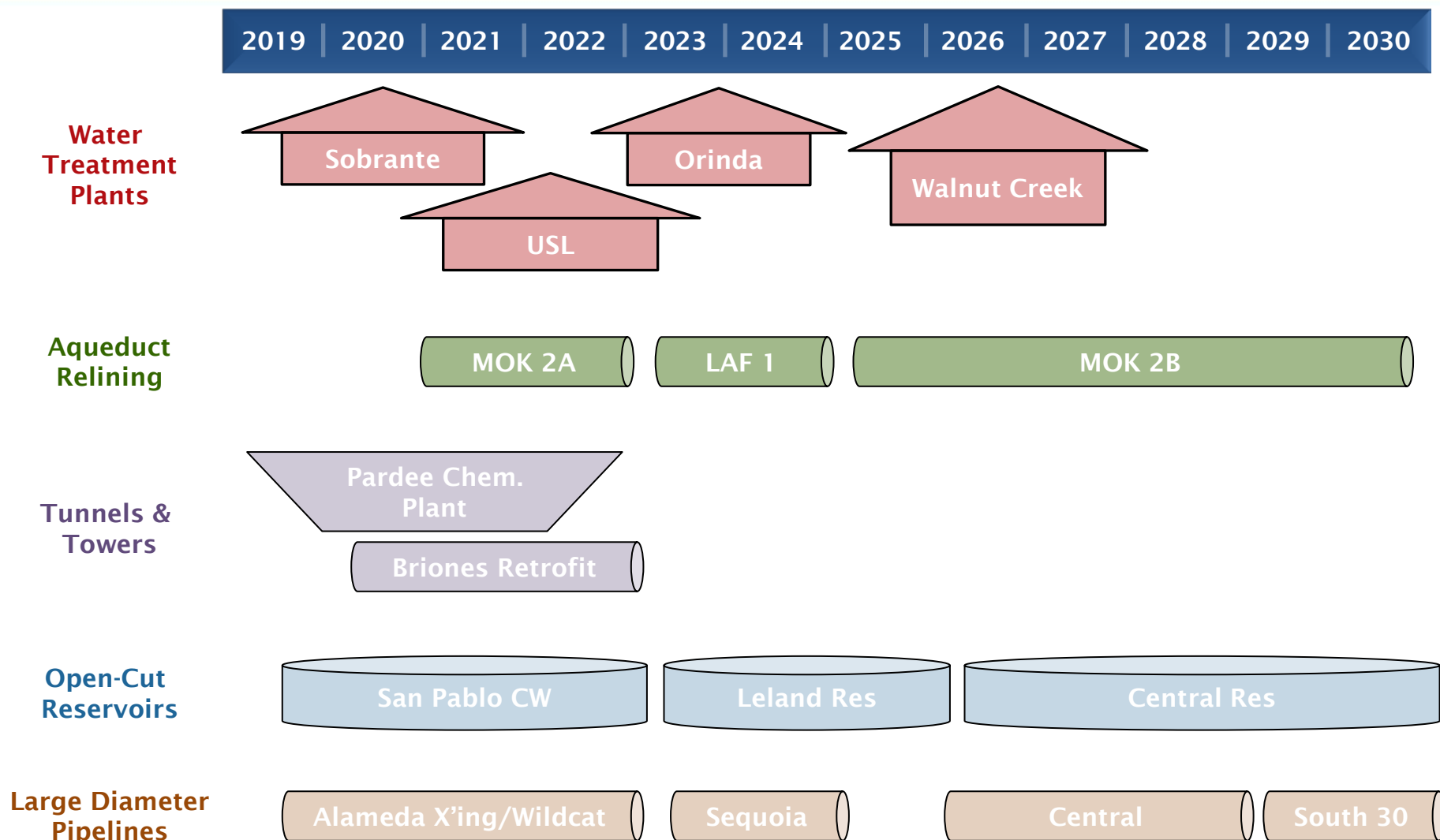
- CIP Priorities informed by plans, studies, and O&M experience
- The FY20-21 CIP will continue the District's focus on infrastructure *renewal*
- Prioritized according to:
  1. Safety
  2. Reliability
  3. Water Quality



# CIP Budget by Asset Class (FY20-24)



# Timeline of Major Water Capital Projects



# Pipeline Rebuild

## Overall goals:

- Avoid main breaks and their associated costs, customer and community impacts
- Reduce water loss
- Maximize efficiency of replacements



# Water Loss Initiative Furthers Pipeline Rebuild Goals



## Apparent Loss



- Meter accuracy
- Unauthorized consumption
- Data transfer errors
- Data analysis errors

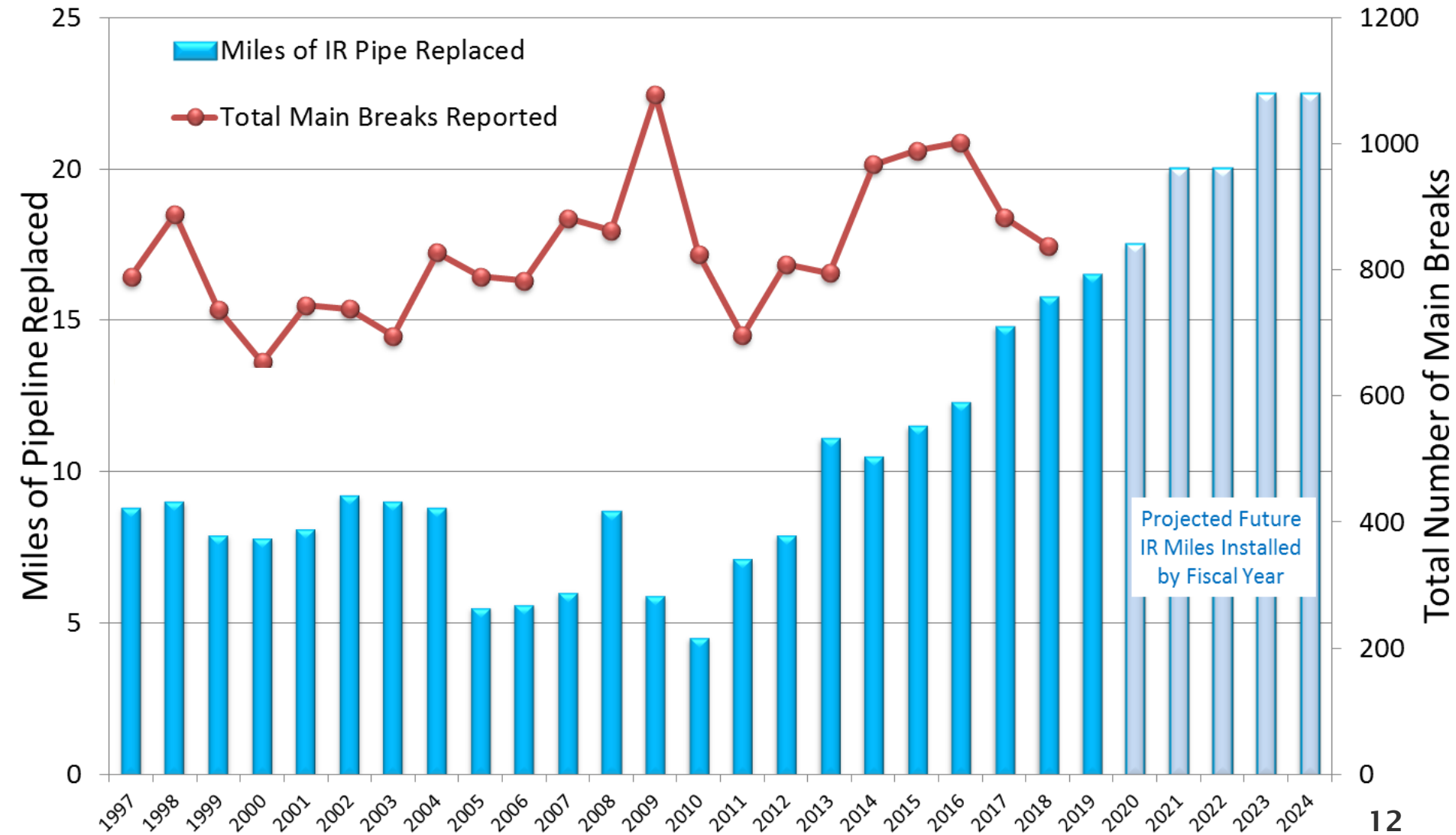
## Real Loss



- Active leakage control
- Pressure management
- Speed and quality of repairs
- ***Infrastructure management***



