



EAST BAY MUNICIPAL UTILITY DISTRICT

General Manager's Proposed Budget & Rates FY 2016 and FY 2017

Board Workshop
March 24, 2015

Workshop Agenda



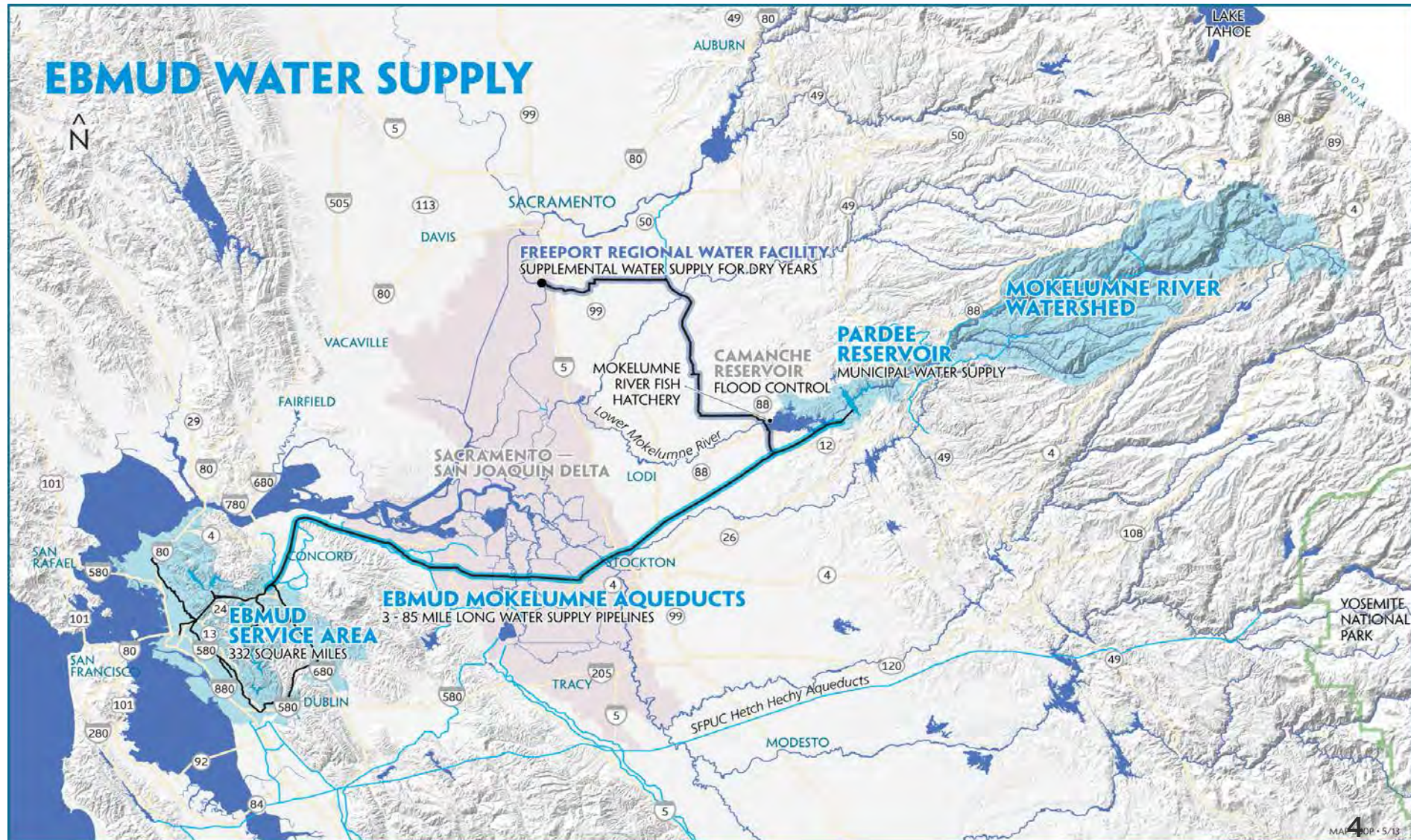
- Introduction
- Budget priorities
- Recommended budget
- Break
- Recommended rates and charges
- Drought rates
- Board discussion

Introduction

EBMUD Footprint—From Sierra Crest to San Francisco Bay



EBMUD WATER SUPPLY



EBMUD Responsibilities are Extensive and Essential



- Operations span seven counties—Alameda, Contra Costa, Alpine, Amador, Calaveras, Sacramento, and San Joaquin
- Fully integrated water utility—watershed management, source of supply, treatment and distribution
- Infrastructure replacement value—\$14.4 billion
- Health and safety of 1.3 million people
- Essential to \$388 billion regional economy

Where We Have Been



- Fiscal challenges from drought & recession
 - Reduced sales volumes, capacity charge revenues, and interest earnings
- Multi-year effort to mitigate rate increases
 - Approximately \$200 million in expenditure reductions/deferrals
 - Hiring freeze, no general salary increase for FY12 & FY13
 - Capital project reductions/deferrals
 - Refinanced outstanding debt & reduced discretionary and contract expenses
- Some mitigation strategies unsustainable
 - Increasing maintenance backlog, aging infrastructure, customer impacts, “negative outlook” on AAA rating
- Biennial budget priorities—FY14 & FY15
 - Invest in capital—increased CIP spending, greater cash funding of CIP, higher debt service coverage
 - Invest in operations—funded positions to enhance maintenance, renew infrastructure and improve customer service
 - Plan for long-term financial stability—base budget and rates on realistic growth assumptions
- Identified planning activities for future budget
 - Conduct a series of workshops on long-term financial stability
 - Complete cost of service studies for water and wastewater rates
 - Continue to refine infrastructure replacement requirements and delivery strategies

Budget Balancing Act

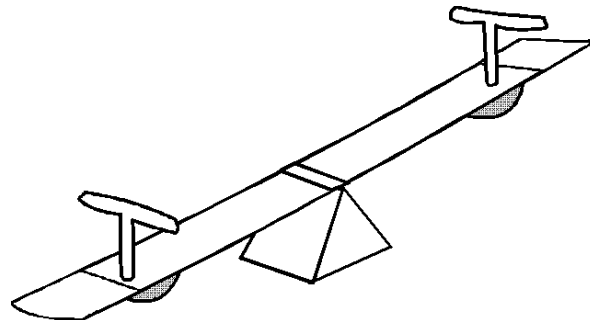


Upward pressures

- Reinvest in aging physical infrastructure
 - Raw water system, reservoirs, & treatment plants
 - Distribution pipelines—10 to 40
 - Wastewater programs
- Invest in critical IT infrastructure
 - Equipment replacement
 - Major enterprise system replacement
 - IT security
- Manage impacts of extended drought
 - Conservation outreach
 - Supplemental supplies
 - Reduced consumption

Offsetting measures

- Manage long-term cost drivers
 - Refunded debt to reduce long-term costs
 - Benefit cost increases slower than projected
- Growth in non-commodity revenues
 - Resource recovery program
- Slower pace to meet enhanced financial metrics
 - Cash funding of capital plan
 - Debt service coverage ratio



Budget Priorities

- Make sustained reinvestments in aging physical infrastructure
- Invest in critical information technology infrastructure
- Manage impacts of extended drought

Rates and Charges

- Increase rates in line with prior projections
- Implement staged system of drought rates

Biennial Budget—FY16 & FY17



FY16 & FY17 APPROPRIATIONS (\$ Thousands)

Proposed Budget	FY16			FY17			FY16 & FY17
	Water	Wastewater	Total	Water	Wastewater	Total	Total
Operations	248,264	65,448	313,712	262,232	70,717	332,949	646,661
Debt Service	169,894	33,693	203,587	180,191	33,956	214,147	417,734
Capital Appropriation	<u>249,042</u>	<u>70,536</u>	<u>319,578</u>	<u>290,392</u>	<u>32,583</u>	<u>322,975</u>	<u>642,553</u>
Total	667,200	169,677	836,877	732,815	137,256	870,071	1,706,948
Drought Contingency	<u>64,206</u>	-	<u>64,206</u>	<u>62,078</u>	-	<u>62,078</u>	<u>126,284</u>
Total	731,406	169,677	901,083	794,893	137,256	932,149	1,833,232

Rates & Charges—FY16 & FY17



Prior Five-Year Forecast

	Adopted		Projected		
	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
Water	9.75%	9.5%	8.0%	7.0%	5.0%
Wastewater	9.0%	8.5%	5.0%	5.0%	5.0%

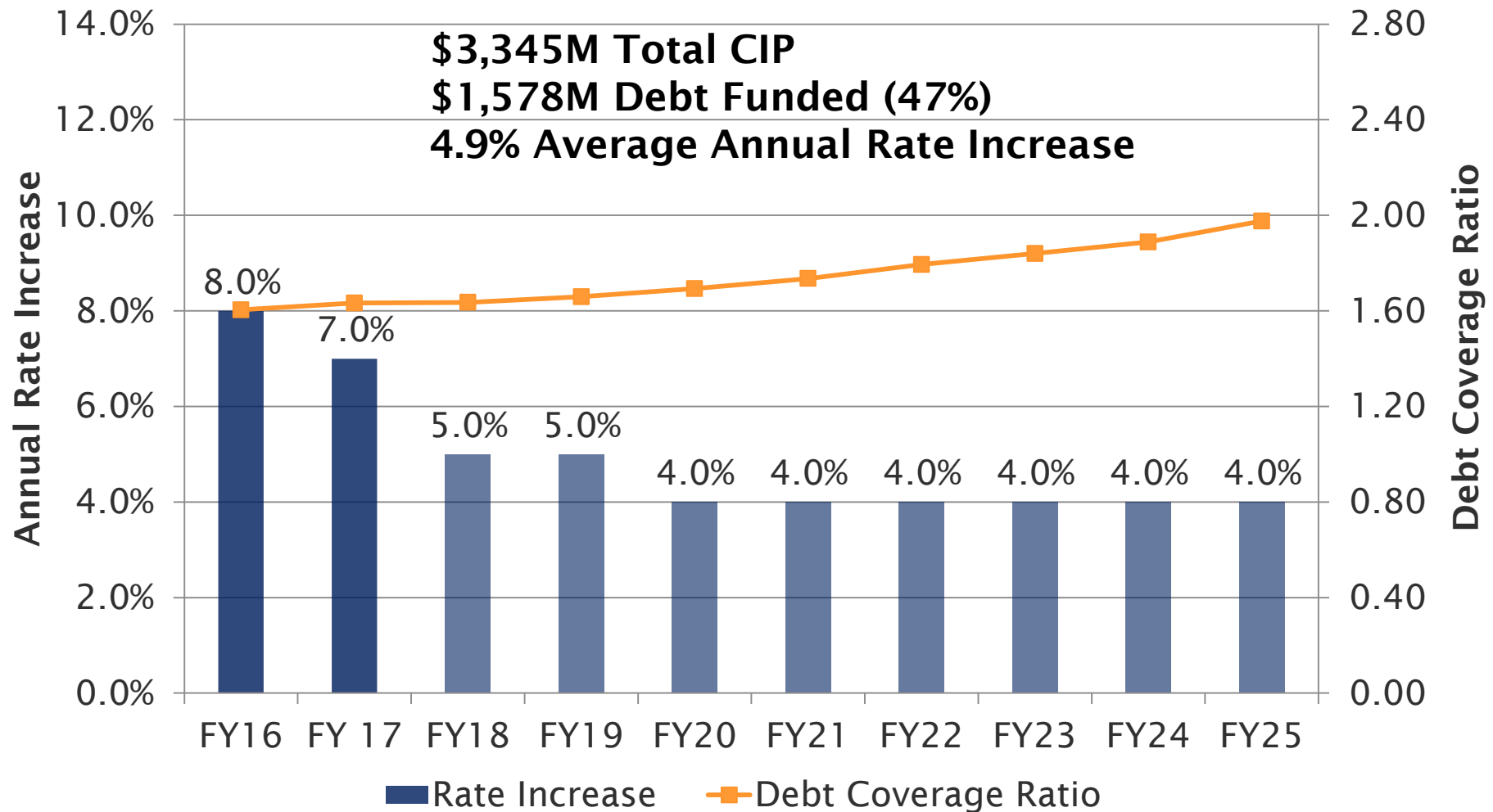
Combined Monthly Water and Wastewater Impacts—Average SFR