# Ramped-up Pipe Replacement



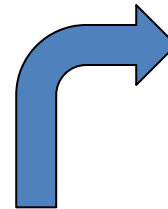
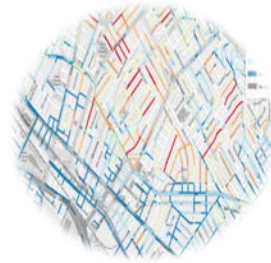
# Precise Targeting of Replacement Investments

## Data Analysis

*Pipe Data*

*Big Data*

*LOF*



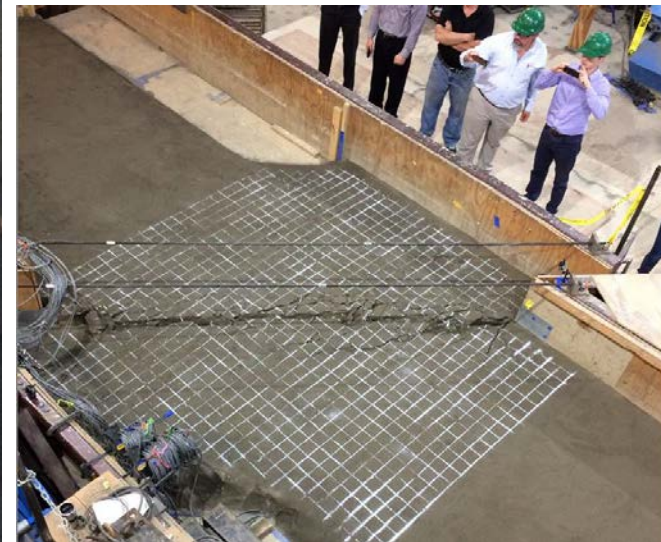
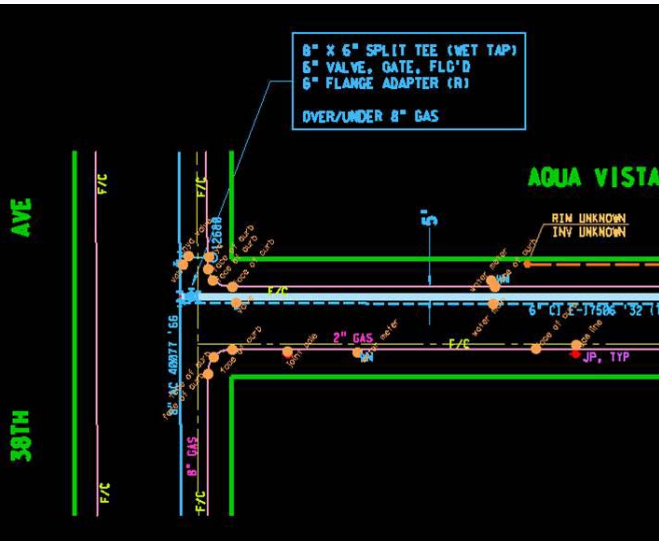
**Risk**

		Likelihood of Failure				
Consequence of Failure		Very Low	Low	Medium	High	Very High
	Very Low					
	Low					
	Medium					
	High					
	Very High					

**Project  
Selections**



# Continuous Improvement to Maximize Efficiency & Performance



# Data-driven Approach Informs Next Steps



## Pipeline Rebuild Project Summary

### Almond Cluster

As of 8.30.18

Reference Project: Infrastructure Renewal

City, Ward: Walnut Creek, Ward 2

Legacy Pipe Material: Asbestos Cement

Installed Pipe Material: **Ductile Iron – restrained joint, zinc coated (McWane TR-Flex)**

Risk Grade: Greater than 75% D and F

Installed Pipe Size: 6"

Total Installed Footage: 5,205 feet

Services: 142; Hydrants: 9; Connections: 6



Statement of Problem / Description of Need

## Performance Indicators

### Cost per foot (direct), by project phase

Construction	\$ 308
Construction Support	\$ 12
Project Support and Documentation	\$ 25
Paving	\$ 85
Total	<u>\$ 430</u>

Construction labor	\$ 120
Pipe and appurtenances	\$ 56
Backfill materials	\$ 19
District equipment (VUCs)	\$ 22
Rental equipment/trucks	\$ 67
Other costs incl. contractors	\$ 25

### Productivity

Mainline labor hours per foot	0.67
Production rate per crew	94 ft per day
Service T/R per day	6.3
Hydrants per day	2.8

### Community Impacts

Neighborhood Presence	25 weeks
Presence per 500 feet	2 weeks
Construction Workdays	76 days
Workdays per 500 feet	7 days

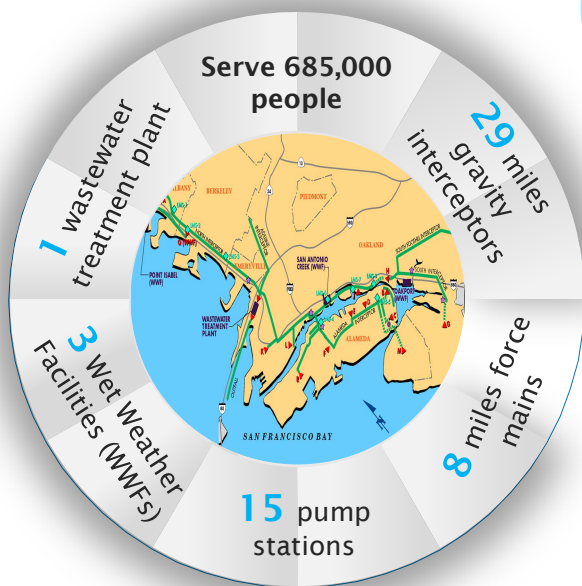


# Summary



- Infrastructure investments have positioned EBMUD well to continue to fulfill its mission
- Infrastructure renewal focus on:
  - Continued pipeline ramp-up
  - Treatment plant investment
  - Raw water improvements
  - Safety and reliability
  - Meeting KPI targets

# Wastewater



**Aging Wastewater Infrastructure**

**More Stringent Regulatory Requirements**

**Integrated Master Plan for the MWWTP**

**Major CIP Priorities for FY20-24**

# Major Construction Timeline



1950

## Interceptors + SD-1

### South Interceptor



### SD-1: 1951

Influent and effluent pumping stations; 10 primary tanks; 3 digesters



1970

## New Secondary + Process Expansion

### New Secondary System



More primary tanks and digesters

Thickening and dewatering



1990

## Power Generation System



## Wet Weather Facilities



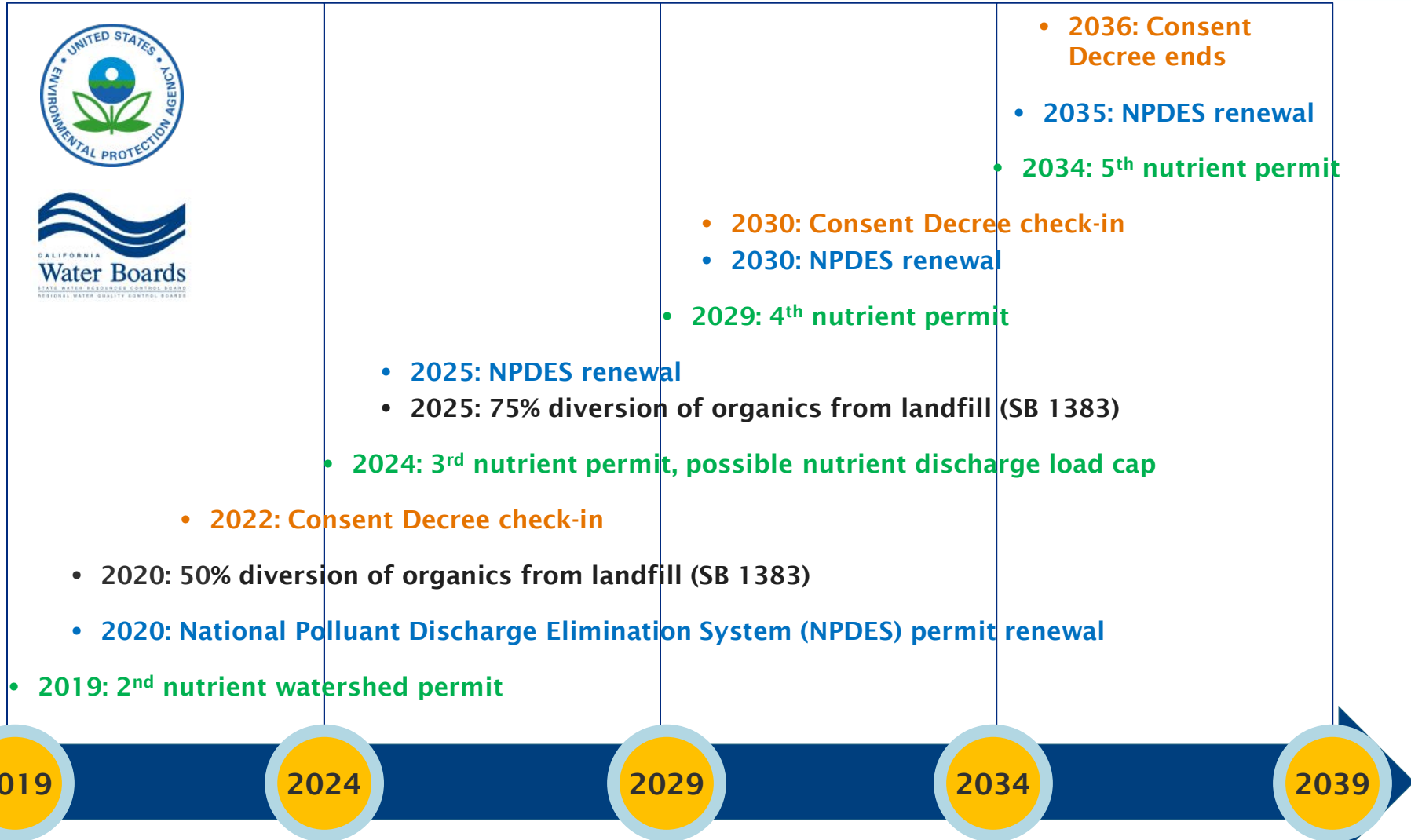
2010

## Resource Recovery (R2)



# More Stringent Regulations

## Partial List of Regulatory Requirements



# Emerging Regulatory Requirement

## Phase Out Use of Biosolids as Landfill ADC



- About 200 wet tons of biosolids produced daily (approximately eight trucks per day)
- No onsite storage capacity at the MWWTP
- In 2018, \$3.6 million per year was awarded for hauling and reuse

Currently about one third of biosolids go to landfill Alternative Daily Cover (ADC) during the wet weather season



**This option is expected to be completely phased out by 2025 or sooner**

**SB 1383 requires**

50% diversion of organics from landfill by 2020

75% by 2025





# Emerging Regulatory Requirement

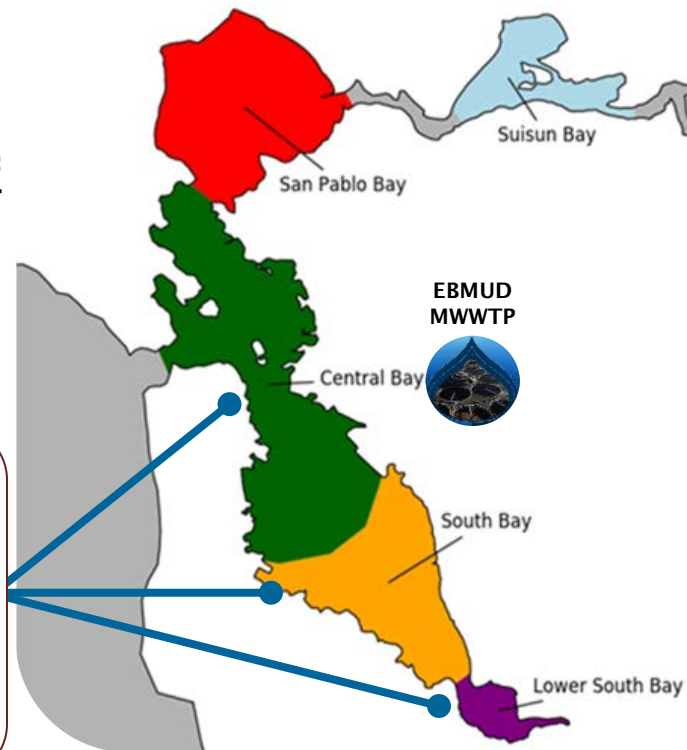
## Potential Adverse Impact to SF Bay by Nutrient Levels



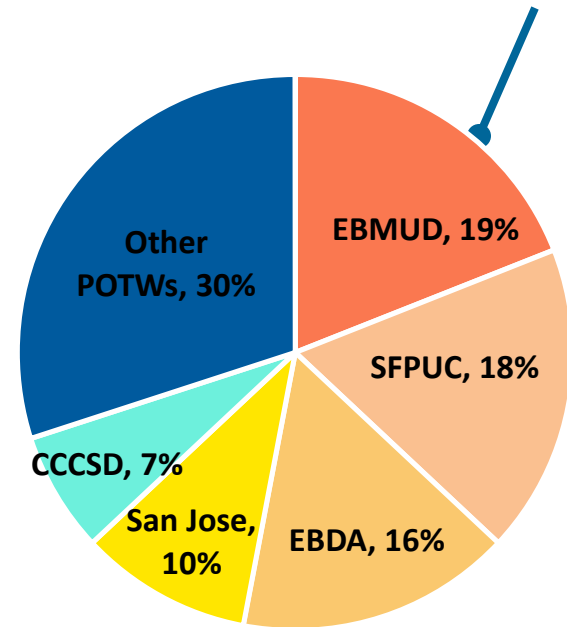
Wastewater discharge is the major source of nutrients to the SF Bay