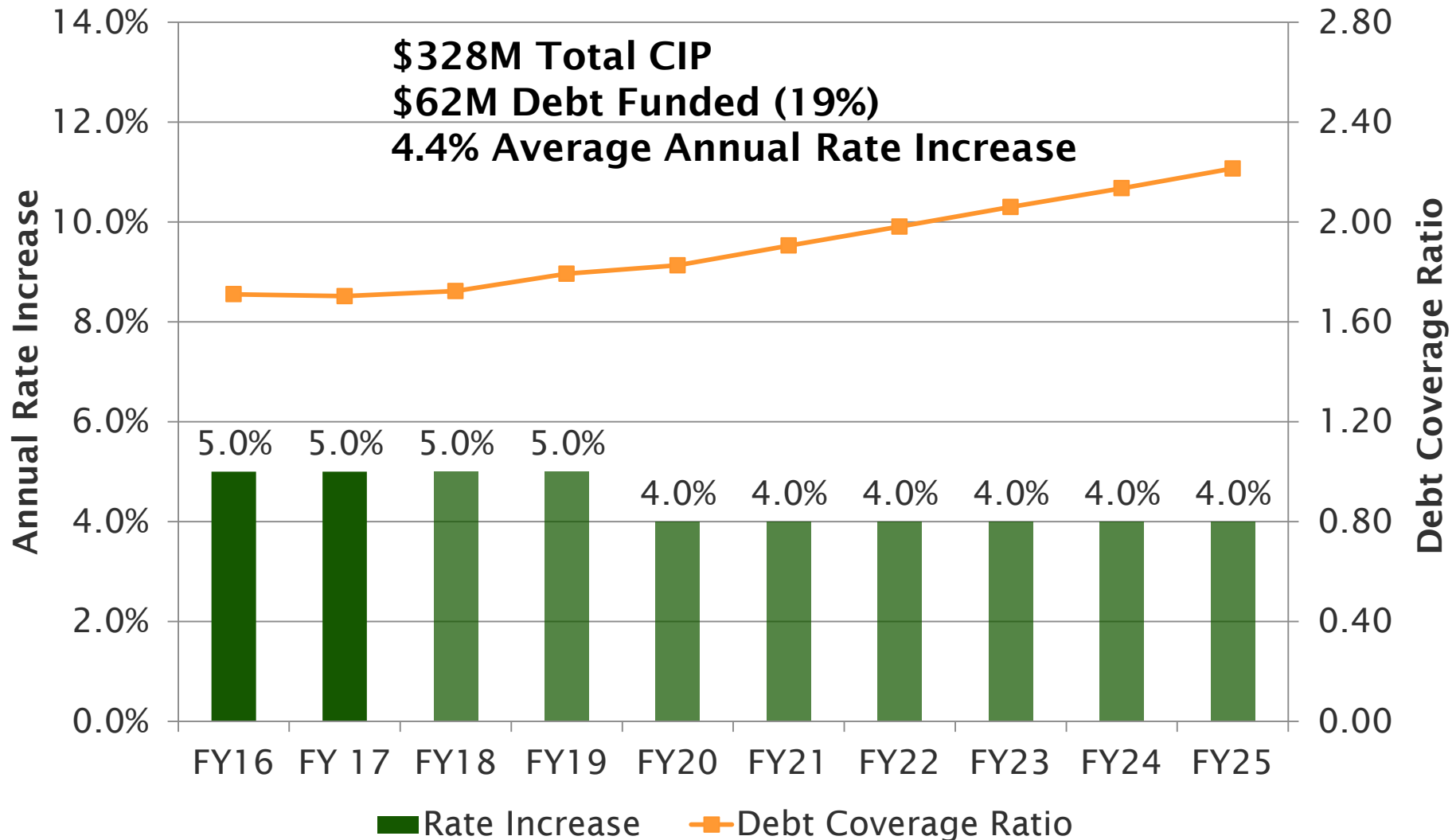
	FY15 Current	FY16 Proposed	Change		FY17 Proposed	Change	
Water – 10 Ccf/mo	\$48.60	\$52.17	\$3.57	7.3%	\$55.83	\$3.66	7.0%
Wastewater – 6 Ccf/mo*	\$19.25	\$19.01	-\$0.24	-1.3%	\$19.93	\$0.92	4.8%
Total	\$68.85	\$71.18	\$3.33	4.8%	\$75.76	\$4.58	6.0%

*Wastewater discharge based on winter water use

Long-Term Rate Forecast—Water



Long-Term Rate Forecast—Wastewater



Budget Priorities

Budget Priority #1



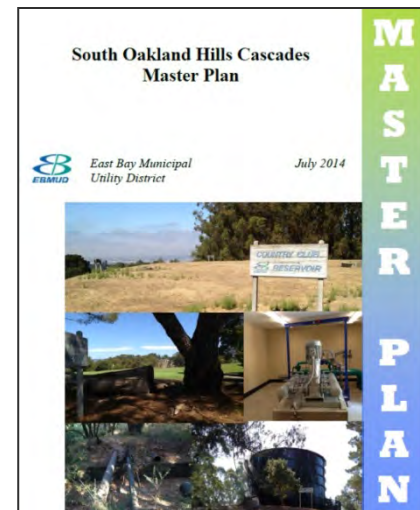
**Make Sustained Reinvestments in Aging
Physical Infrastructure**

- Water infrastructure replacement
 - Raw water system
 - Reservoirs
 - Pumping plants
 - Treatment plants
 - Pipeline replacement (10-to-40)
- Wastewater programs
 - Consent Decree
 - Food waste
 - Odor control

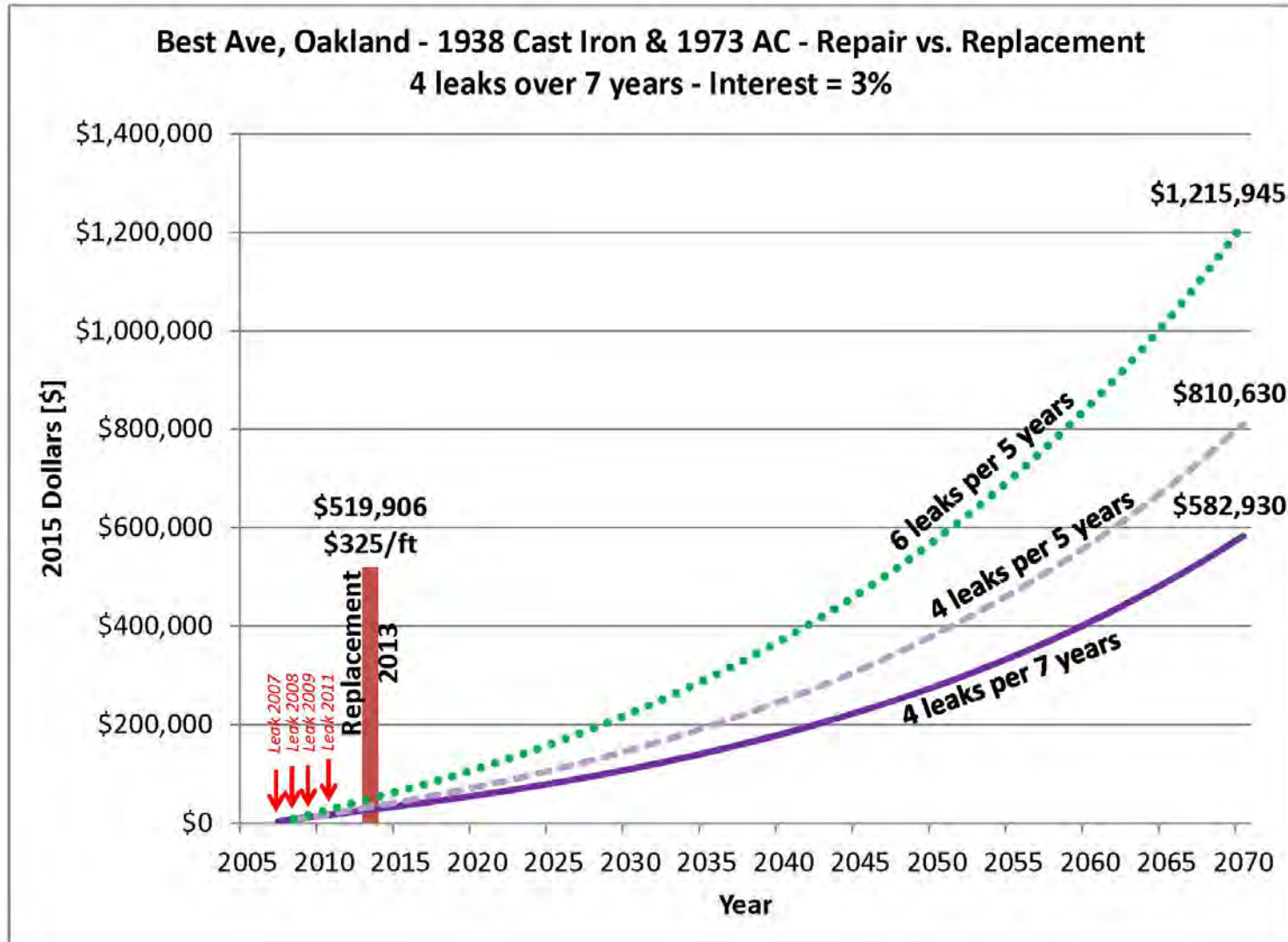
CIP Priorities Reflected in Proposed Budget



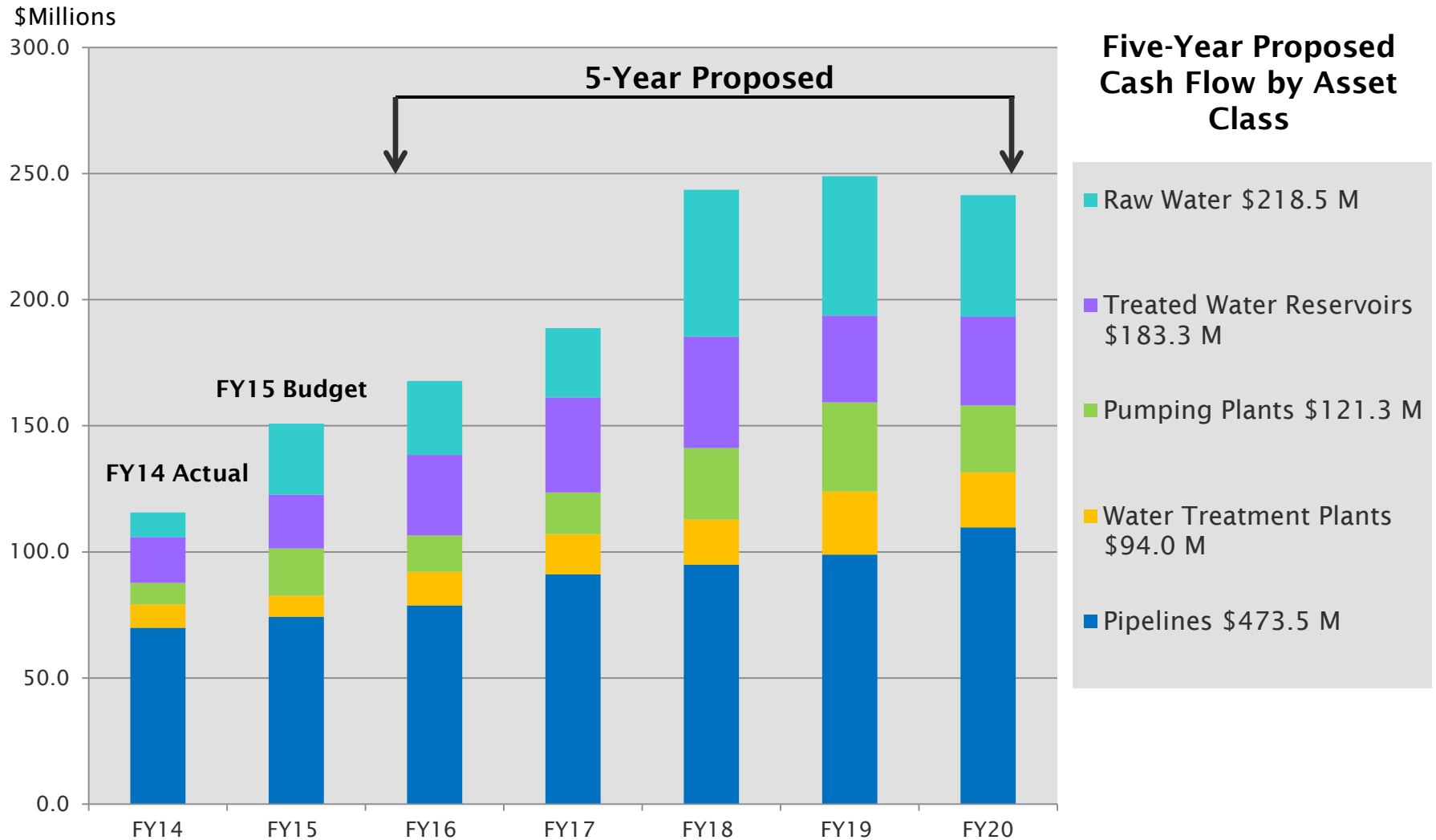
Priority	Example
1. Safety	Security and fire alarm improvements.
2. Regulatory	Upgrade dams, retrofit and replace diesel engines, improve wastewater treatment plant odor control.
3. Critical Reliability	Address reliability issues that could impact customers, e.g., replace filter underdrains at the Orinda Water Treatment Plant.
4. Cost Effectiveness	Replace or rehabilitate infrastructure that is cost-effective, such as replace pipes with leak histories, recoat steel tanks.