**>90%**

Of nutrient input is from WWTTP effluent, remainder is by storm water



EBMUD accounts for ~19% of the total nutrient discharge from 37 WWTTPs combined

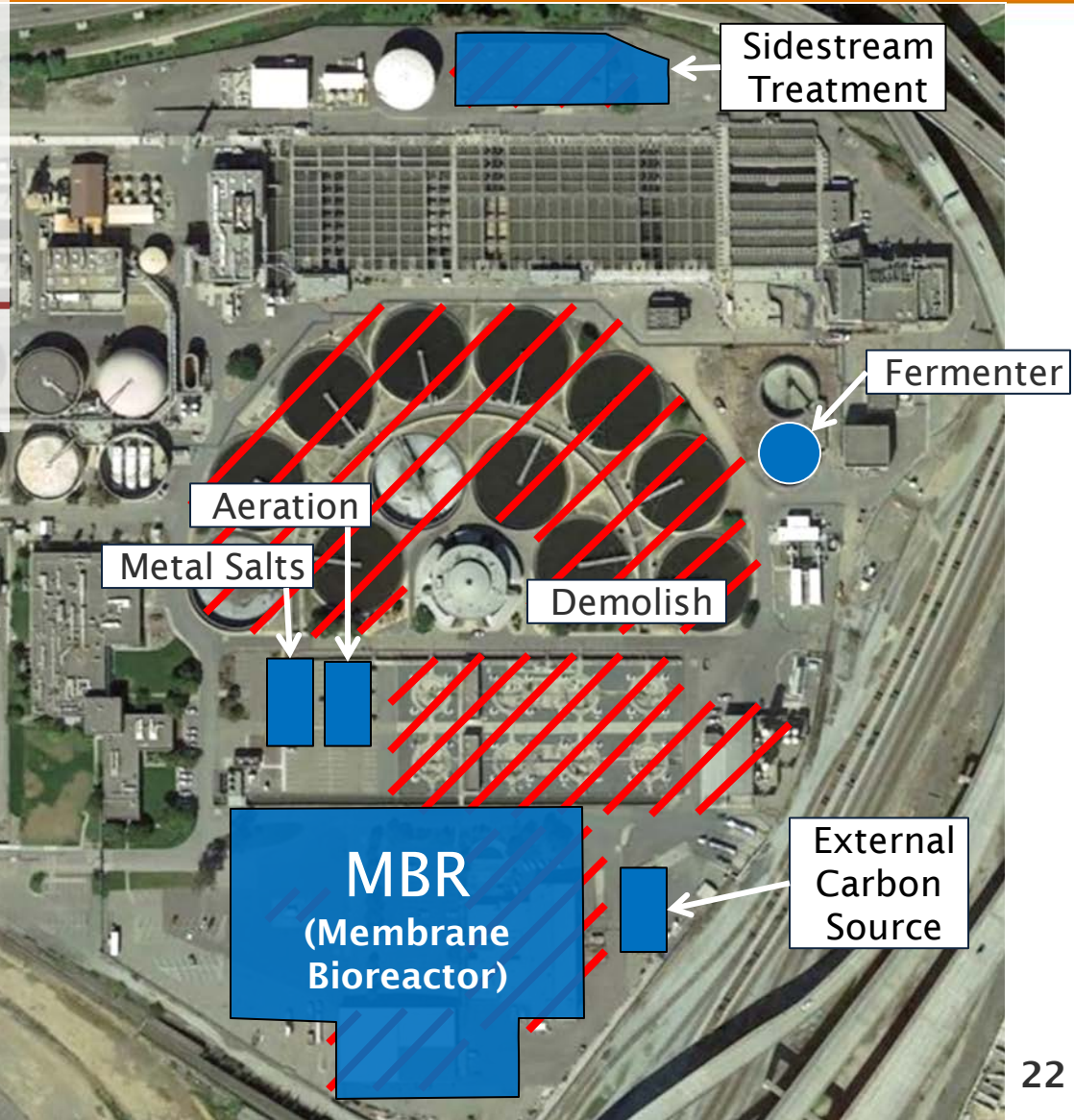


# MWWTP Nutrient Upgrades will be Substantial

## If upgrade to

- Treat 120 MGD permitted dry weather flow (currently treat approximately 50 MGD)
- Build new secondary treatment
- Build new sidestream treatment

**\$2.9 billion Life-cycle Cost**  
**(\$2.4 billion Capital)**



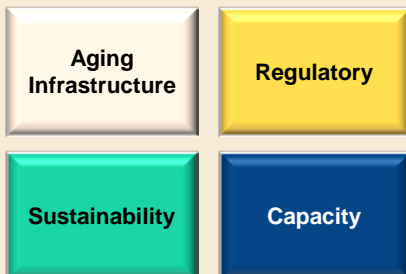


# Integrated MWWTP Master Plan to Provide a 30-year Roadmap



## Drivers

- **Potential Regulatory Requirements**
  - Nutrients
  - Biosolids diversion
  - Air, contaminants of emerging concern
- **Infrastructure Renewal Needs**
  - Aging facilities, reliability, seismic risk, sea level rise impact etc.
  - Rehabilitate, replace, or upgrade/repurpose?
- **Future Flow and Load**
  - Resource Recovery Program needs
  - Population/employment growth
  - Impact of I&I reduction
- **Operational Improvements**



## Master Planning

Combined Efforts  
- EBMUD Staff  
- Consultant(s)

## Outcomes

A roadmap to cost-effectively

- Provide reliable wastewater services
- Optimize the use of infrastructures and limited land space
- Make no-regrets infrastructure investments
- Meet increasingly stringent regulatory requirements
- Accommodate potential growth
- Achieve environmental sustainability, such as:
  - Multi-benefits (recycled water)
  - Recovery versus removal
  - Greenhouse gas
  - Energy

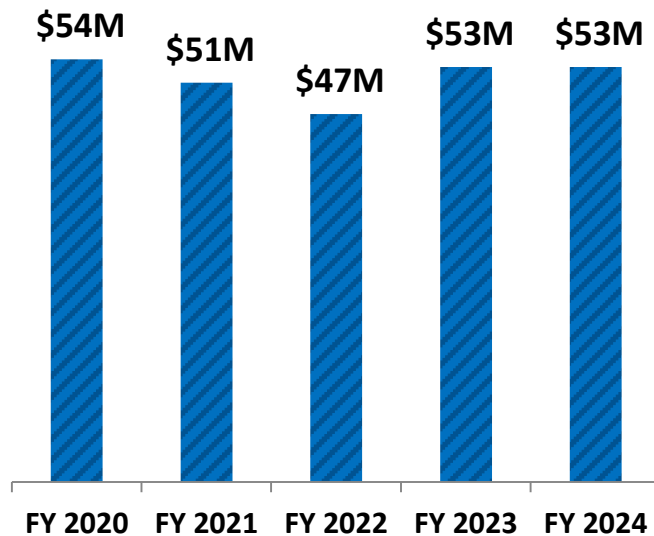




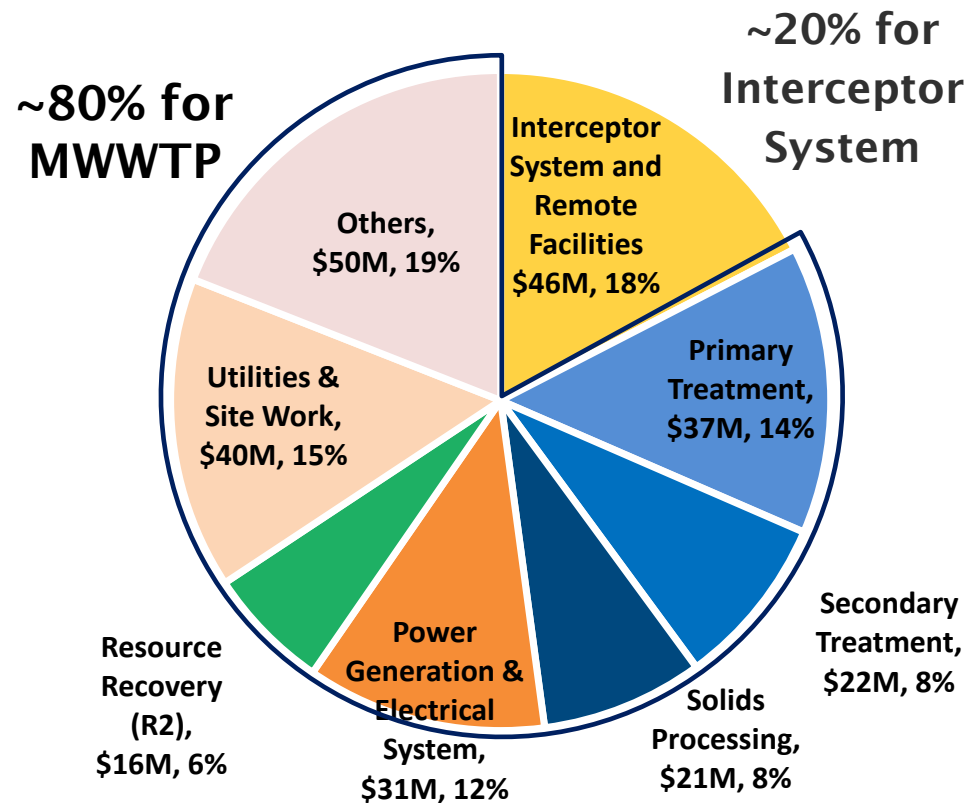
# Wastewater CIP Outlook FY20-24



**Total Five-Year CIP:  
\$258 million**



## CIP Breakdown



# FY20-24 CIP Highlights

## MWWTP Planned Investments



- **Digesters:** \$17.9M for Ph3 upgrades and coating repair

- **Primary Sed:** \$9.6M for concrete rehab

- **IPS:** \$16M for equipment and start of retrofit

- **Grit:** \$12M for equipment

- **PGS:** \$14M for overhauls and improvements

- **R2:** \$16M for odor and grit removal improvements

- **Clarifiers:** \$13M for rehab

- **Utilities (Hypo Piping, Drains):** \$21M

- **Buildings/Site Improvement:** \$19M

- **Miscellaneous:** \$18M

- **Electrical:** \$17M

- **Capital Equipment Replacement:** \$13M

Digester Phase 3 Upgrades

- **Reactor Basins and O2 plant:** \$16.9M for concrete and piping rehab and control system upgrade



# Master Plan will Inform Future Investments



# Recommended Budget

# Biennial Budget – FY20 & FY21



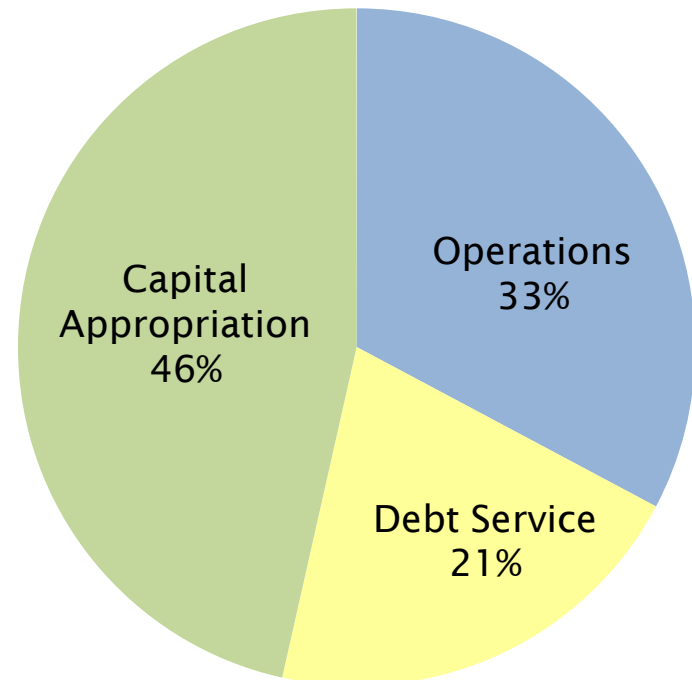
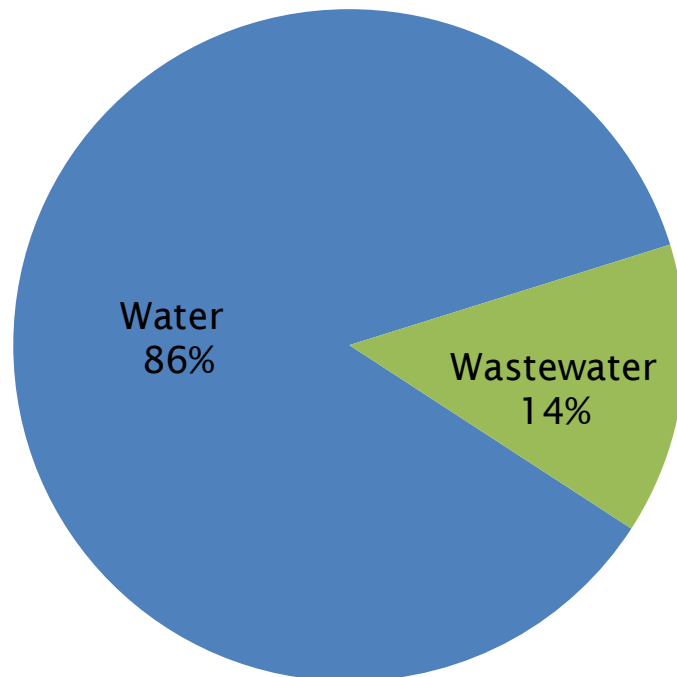
## FY20 & FY21 APPROPRIATIONS (\$ Millions)

	FY20			FY21			FY20 & FY21
	Water	Wastewater	Total	Water	Wastewater	Total	Grand Total
Operations	299.3	75.1	374.4	315.4	78.6	393.9	768.3
Debt Service	208.2	30.2	238.4	217.7	29.8	247.5	486.0
Capital Appropriation	<u>622.6</u>	<u>72.3</u>	<u>694.9</u>	<u>352.3</u>	<u>41.8</u>	<u>394.1</u>	<u>1,089.0</u>
<b>Total</b>	<b>1,130.1</b>	<b>177.6</b>	<b>1,307.7</b>	<b>885.4</b>	<b>150.2</b>	<b>1,035.6</b>	<b>2,343.3</b>

# Biennial Budget – FY20 & FY21



**\$2.34 Billion**



- 67% of budget is capital investment-related

# FY20 & FY21 Biennial Budget Recommended Staffing



- Total authorized FTEs will increase from 2,115.0 to:
  - 2,154.75 (FY20)
  - 2,152.75 (FY21)

	FY20	FY21	Total
Additions	54.75	0	54.75
Deletions	(15.0)	(2.0)	(17.0)
Total	39.75	(2.0)	37.75

- Additional changes proposed with no net change to authorized FTEs

# FY20 & FY21 Biennial Budget Recommended Staffing (Cont'd)



## Net FTE Major Program Staffing Changes

### FY20

- Pipeline Rebuild 37.00
- HR Replacement Project 2.00
- HR Training/Development 1.00
- Infrastructure 0.50
- Pardee Center Services 0.25
- HR/Workforce Development (1.00)

### FY21

- Regulatory Compliance (1.00)
- HR/Recruitment (1.00)

No net change in FTE for:

- Natural Resources Intern, FIS/MMIS Replacement Project, IT Procurement/Asset Mgmt, Saw Cutting, Concrete Services, and Legislative Affairs



- Proposed budget includes:
  - ✓ High school and other internships
  - ✓ Technical Trades Apprenticeship Program
  - ✓ Engineering Aides / Junior Engineers
  - ✓ Information Technology Intern
  - ✓ Rangers: Intern & Stipends

# Five-Year Capital Improvement Program Cash Flows (\$ Millions)



	FY20	FY21	FY22	FY23	FY24	5-Year Total
Water	\$338	\$385	\$400	\$385	\$388	\$1,896
Wastewater	\$48	\$46	\$43	\$48	\$49	\$234

- Cash flows include Administration of Capital

**Break**

# **Recommended Rates and Charges**

# Previously Projected and Currently Proposed Rates



	FY20	FY21	FY22	FY23	FY24
Previously Projected Water	7%	7%	5%	5%	
Currently Proposed Water	6.5%	6.25%	5%	5%	5%
Previously Projected Wastewater	4%	4%	4%	4%	
Currently Proposed Wastewater	*	4%	4%	4%	4%

\*Overall increase in revenue from all wastewater rates and charges will be 4%. FY20 rates reflect COS adjustments which result in some wastewater rates decreasing and others increasing. SFR treatment bill net increase is 0.9% and WWFC net increase is 7.2%. Non-residential treatment increases vary.