Cost-Effectiveness Example



Cash Flow—Water



Raw Water System Issues and Key Projects



Issues

- Delta hazards: flood, EQ, soil subsidence
- Proposed BDCP tunnels
- Levee and dam safety
- Aging infrastructure

Key projects

- Improve Chabot dam & tower
- Reline Mokelumne aqueducts
- Address subsidence of temperature anchors
- Perform geotech studies to address future tunnels, AQ#3 seismic performance
- Rehab Briones, Moraga raw water pumping plants



Mokelumne Aqueducts Lining



75-miles of Mokelumne Aqueducts Lining Failures:
AQ No. 3 Above Ground and AQ No. 2 Above & Below Ground



Delaminated lining accumulated on pipe invert



*CML installation,
New Irvington
Tunnel, SFPUC,
2014*

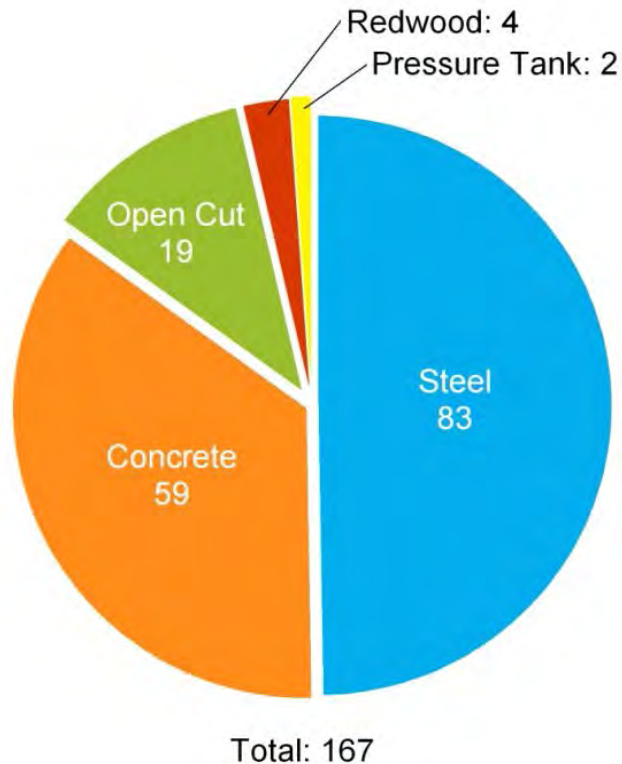


Large sheet of delaminated
lining. Longitudinal weld
traverses the center of the
spall.

Approach:

- Study alternatives (completed FY14-15)
- Perform additional sampling and analysis (FY16-17)
- Replace lining in stages (\$225 Million through FY25)

Treated Water Reservoirs



- 167 treated water reservoirs
- Typical rehabilitation scope includes:
 - Roof repair or replacement
 - Replacement of steel reservoir coatings
 - Improvements for employee safety such as stairs for roof access
- Water quality is improved when reservoirs are replaced with smaller reservoirs
- KPI: Award three steel reservoirs per year on average (KPI met)

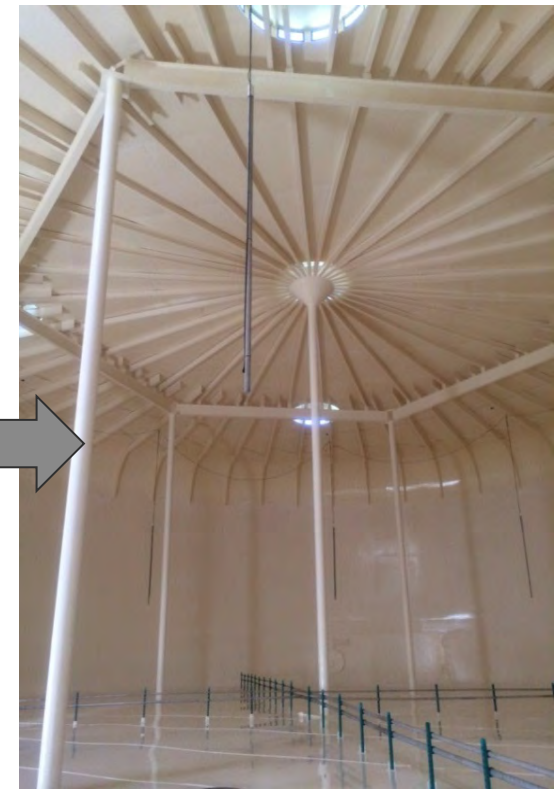
Typical Reservoir Rehab Scope



Hink No. 2

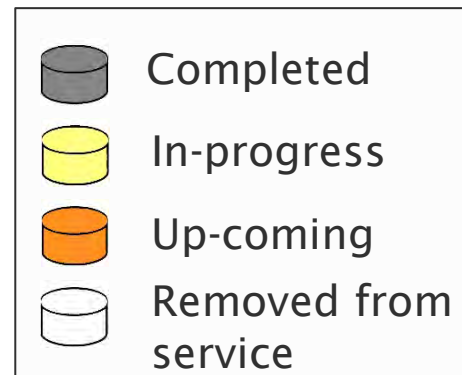
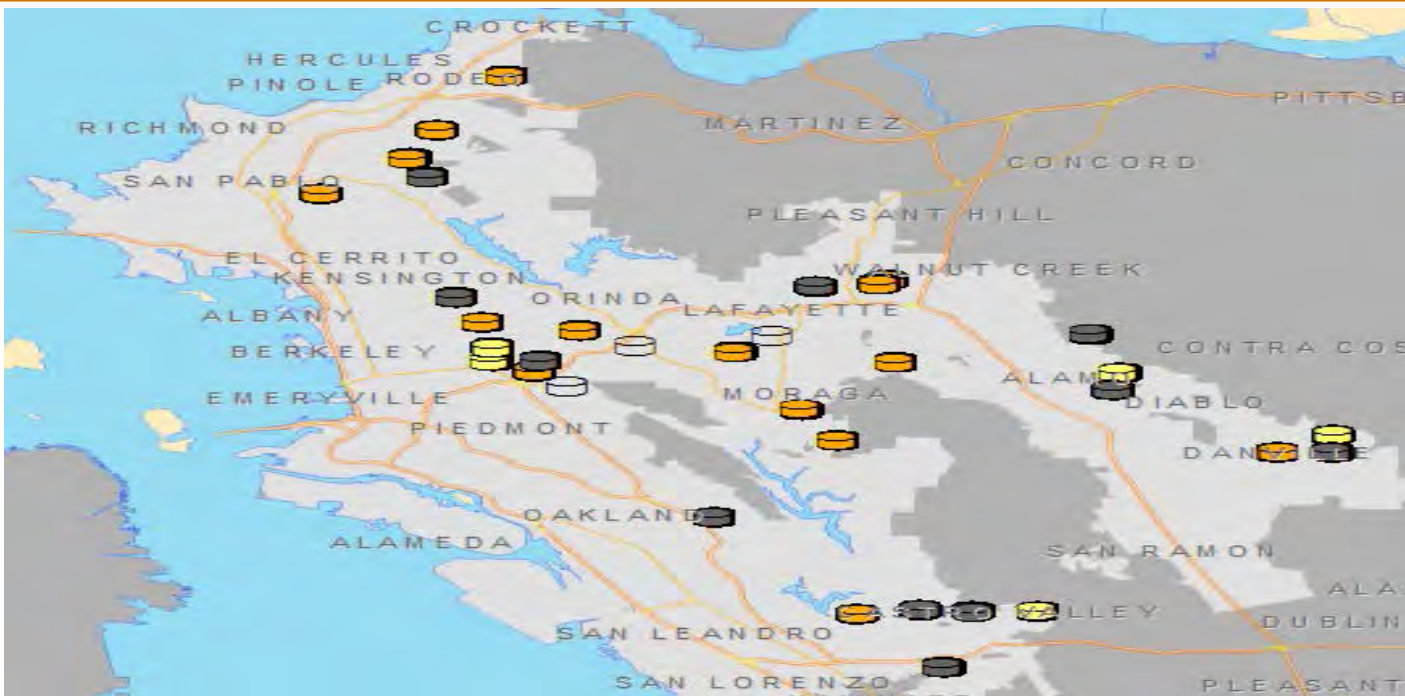


Rheem



Miranda

Steel Tank Rehabilitation Projects



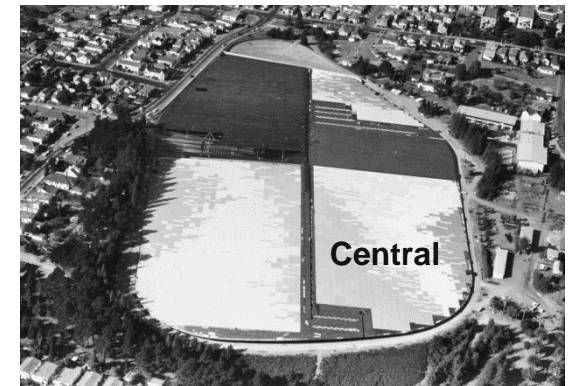
Category	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Rehabilitations & Replacements	Alamo Bayview No. 2 Fire Trail No. 2 Gwin	Proctor No. 2 Rilea Shawn	Blackhawk No. 2 Hink No. 2 Miranda	Woods	Acorn Eden Round Hill University	Bacon Mendocino Woods	Dos Osos Pearl Rheem	Arcadian Blackhawk No. 1 Carter Larkey	Berkeley View No. 2 Birch Grizzly Verde	Arroyo Proctor No. 2 Scenic East Sherwick
Demolitions				Crossroads Pinehaven No. 1 Pinehaven No. 2 Sunset Trilane	Stonewall					

Open-Cut Reservoir Highlights



Recent accomplishments:

- Schapiro (FY13 completion)
- Estates (FY14 completion)
- Summit Reservoir (in progress)
- South Reservoir (in progress)



Upcoming projects:

Project Name	FY16	FY17	FY18+
South		✓	✓
San Pablo CW	✓	✓	✓
Leland			✓
Central	✓	✓	✓



Pumping Plants

- 136 pumping plants
- Typical rehabilitation scope includes:
 - Electrical equipment replacement
 - Mechanical equipment replacement
 - Structural improvements as needed
- KPI: Rehab or replace at least three pumping plants per year
- KPI being met; 19 PP's will be in design or construction during the FY16-17 budget period



Redwood/39th Ave PPs



Treatment Plant Highlights



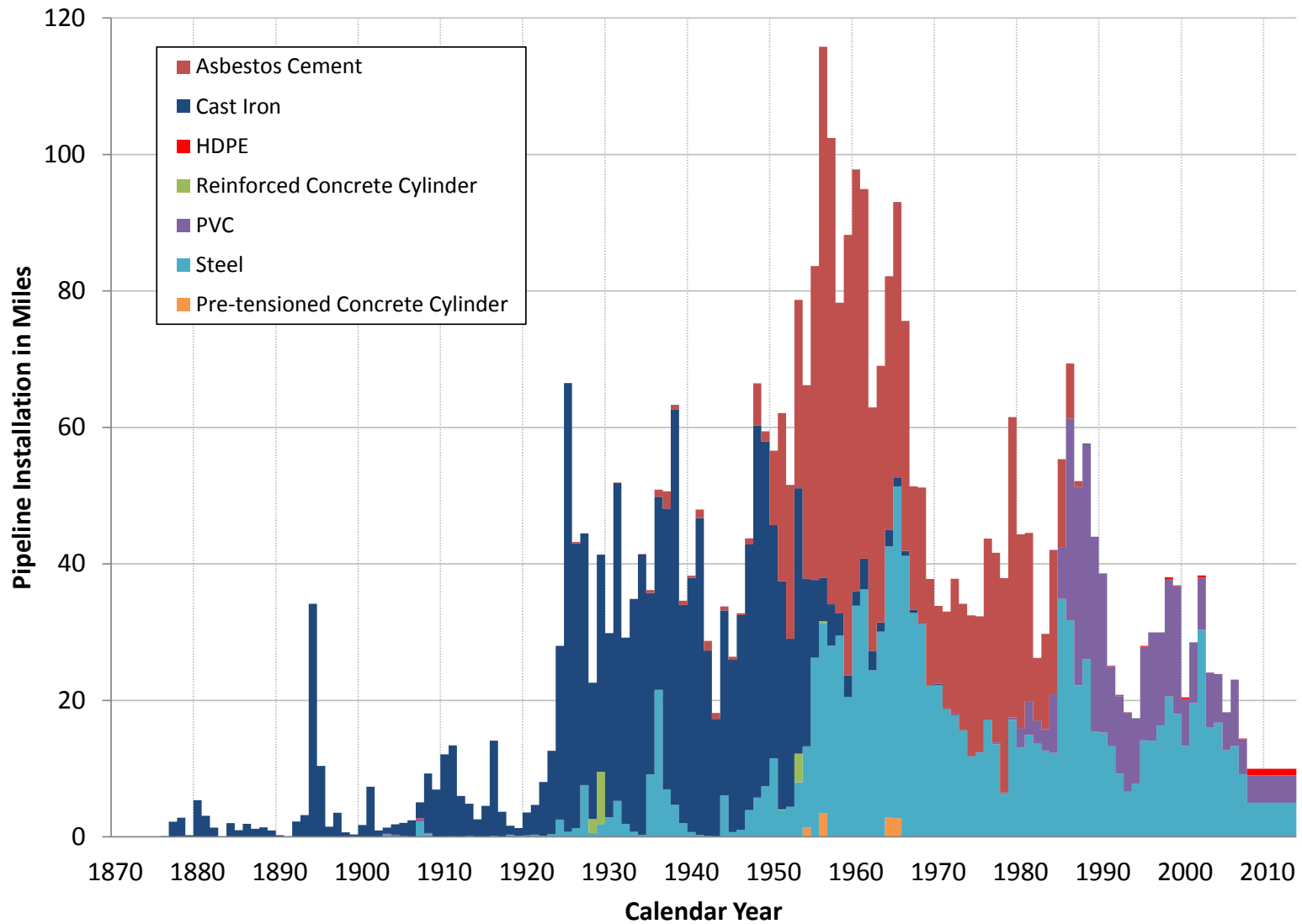
Design replacement for aging ozone systems at USL and Sobrante WTPs