# Monthly Single Family Residential Customer Impacts – Water



	SFR Use (Ccf)	FY19 Bill*	Proposed FY20 Bill*	Change	Proposed FY21 Bill*	Change
25 <sup>th</sup> Percentile	4	\$39.67	\$42.23	6.5%	\$44.87	6.3%
50 <sup>th</sup> Percentile	6	\$47.19	\$50.23	6.4%	\$53.37	6.3%
75 <sup>th</sup> Percentile	10	\$66.46	\$70.76	6.5%	\$75.17	6.2%
95 <sup>th</sup> Percentile	24	\$152.12	\$161.98	6.5%	\$172.03	6.2%
Average SFR Use**	8	\$56.12	\$59.74	6.5%	\$63.47	6.2%

\*Bill does not include elevation surcharge paid by customers at higher elevations

\*\*8 Ccf/month represents recent average single family residential use, down from 10 Ccf/month historic use

# Monthly Single Family Residential Customer Impacts – Wastewater



Wastewater Treatment Charge*	Use (Ccf)	FY19 Bill**	Proposed FY20 Bill**	Change	Proposed FY21 Bill**	Change
Single Family Residential Avg	6	\$21.95	\$22.15	0.9%	\$23.02	3.9%
Single Family Residential Max	9	\$25.55	\$25.96	1.6%	\$26.98	3.9%

\*The District also collects an annual Wet Weather Facilities Charge from all properties connected to the wastewater system

\*\*Bill includes \$0.20 per month SF Bay Pollution Prevention Fee for residential customers

- In 2019, EBMUD performed a wastewater cost of service study of the wastewater rates that resulted in minor adjustments in the wastewater rates by customer class

# Non-Residential Wastewater Treatment Rates



Wastewater Treatment Charge*	FY19 Current per CCF	FY20 Proposed per CCF	Change	FY21 Proposed per CCF	Change
Restaurants	\$5.47	\$5.83	6.6%	\$6.06	3.9%
Hotels	\$3.96	\$4.19	5.8%	\$4.36	4.1%
Hospitals	\$2.42	\$2.57	6.2%	\$2.68	4.3%
Retail/Office	\$2.73	\$2.83	3.7%	\$2.94	3.9%

\*The District also collects an annual Wet Weather Facilities Charge from all properties connected to the wastewater system. Bill includes \$5.48 per month SF Bay Pollution Prevention Fee for non-residential customers.

- In 2019, EBMUD performed a wastewater cost of service study of the wastewater rates that resulted in minor adjustments in the wastewater rates by customer class



# Wet Weather Facilities Charge

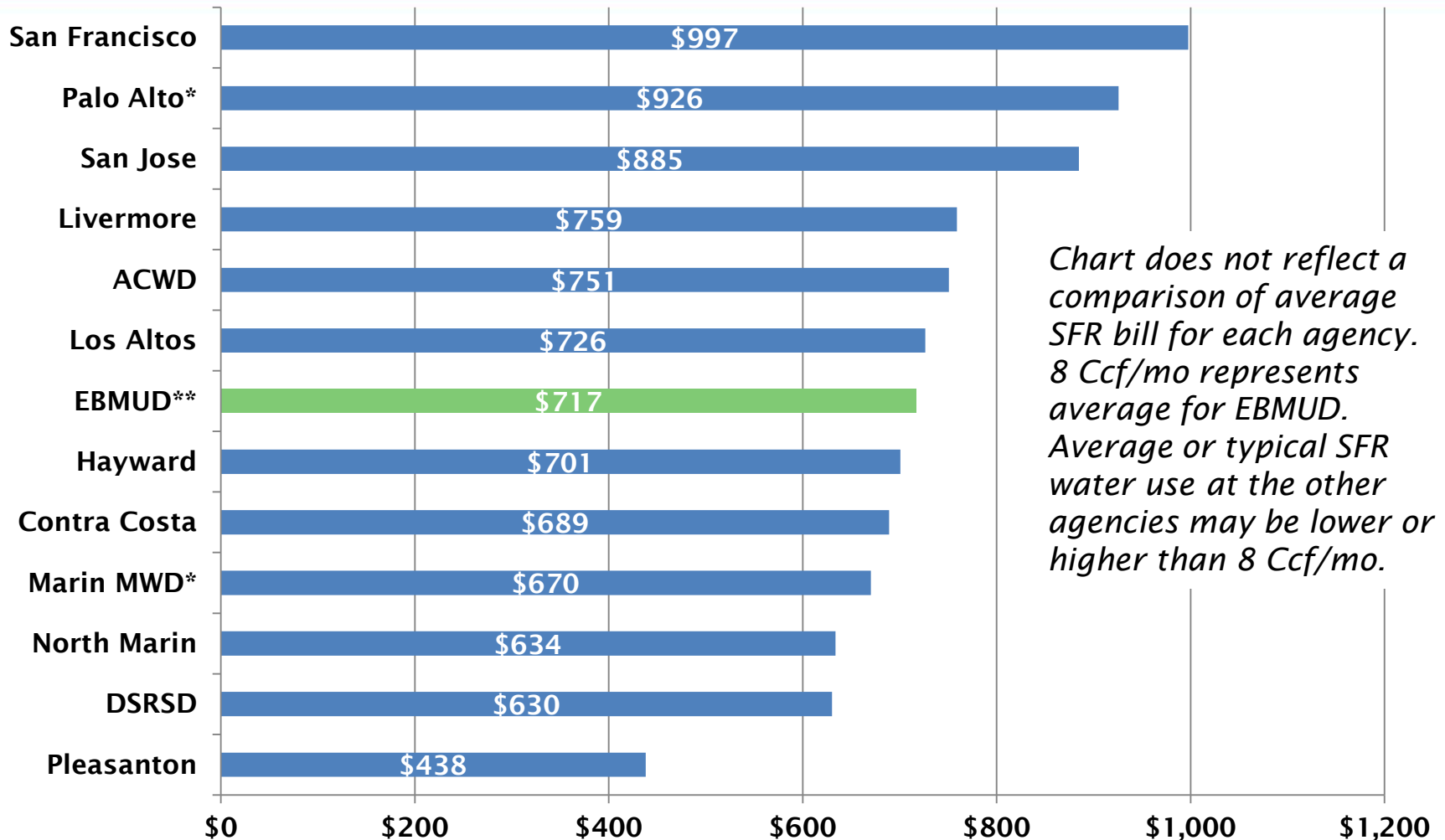


	FY19 Current	FY20 Proposed	Change	FY21 Proposed	Change
Small Lot 0 - 5,000 sq. ft.	\$103.74	\$111.24	7.2%	\$115.70	4.0%
Medium Lot 5,001 - 10,000 sq. ft.	\$162.06	\$173.78	7.2%	\$180.74	4.0%
Large Lot >10,000 sq. ft.	\$370.44	\$397.20	7.2%	\$413.10	4.0%

- In 2019, EBMUD performed a wastewater cost of service study of the wastewater rates that resulted in minor adjustments to the Wet Weather Facilities Charge
- Wet Weather Facilities Charge is collected on the property tax bill for residential and non-residential parcels connected to the wastewater system, except for public agencies and other exempt parcels, where it is collected on the water bill

# Water Bills Calculated for 8 CCF/Mo

## Annual Charge for SFR – Effective 7/1/19

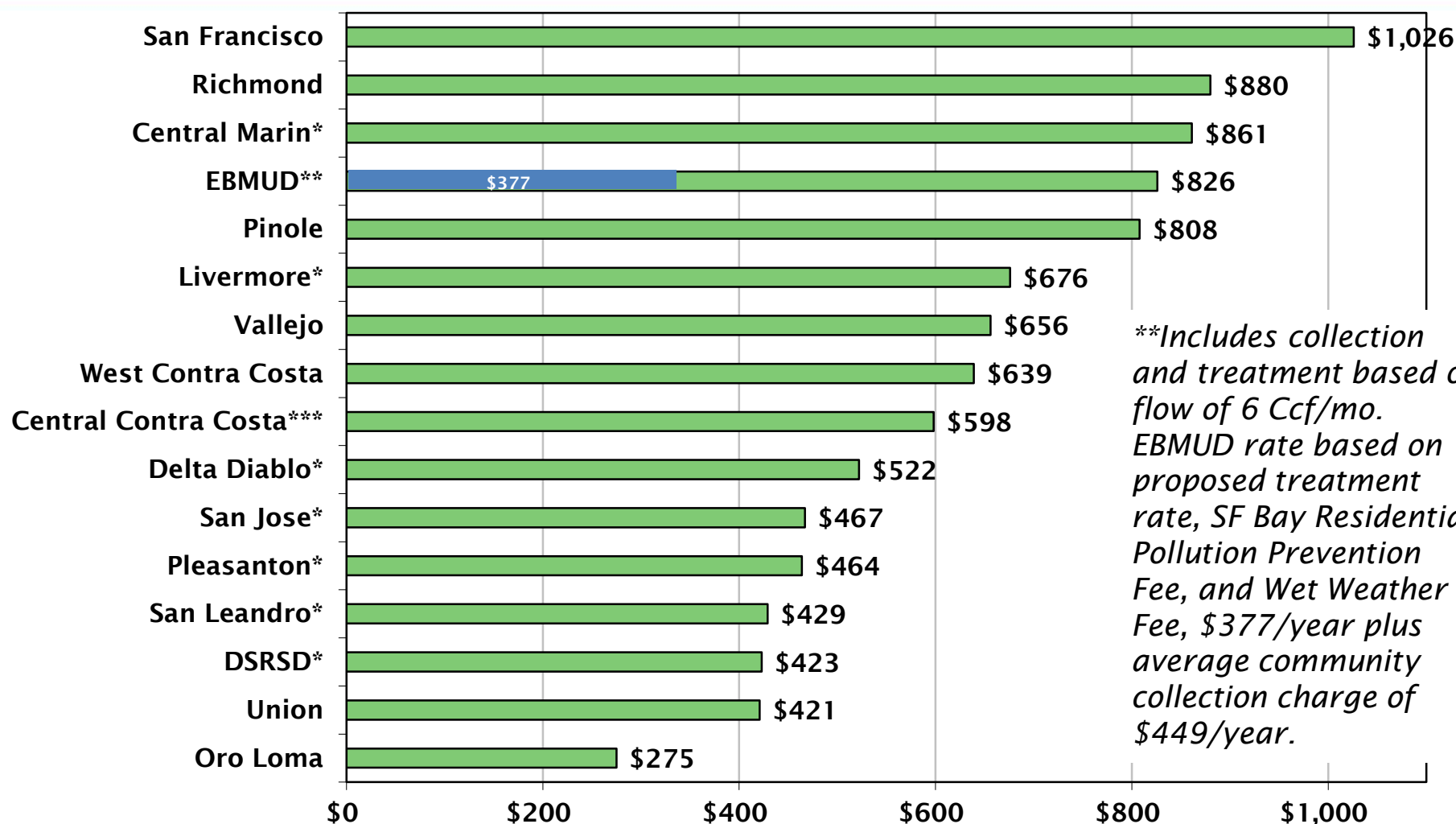


\*FY19 rates, possible rate increases for July 2019

\*\*Proposed FY20 rates

# Wastewater Bills Calculated for 6 CCF/Mo Discharge

## Annual Charge for SFR – Effective 7/1/19

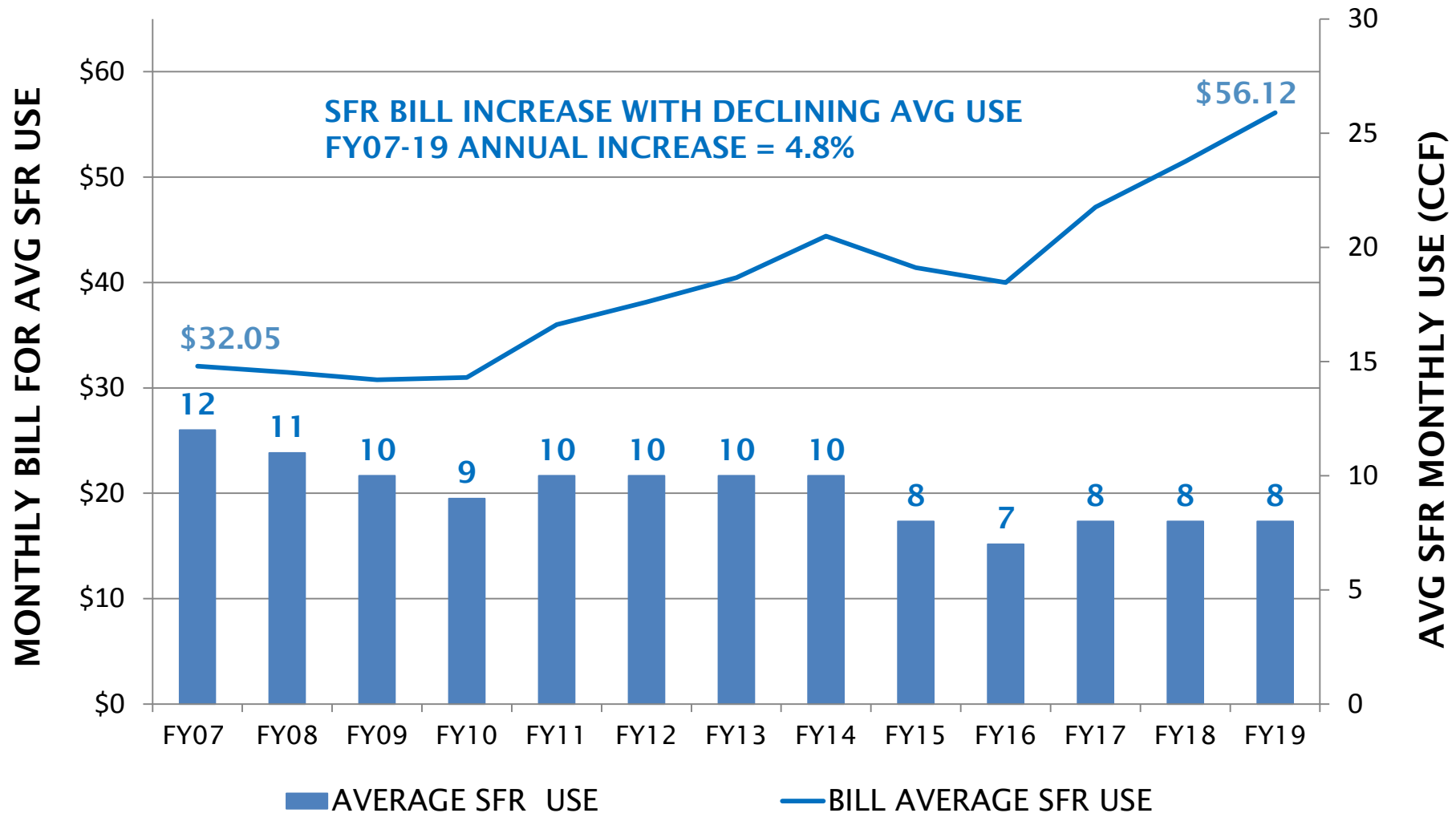


*\*\*Includes collection and treatment based on flow of 6 Ccf/mo. EBMUD rate based on proposed treatment rate, SF Bay Residential Pollution Prevention Fee, and Wet Weather Fee, \$377/year plus average community collection charge of \$449/year.*

\*FY19 rates, possible rate increases for July 2019

\*\*\*Proposed FY20 rates

# Impact of Declining Average Water Use on SFR Bill



# Draft Prop 218 Notice



# **Non-Prop 218 Rates: Capacity Fees Other Fee Updates**

# Proposed Water and Wastewater Capacity Charges Increase



- **Water System Capacity Charge (SCC)**
  - Adjust charges for Engineering News Record (ENR) Construction Cost Index
  - Delay adjusting the Future Water Supply component pending the Water Demand Study
  - SFR SCC proposed to increase about 3.0% for Regions 1, 2 and 3
- **Wastewater Capacity Fee (WCF)**
  - Adjust charges for 2019 Wastewater Capacity Fee Study update and ENR Construction Cost Index
  - SFR WCF proposed to increase 5.4% from \$2,610 to \$2,750