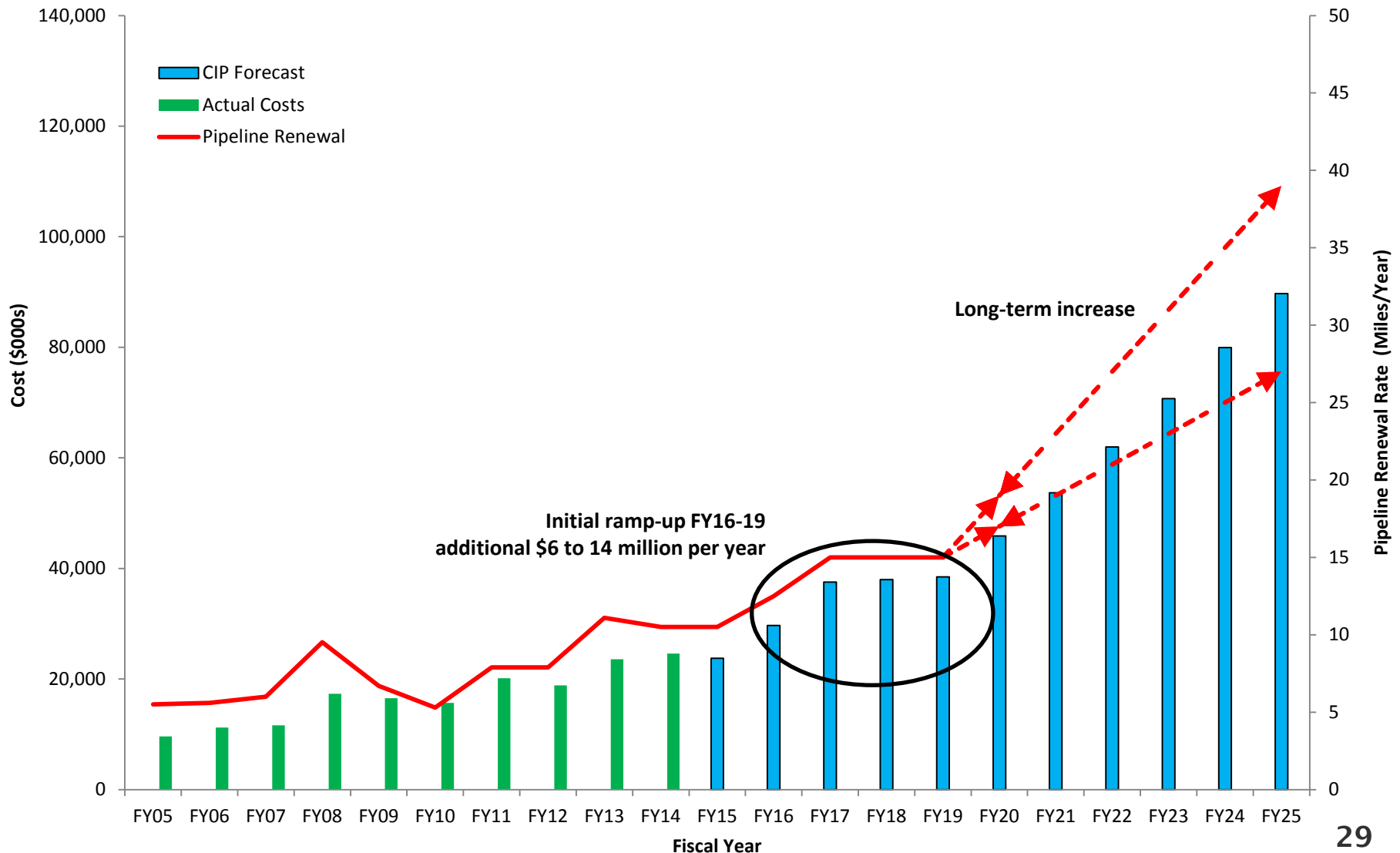
Design and install new filter underdrains at Orinda WTP



Pipe Inventory by Installation Year



Pipeline Renewal—CIP Forecast



Resources Needed—FY16 & FY17

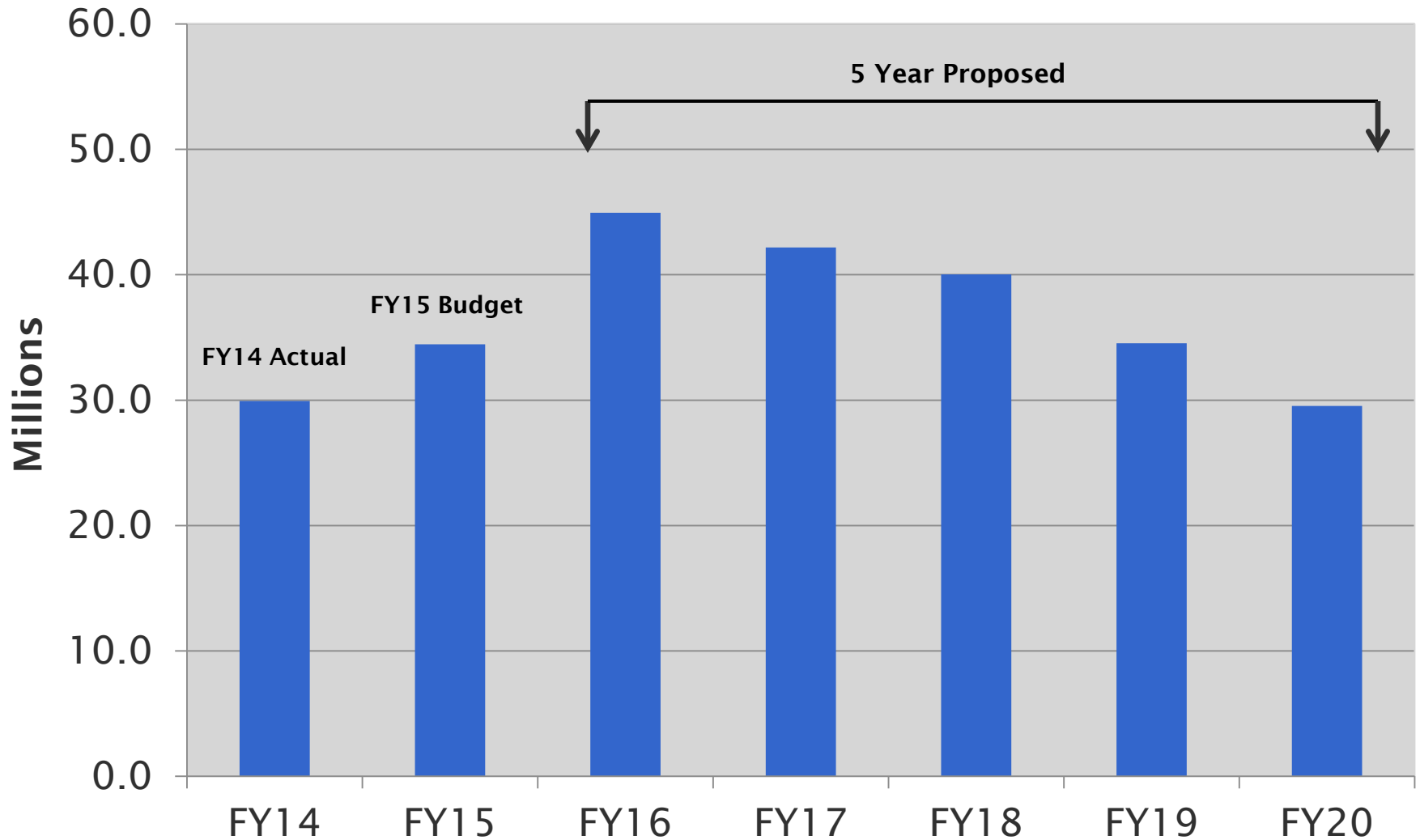


- Accomplish Ramp-Up from 10 to 15 miles mostly with District staff
- Evaluate alternative renewal technologies via contract
- Evaluate metrics

Field Resources	28 positions	<ul style="list-style-type: none">• Two Pipeline Installation Crews• One Paving Crew• Pool Resources
Technical Resources	8 positions	<ul style="list-style-type: none">• Engineers and Designers• Construction Inspectors• Support Staff



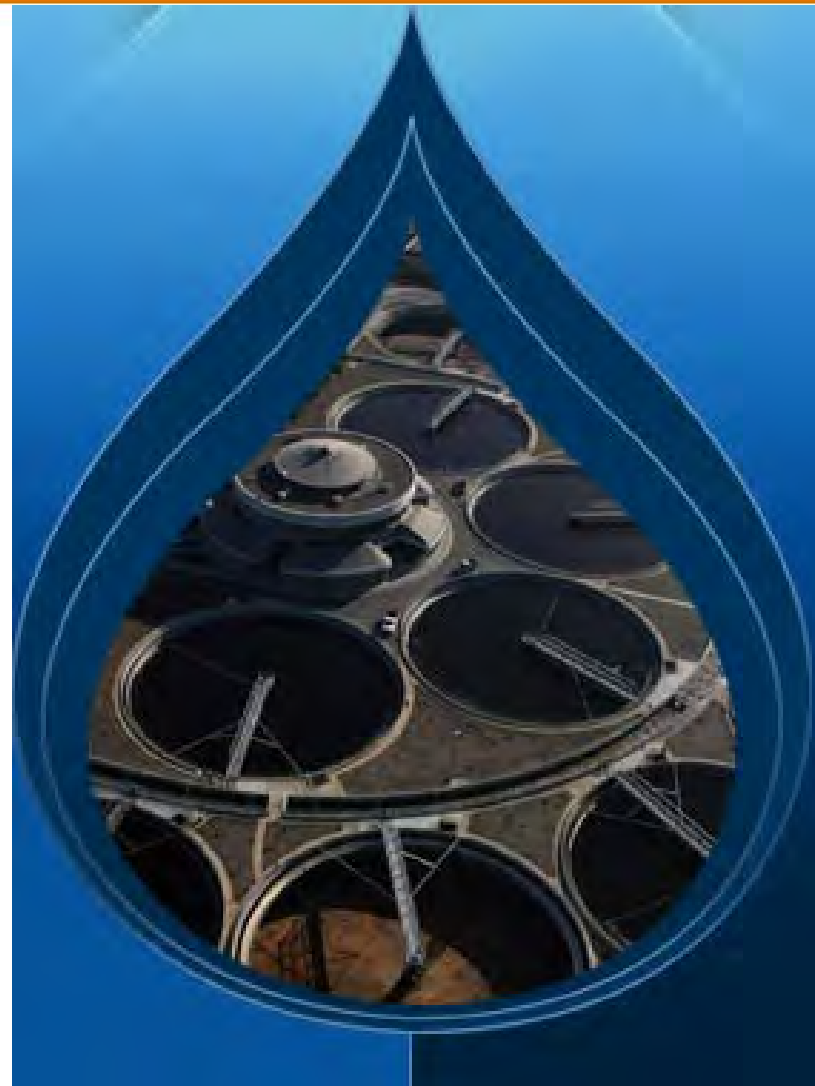
Cash Flow—Wastewater



Wastewater Program Topics



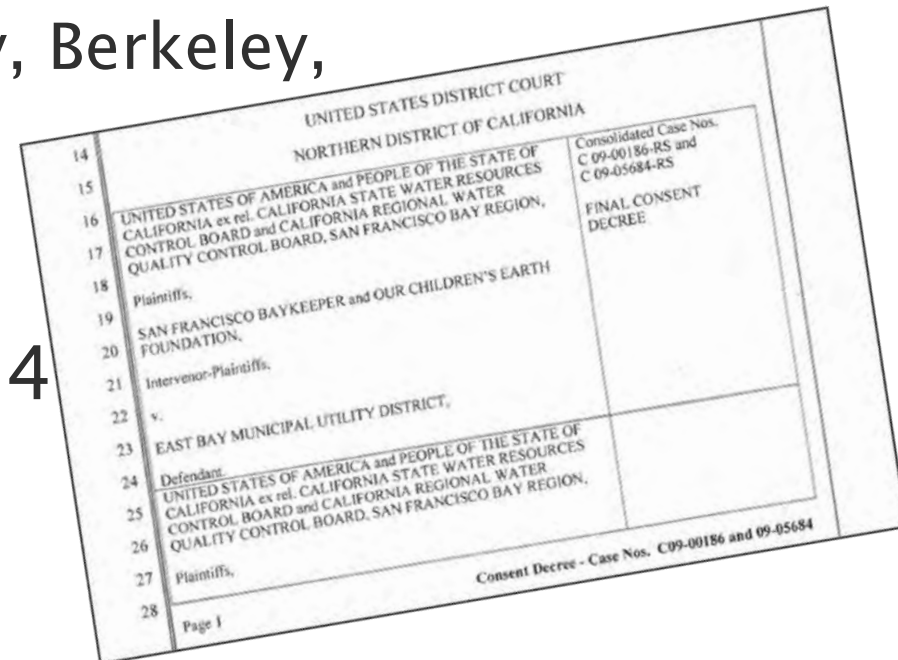
- Wet weather Consent Decree implementation
- Food waste initiative
- Odor control