# SCC SFR Rates by Region and Sub Region



Region	SFR Consumption* (gpd)	Current SCC	Proposed FY20 SCC	Increase	Unit Costs \$/100 gpd
1	280	\$18,100	\$18,640	3.0%	\$6,657
2	360	\$31,350	\$32,350	3.2%	\$8,986
3	580	\$40,040	\$41,260	3.0%	\$7,114
3C**	775	\$91,930	\$94,670	3.0%	\$12,215
3D**	775	\$103,450	\$106,350	2.8%	\$13,723

\*Based on assumed water demand for a ¾-inch meter for a new single family residential premises

\*\*Special SCC subregion as part of an agreement with the developer

# SCC MFR Rates by Region



Region	MFR Consumption* (gpd)	Current SCC	Proposed FY20 SCC	Increase	Unit Costs \$/100 gpd
1	163	\$10,530	\$10,850	3.0%	\$6,656
2	168	\$14,630	\$15,100	3.2%	\$8,988
3	199	\$13,740	\$14,160	3.1%	\$7,156

\*Based on assumed water demand per MFR dwelling unit

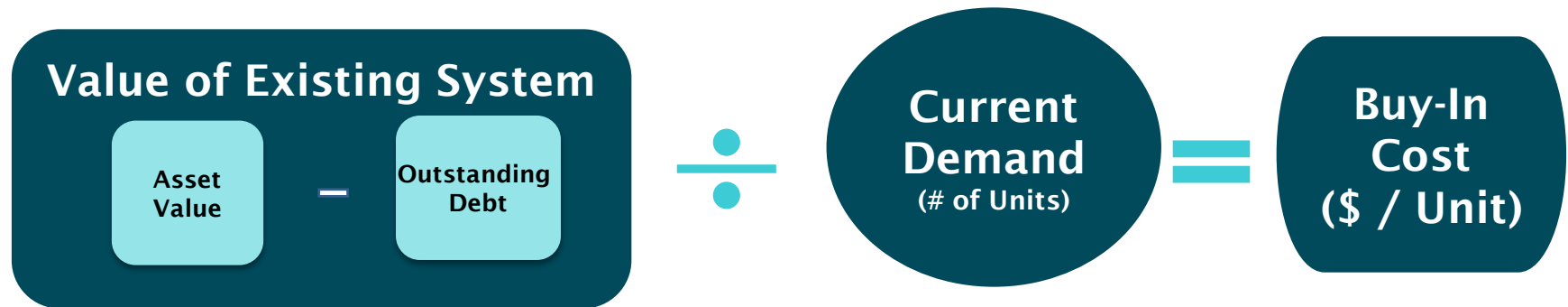
# 2019 Wastewater Capacity Fee Study Results



- **Wastewater Capacity Fee (WCF)**
  - Updated the wastewater facilities costs and customer loadings from the wastewater treatment rate cost of service study
  - Recalculated the WCF unit rates for flow and strength using the equity buy-in method
  - Simplified the WCF assessment method for non-residential customers



# Equity Buy-In Unit Rates



	Total System Value [A]	Net Plant Influent [B]	Unit Cost [C] = [A ÷ B]
Flow	\$290,522,000	20,983,276 (Ccf/year)	\$13.85 per Ccf/year
COD	\$154,297,000	106,264,585 (lbs/year)	\$1.45 per lb/year
TSS	\$278037,000	41,790,303 (lbs/year)	\$6.66 per lb/year

# WCF FY19 – Non-Residential Capacity Fee Update



- Recommend creating 3 categories of non-residential strength categories for WCF
  - Replaces current process based on individual business category classifications
  - Based on meter size (up to 1½")
  - Simplifies WCF calculation, increases transparency
  - In most instances results in lower or comparable fee

Strength Category	5/8" meter	¾" & 1" meter	1 ½" meter
Low	\$4,090	\$8,280	\$16,210
Medium	\$10,760	\$21,750	\$42,610
High	\$20,960	\$42,390	\$83,020

# Other Proposed Updates to Rates, Fees & Charges (Non-Prop 218)



- **To be included in May 14<sup>th</sup> General Manager's Rates and Charges Report to the Board**
- **Ensuring reasonable fees based on cost recovery**
  - Water Account Establishment
  - Special Services Charges
  - Installation Charges: Water Service, Private Fire Service, Public Fire Hydrant, Water Main Extension (continuation of three-year phase-in from FY19)
  - Real Property Use Application Fees
  - Recreation Use Fees
  - Wastewater Fees: Industrial Permit, Other, Testing, Resources Recovery, Interceptor Connection Review

# Follow Up from Workshop #1

# Fixed vs. Variable Rate Sensitivity Analysis



	% Fixed/Variable	First Year Revenue Loss After Drought \$ M	Post Drought Rate Impact (one time)
Current	29%/71%	\$38.5	
+5% Fixed	34%/66%	\$35.7	0.4% Lower
+10% Fixed	39%/61%	\$33.0	0.7% Lower
-5% Fixed	24%/76%	\$41.2	0.4% Higher



# Tax Bill Financing – General Obligation Bonds



Option	Authority	Requirements	Issues
General Obligation (GO) Bonds for new capital investments	MUD Act	2/3 voter approval	Very uncommon for water utilities post passage of Prop 13

- The District has used GO bonds to fund WW infrastructure in the past.
- The tax will be collected for the life of the bonds, generally 30 years.
- Assessed values (AV) can vary dramatically based on date of purchase:
  - A \$500M GO bond would result in a tax of ~\$25/\$100,000 AV.
  - A home with an AV of \$300,000 would contribute \$75 per year.
  - A similar home purchased recently with an AV of \$900,000 would contribute \$225 per year for the same improvements.

# Tax Bill Financing – Assessments



Option	Authority	Requirements	Issues
Assessments for water services that benefit properties	Prop 218	50% mail in ballot approval	Today mostly used for new developments

- Approval requires that 50%+ of the returned ballots vote yes for the assessment (property owners only).
- Charge must be proportional to special benefit (as opposed to general benefit) received by parcel; burden of proof is onerous and often challenged.

# Tax Bill Financing – Water Charges on Property Tax Bill



Option	Authority	Requirements	Issues
Water Charges on Tax Bill	Health and Safety Code	2/3 Board approval Health & Safety Code MUD Act and Prop 218	Common for wastewater utilities - rarely used for water utilities

- Lends itself better to fixed charges rather than variable; H&SC imposes various requirements and dictates allowable costs.
- The District would need to address issue of property owner vs. customer of record; property owner would need to be named in addition to tenant account holders; new Cost of Service Study needed to justify costs collected against property owners.

# Future Opportunity to Examine Water Rate Structure



Next opportunity to review	Potential Time Frame	Earliest Effective Date
Fixed Charges: 1) Reallocation of costs assigned to fixed charge 2) Placement of Water Charges on Property Tax Bill	FY20/21	FY22
Variable Charges: 1) Review Variable Charges 2) Consider Water Budget Based Rates	FY20/25	FY22-26

A COS update is not required under Board policy until 2025.

# Workshop Conclusions



# Biennial Budget – FY20 & FY21



## Appropriation

- Total two-year budget of \$2.35 billion
- 67% capital investment-related

## Budget Priorities

- Continue investments in and maintenance of aging infrastructure
- Plan for long-term financial stability

## Proposed Rates

- Water System: 6.5% (FY20); 6.25% (FY21)
- Wastewater System: \*(FY20); 4.0% (FY21)

\*Overall increase in revenue from all wastewater rates and charges will be 4%. FY20 rates reflect COS adjustments which result in some wastewater rates decreasing and others increasing. SFR treatment bill net increase is 0.9% and WWFC net increase is 7.2%. Non-residential treatment increases vary.

# Biennial Budget – FY20 & FY21



Board Workshop 1 <i>Preliminary budget and rates</i>	January 22, 2019
Board Workshop 2 <i>Recommended budget and rates</i>	Today
Prop 218 Notice mailing	April 26, 2019
File GM Rate Report	May 14, 2019
Public Hearing	June 11, 2019
FY20 Rates Effective	July 1, 2019

# Board Discussion