Consent Decree Background



- Federal Order dealing with peak wet weather flows for EBMUD and 7 Satellite collection systems
 - Cities of Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont, plus Stege Sanitary District
- Effective September 2014 for 22-years

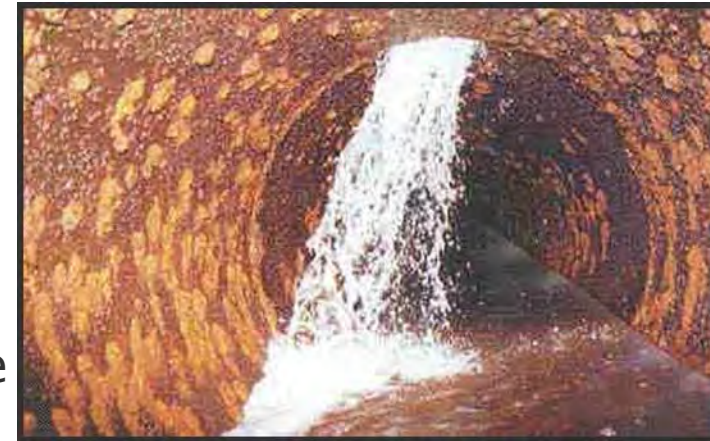


Consent Decree Background (cont'd)



Required district activities – (In addition to significant infrastructure investment required by Satellite agencies)

- Capital improvements - Urban Runoff Diversion Project and pump station flow reversal
- Private sewer lateral program
- Annual hydraulic modeling
- Regional technical support program
 - Investigate/identify sources of I/I within the systems of Satellite agencies
 - Required spend of \$2M/yr, exclusive of administration costs
 - Near-term significant contract support to ramp-up program; over next 2 yrs. develop long-term plan to resource program



Consent Decree Key Challenges

Midcourse check-ins in 2022 and 2030 - Failure to meet check-in targets results in a defined process with significant EPA discretion on potential additional requirements

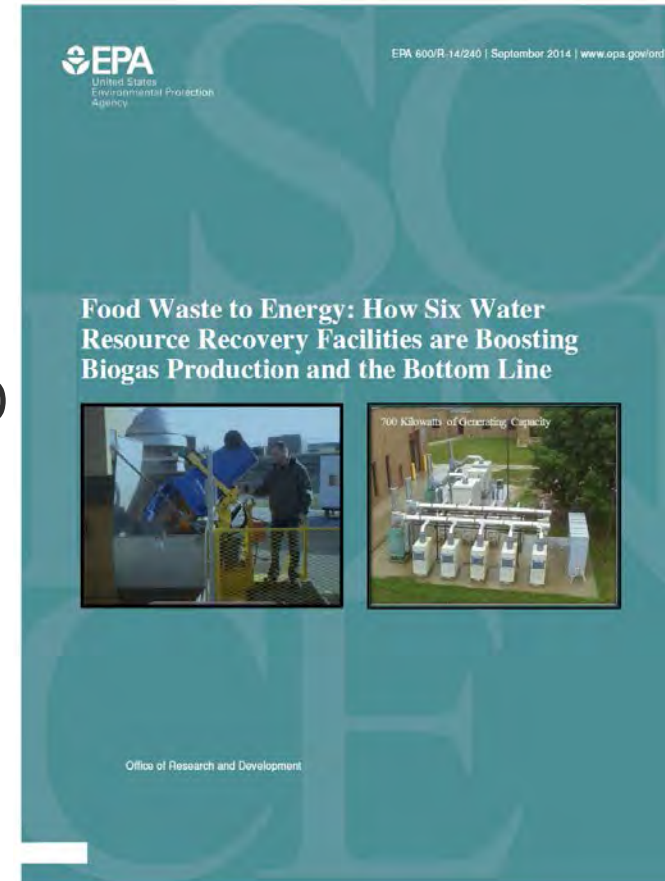
- PSLs; Rate of turnover, HOAs, >1000 ft. properties, public properties
- Uncertainty on what sources of I/I identified via RTSP
- Effectiveness of means/methods of I/I reduction work (public and private)



Food Waste Background



- WWTP currently generates 130% of power demand (vs. industry standard of 50-60%)
- District continues to be regarded as a pioneer and leader in converting organic waste material to renewable energy
- District currently accepts approximately 10 tons per day of food waste (CCCSWA)
- CEQA clearance for up to 600 T/day of collected food waste
- Pursuing a scale up of the program over the next two years, through receipt of 50+ tons per day of the City of Oakland's food waste



Food Waste Budget Implications



- Operating costs
 - No additional costs in FY16
 - FY17 incremental costs:
 - Grit disposal
 - Digestate hauling
 - Polymer
- Capital costs
 - Preprocessing project
 - Dedicated digestion and dewatering
- Costs offset by revenue stream
 - Tipping fee
 - Renewable energy generation



Food Waste Key Challenges

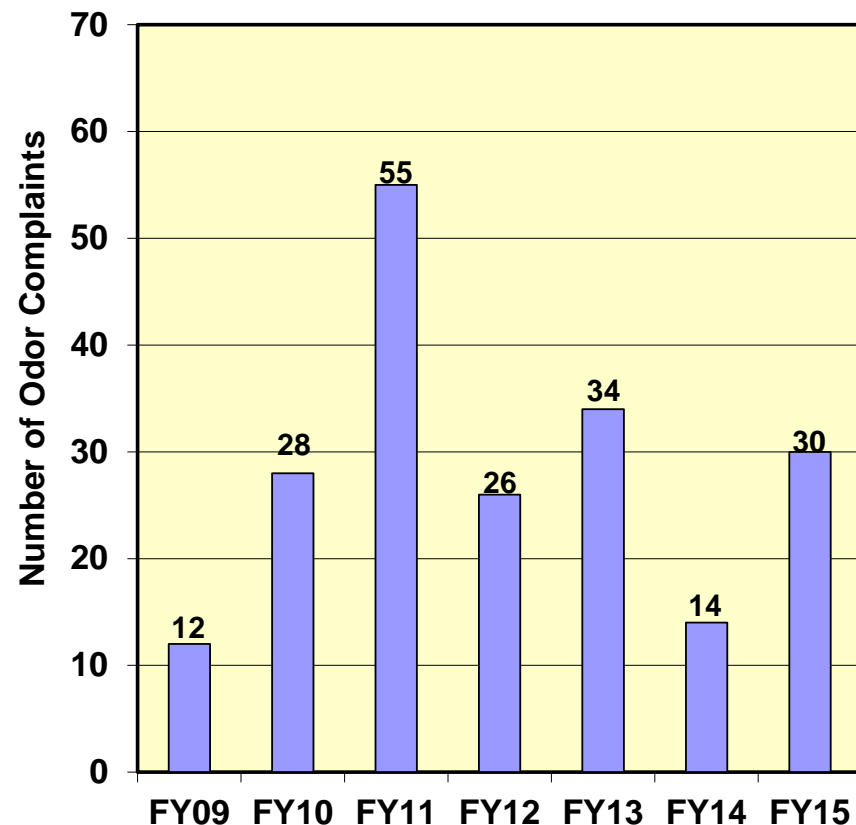
- Once constructed, this will be the largest food waste digestion-to-energy operation in the country
- The nature of this project, with the District leading industry innovation, gives rise to an unusual set of challenges for the District
 - Technology suitability
 - Operational impacts
 - Backup/interim plans
 - Offsite odor concerns
 - Aggressive schedule to meet Oakland timeline



Odor Control Background



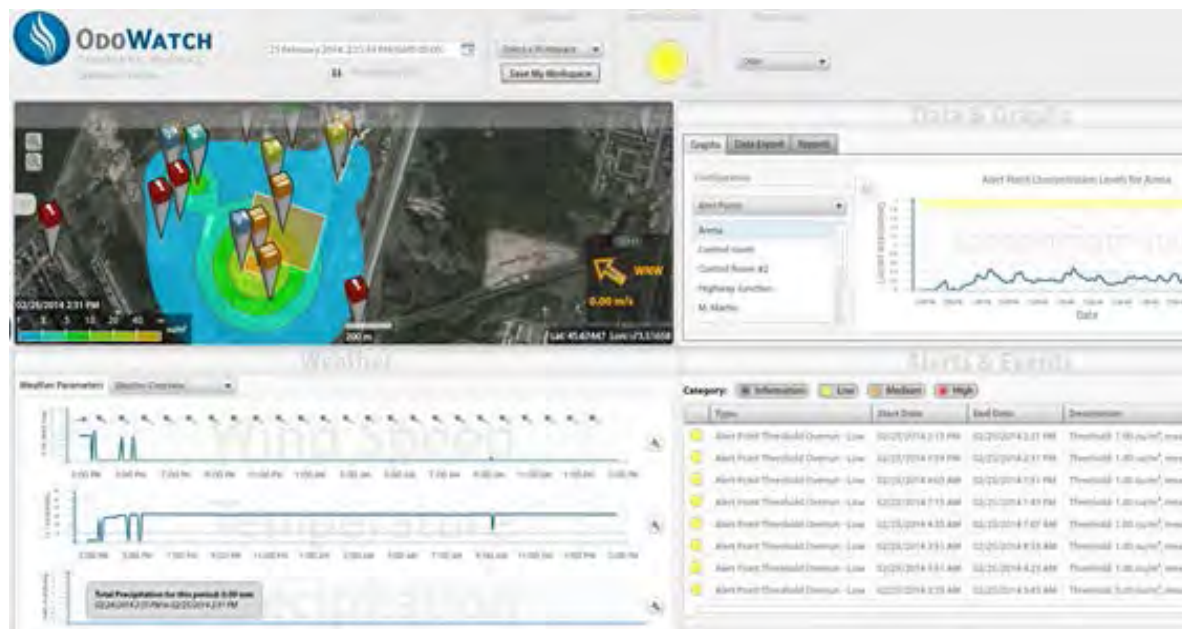
- Continued commercial and residential redevelopment near the MWWTP
- Continuing public concerns regarding odors
- Linkage to food waste initiative
- Commitment to continuous improvement



Odor Control Capital Budget Implications



- District is nearly quadrupling the rate of investment in odor control capital infrastructure
 - \$19M in 5-year CIP based on phased-implementation approach to mitigating odors
- Key Projects:
 - Influent Pump Station Odor Control (\$3.7M)
 - Primary Sedimentation Tank Odor Control (\$8.9M)
 - Innovative Odor Monitoring System (\$0.8M)



Odor Control Key Challenges



- Capital improvement program implementation timeline
 - Phased approach with monitoring for improvements after each major capital improvement
- Effective utilization of technology and resources to identify and mitigate odor sources prior to causing an off-site impact
 - Complete installation of pilot OdoWatch® odor monitoring system pilot (May 2015)
 - Operational practices
- Effective engagement on odor control activities with West Oakland community

Make Sustained Reinvestments in Aging Physical Infrastructure



- Water—key priorities
 - Raw water system elements such as Chabot Dam, Mokelumne Aqueduct relining
 - Maintain progress on pumping plants and reservoirs
 - Orinda WTP filters, Sobrante/USL ozonation
 - Pipeline replacements will grow to 15 miles/year within 5 years
- Wastewater—key priorities
 - Consent Decree
 - Food waste
 - Odor control
- Increased position funding by 50

Budget Priority #2



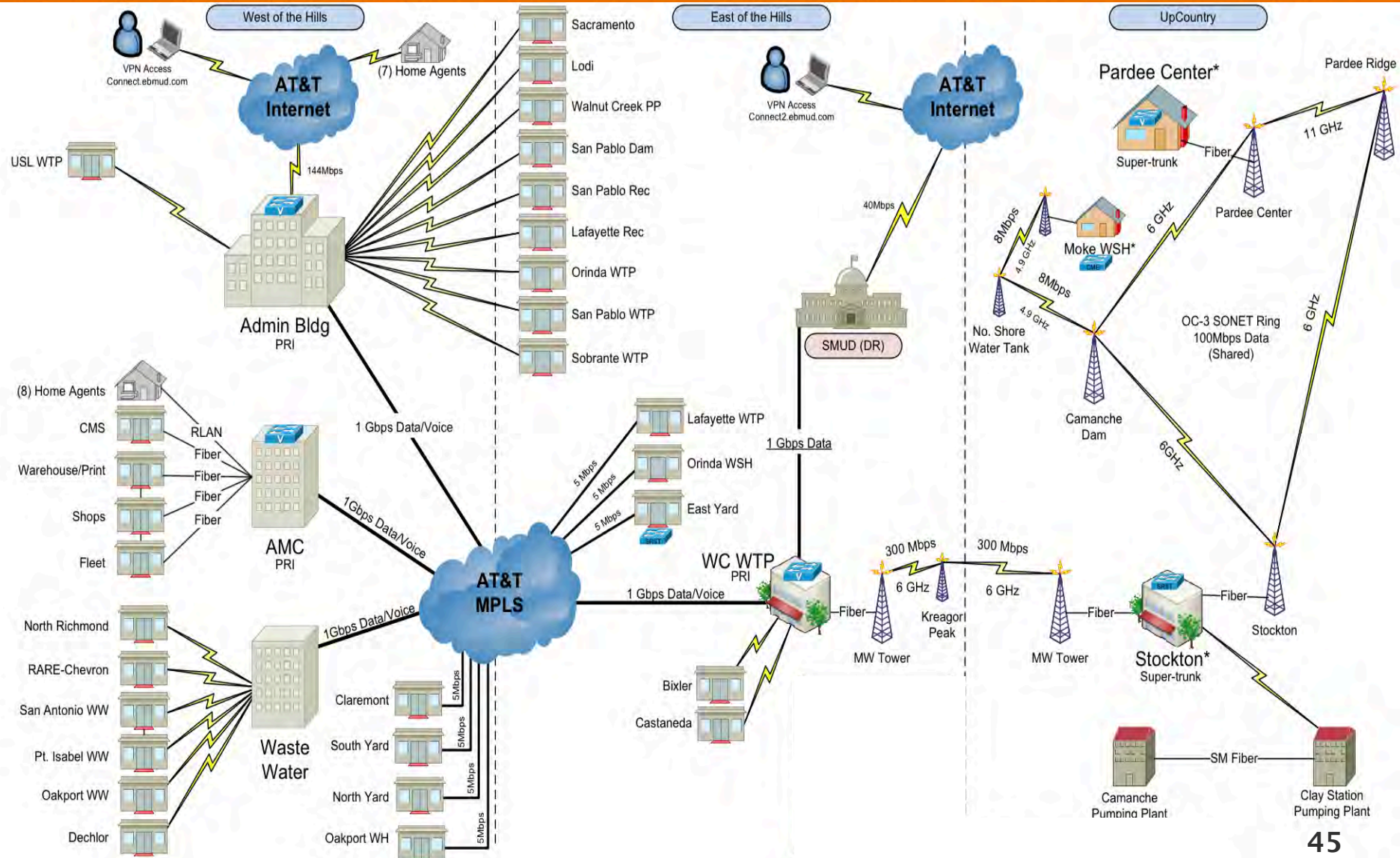
**Invest in Critical Information
Technology Infrastructure**

Information Technology Infrastructure Topics



- Overview of the infrastructure
 - Lifecycle of IT infrastructure
 - What needs to be replaced or upgraded?
- Other IT cost drivers
 - Security and disaster recovery
 - Cyclical market trends

Scope of District IT as Extensive as Water System



Lifecycle of IT Infrastructure



Component	Lifecycle
Major business systems	5-25 years
Network hardware	10 years
Server hardware	5-7 years
Desktops and laptops	4-5 years
Mobile phones and tablets	2 years
Server and desktop software	2-7 years Up to 30 days between patches
Communication service plans and associated hardware	Driven by market forces and communication demand changes

What Needs to be Replaced?



FY16	FY17	FY18	FY19	FY20
Purchasing System (MMIS) Implemented 1987				
Finance System (FIS) Implemented 1999				
HR System (HRIS/HCMS) Implemented 1999				
	Work Management Systems (GWO, AIM, POS, COS, etc.) Implemented 1999-2006			

What Needs to Be Replaced?

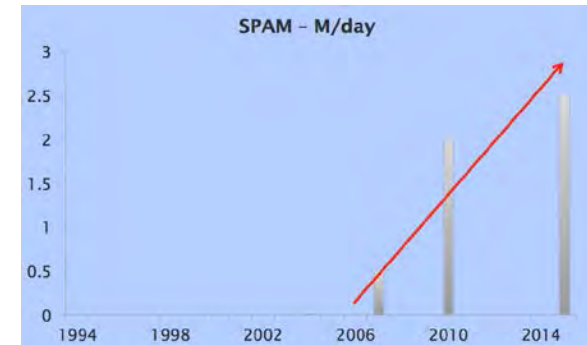
Network and Server Hardware



- Some network switches beyond 10 years in service
- Many servers beyond 8 years in service
- Storage systems approaching 8 years in service
- FY16 and FY17 include \$2.4M and \$2.0M contributions to equipment replacement fund

Security Challenges

- Control system security
 - Record level of threats with intentional targeting of utilities
 - Recent assessment identified numerous opportunities to improve security
- Business network security
 - Malicious emails
 - Web site “drive by” hazards
 - Growth in “zero day” vulnerability exploits
 - Improvements in our server management capabilities needed



Disaster Recovery Improvements



- FY14 outage recovery revealed limitations of disaster recovery (DR) infrastructure
- FY16 budget includes funds for replacement storage at SMUD DR site
- FY16-17 projects to develop recovery plans for additional business systems

Cyclical Nature of IT Market

Data and Telephone Costs



Invest in Critical Information Technology Infrastructure



- IT key priorities
 - Replace aging enterprise software
 - Replace network & server hardware
 - Address security challenges & disaster recovery
- Increased position funding by 12
 - Server maintenance
 - Security
 - Enterprise systems replacement (limited-term)

Budget Priority #3



Manage Impacts of Extended Drought

Drought 2014

- One of the driest years on record
- State emergency regulations
- EBMUD water shortage emergency:
 - Adopted Section 28 Regulations
 - Drought management plan

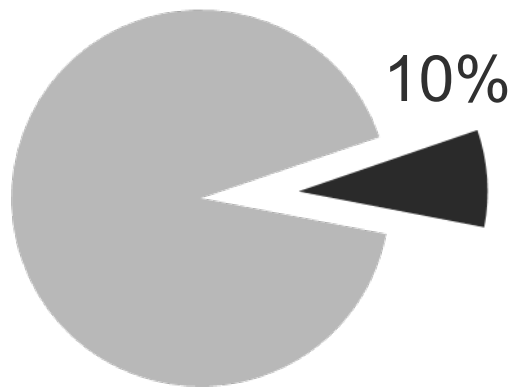


Photo courtesy of CA State Department of Public Affairs

Customer Conservation Savings Goal



February 2014



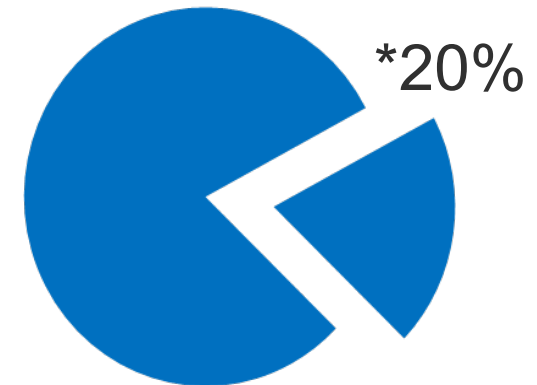
Voluntary

December 2014



Voluntary

April 2015



Mandatory

* Proposed

Actual Savings Rate February 2014 - 2015 = over 12%

Drought Operational Impacts



- Direct contact and customer support
- Increased outreach to the community
- Increased programs, services, & rebates
- Enforcement of regulations
- Responsive customer service
- Advertising, media, and education
- Leak detection and repair

2014 Education and Outreach Highlights



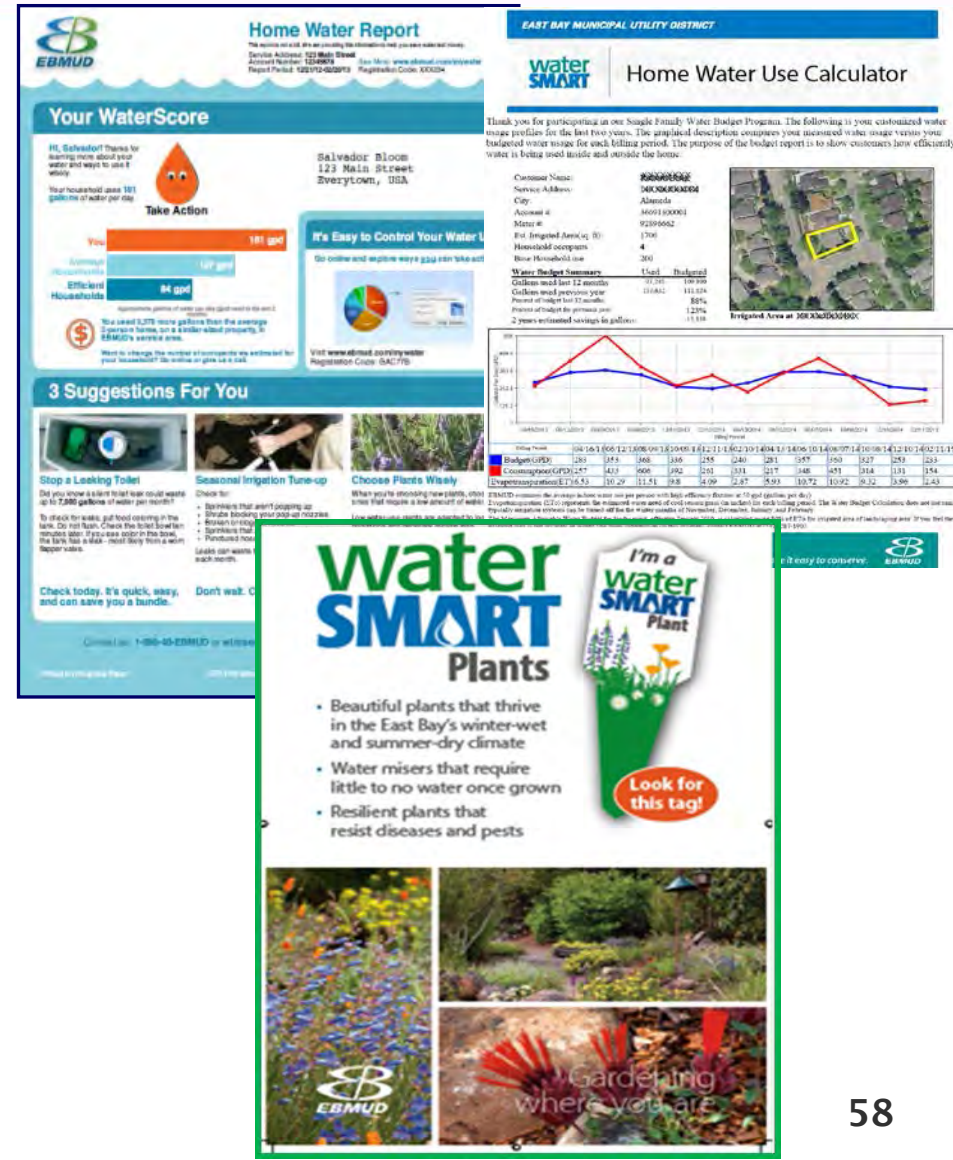
- ~125 Community presentations, events, workshops
- ~593 Media interactions
- Targeted mailing to all customers including tenants
- ~2000 Water waste reports



2014 Program and Service Highlights



- ~14,000 Conservation rebates
- 50,000+ Home water reports
- ~38,700 Water audits, survey kits, landscape water budgets
- ~5,700 Conservation device distribution
- Leak detection



Supply Side Conservation



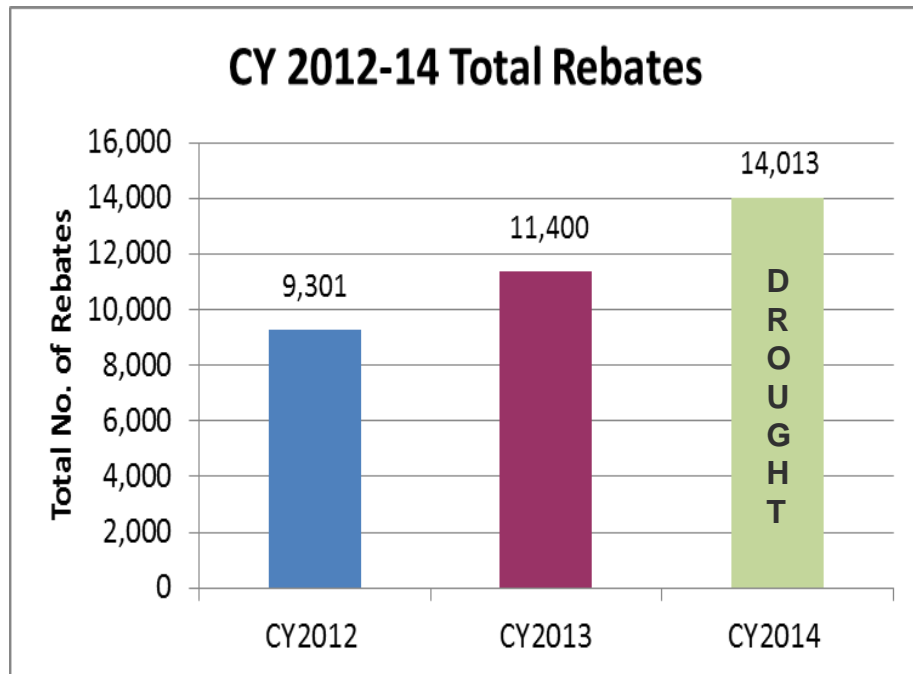
- 670+ Leak detection loggers installed
- 95% of District facilities meeting 20% conservation goal



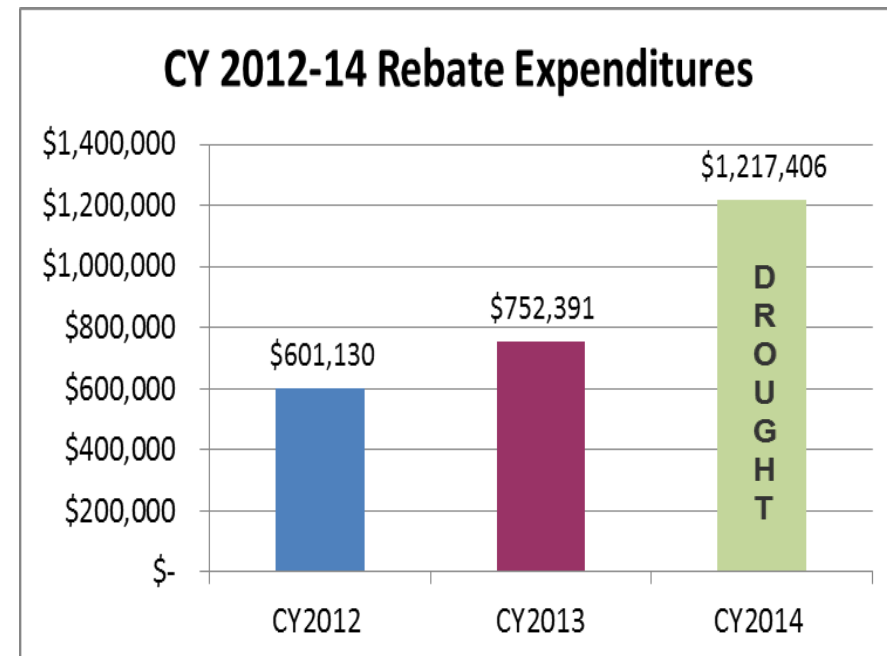
Drought Water Conservation Response



 23% increase



 62% increase



Customer Service Response— 2014



Contact Center

322,630 Call Volume



✓ 48 seconds
average speed of
answer

Field Services

1,239 Inspections



DROUGHT



- ✓ Water supply, treatment, delivery
- ✓ Drought management program
- ✓ Lost revenue from reduced water sales

Manage Impacts of Extended Drought



Category	FY16 (Millions)	FY17 (Millions)
Water purchase treatment and delivery	\$55.8	\$55.8
Treatment costs at terminal reservoirs	6.1	3.0
LT labor and other drought expenses	<u>2.3</u>	<u>3.2</u>
Total	\$64.2	\$62.0

- Drought – key priorities
 - Water purchase, delivery and treatment as needed
 - Customer support and outreach
 - Increased programs, services and rebates
 - Advertising, media and education
- Increased limited-term position funding by 15 in drought contingency

Recommended Budget

Biennial Budget—FY16 & FY17



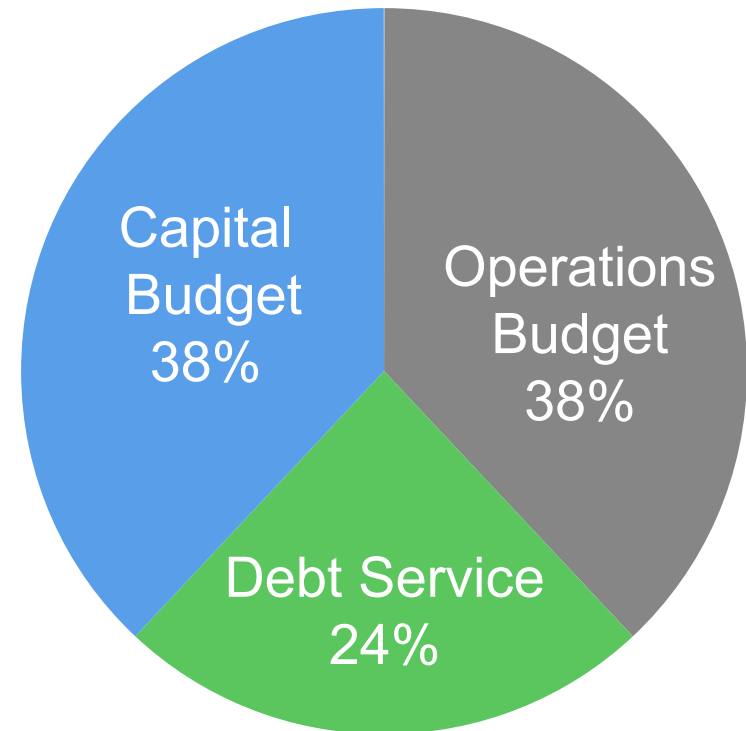
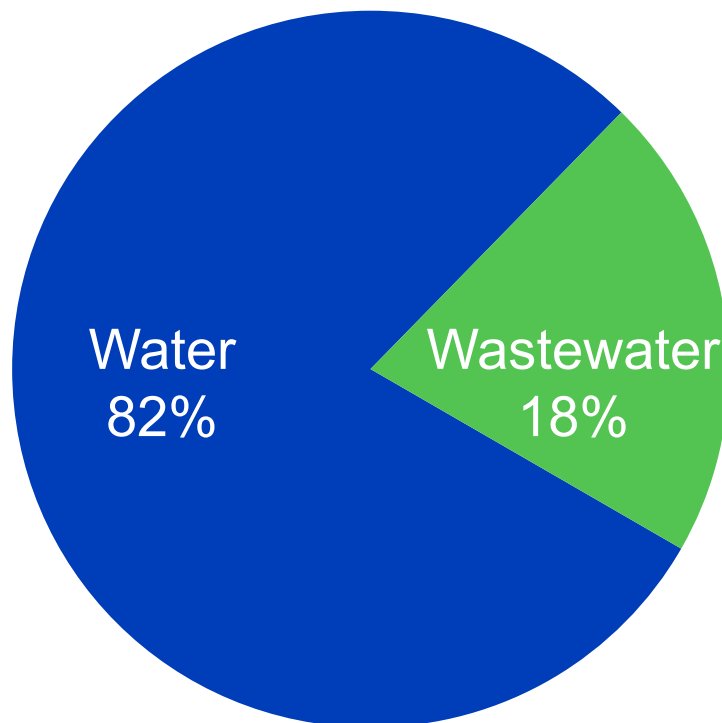
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Biennial Budget—FY16 & FY17



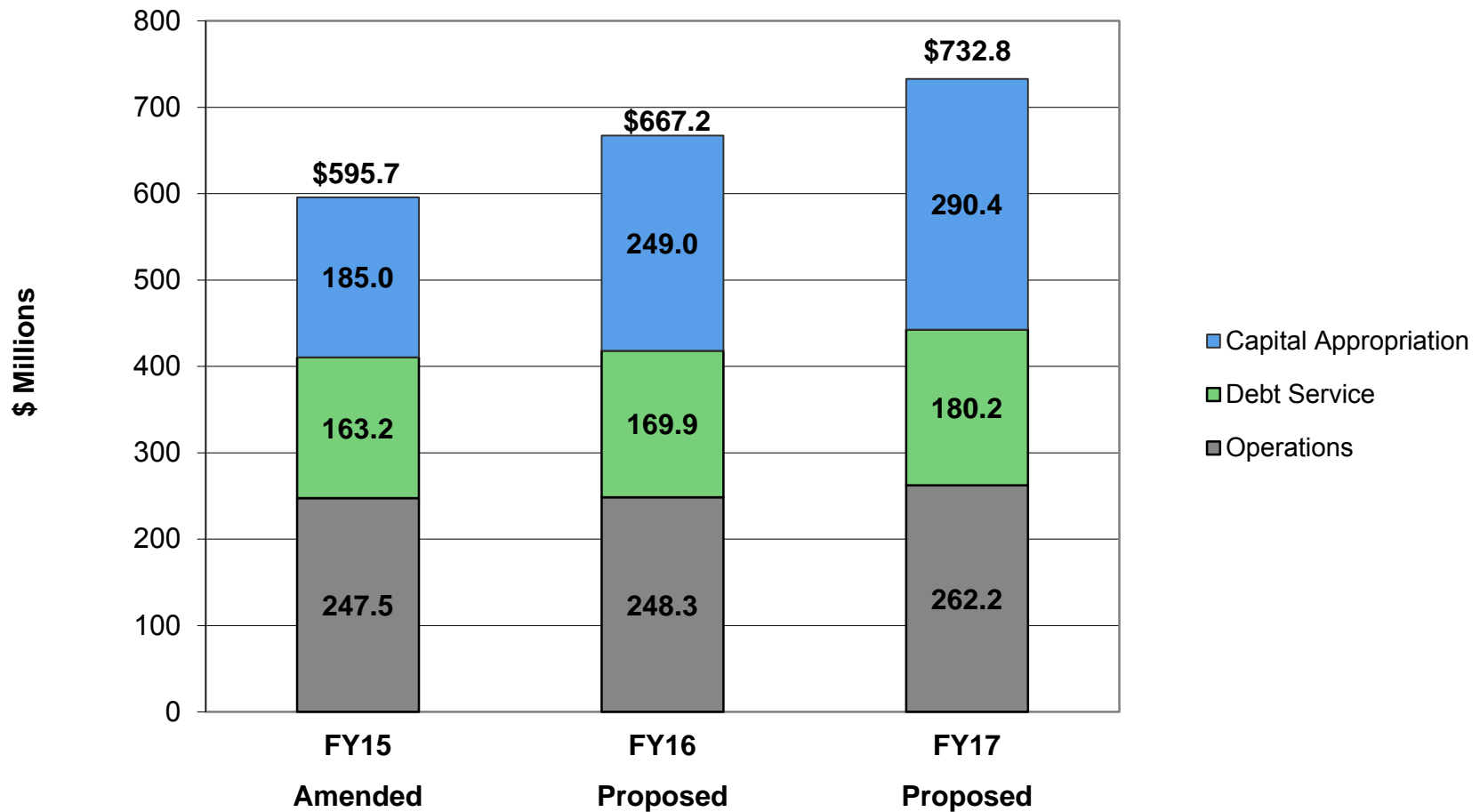
\$1.71 Billion*



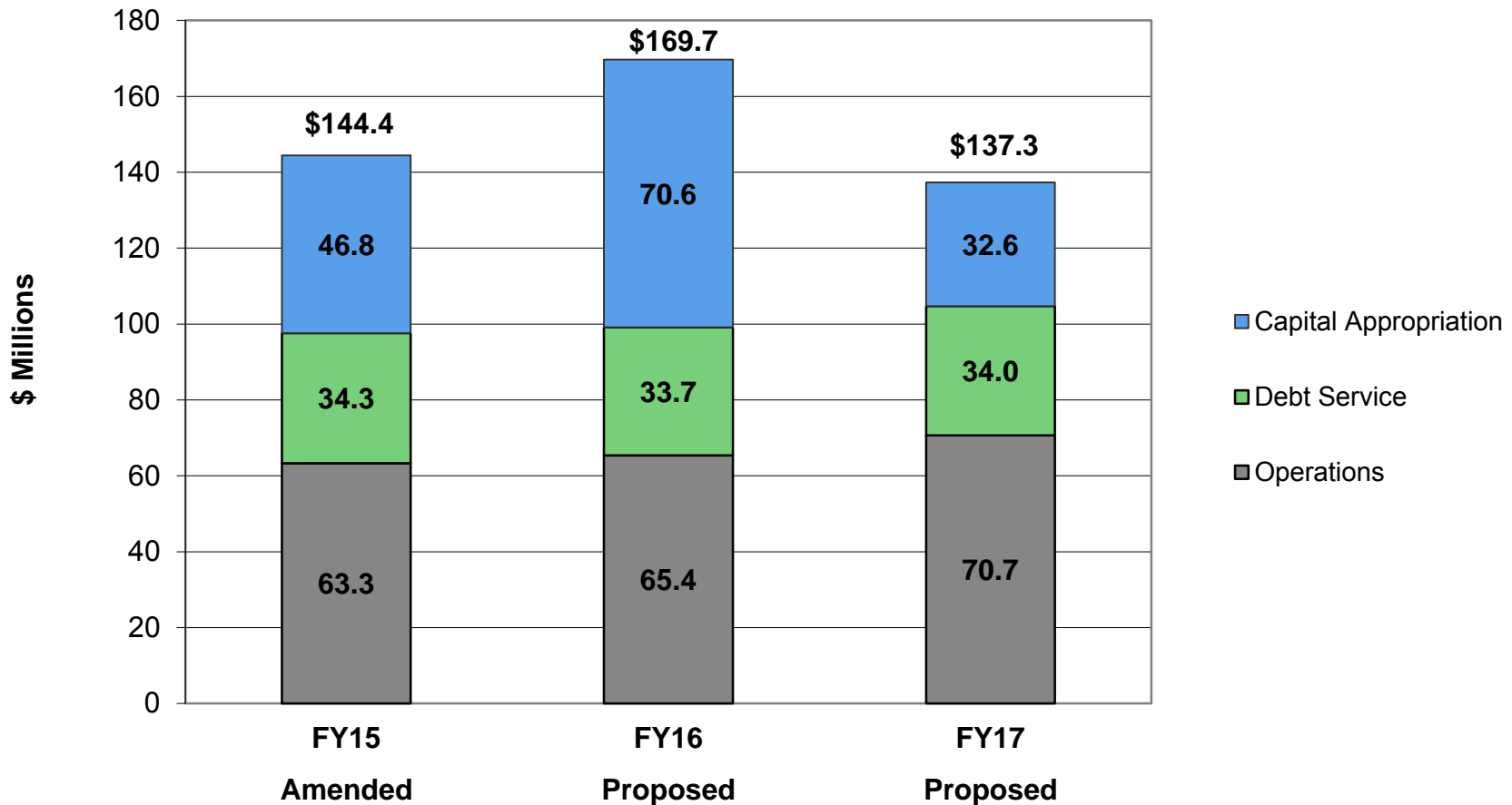
- Water budget 4.5x Wastewater budget
- 62% of budget is capital investment-related

*Excludes drought contingency

Water System Budget Comparison



Wastewater System Budget Comparison



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



	FY16	FY17	FY18	FY19	FY20	5-Year Total
Water	\$225	\$236	\$296	\$310	\$309	\$1,376
Wastewater	\$39	\$37	\$35	\$31	\$27	\$168
Total	\$264	\$273	\$331	\$341	\$336	\$1,544

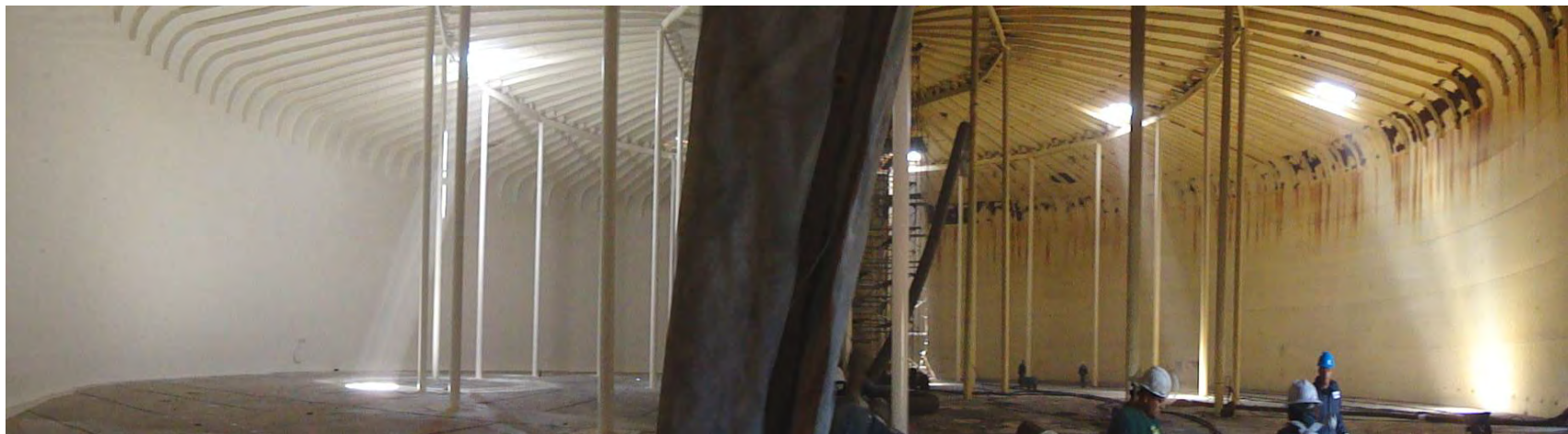
Discounted cash flow includes Administration of Capital

Capital Improvement Program

Major Water System Projects (\$ Millions)



Project	Cash Flow <u>FY16-20</u>
– Pipelines, Regulators & Appurtenances	\$ 429
– Raw Water Aqueducts	\$ 229
– Pressure Zone Improvements	\$ 135
– Reservoir Rehabilitation	\$ 100
– Water Treatment & Transmission	\$ 92
– Pumping Plant Rehabilitation	\$ 75
– North Richmond Recycled Water Facility	\$ 70



Capital Improvement Program

Major Wastewater System Projects (\$ Millions)



Project	Cash Flow <u>FY16-20</u>
- 3 rd Street Sewer Interceptor Rehab	\$ 33
- Treatment Plant Infrastructure	\$ 24
- Odor Control Improvements	\$ 19
- Concrete Rehabilitation at MWWTP	\$ 15
- Resource Recovery	\$ 14
- Digester Upgrades	\$ 12
- Wood Street Sewer Interceptor Rehab	\$ 12



Authorized Positions—FY16 & FY17



Proposed changes to Position Resolution

- Total authorized positions of 2,096
- Net increase of 39* positions
 - Additions 56
 - Deletions 17

*38 FTEs

Break

Recommended Rates and Charges

Rates & Charges Topics



- Overall rate increase
 - Same as prior forecast
- Cost of service adjustments
 - Required adjustments in FY16
- Customer bill impacts
- Rates & charges

Recommended Rate Increases



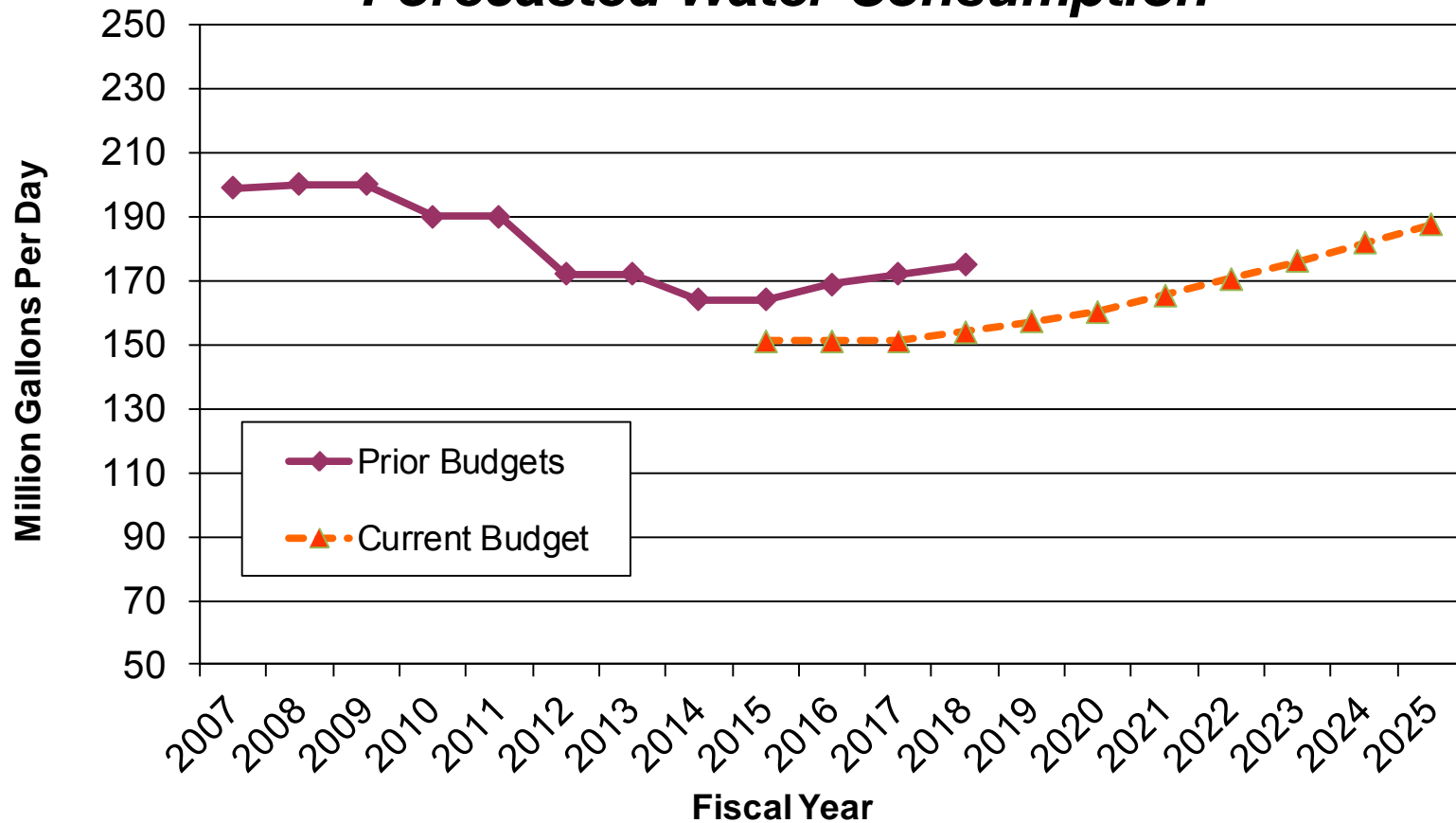
Prior Five-Year Forecast

	Adopted		Projected		
	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
Water	9.75%	9.5%	8.0%	7.0%	5.0%
Wastewater	9.0%	8.5%	5.0%	5.0%	5.0%

Drop in Water Consumption



Forecasted Water Consumption

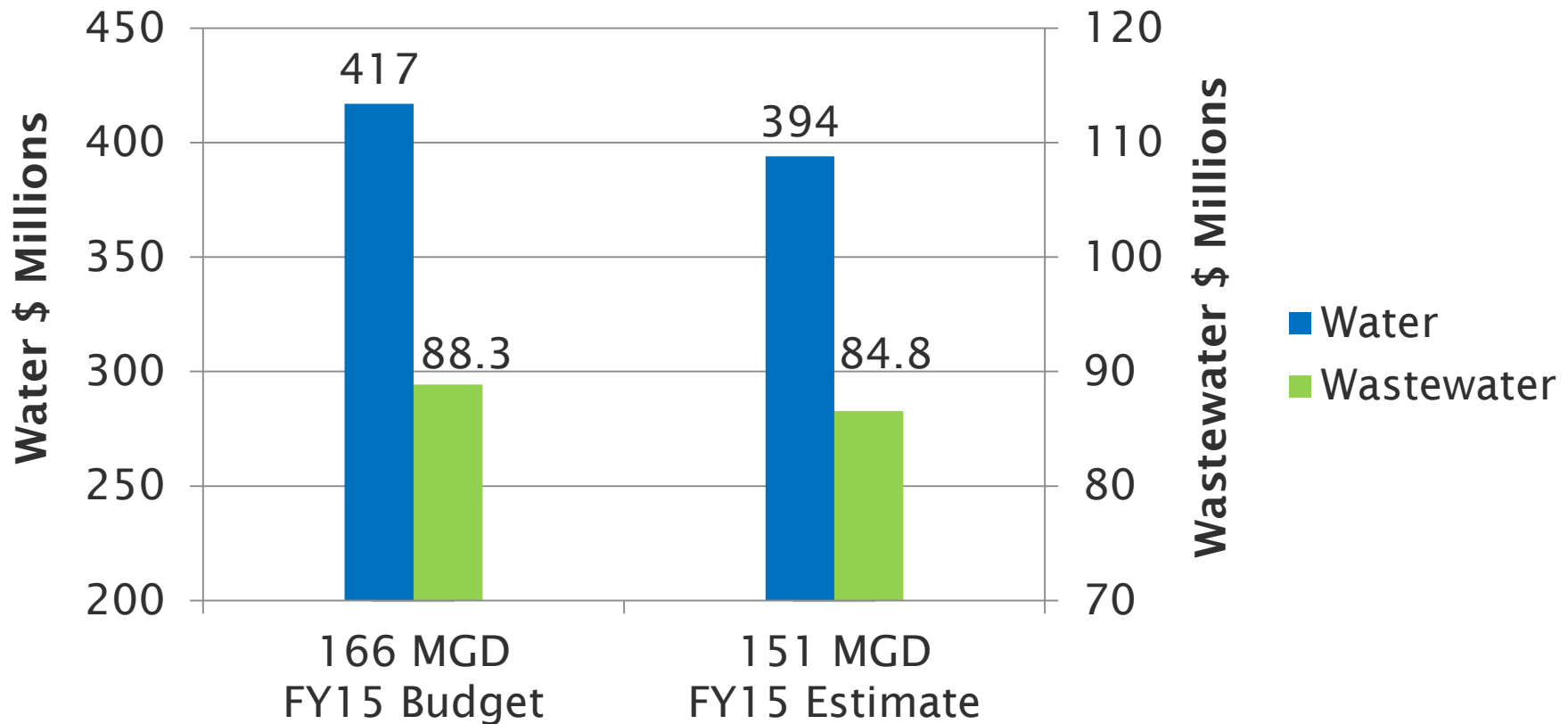


• Rates for FY16 and FY17 based on average consumption of 151 MGD

Drives Revenue Reduction



Water Sales and Wastewater Treatment Revenue



- *Revenue from existing rates and charges is \$23 million (Water) and \$3.5 million (Wastewater) less than expected*

2-Year Revenue Adjustment—Water

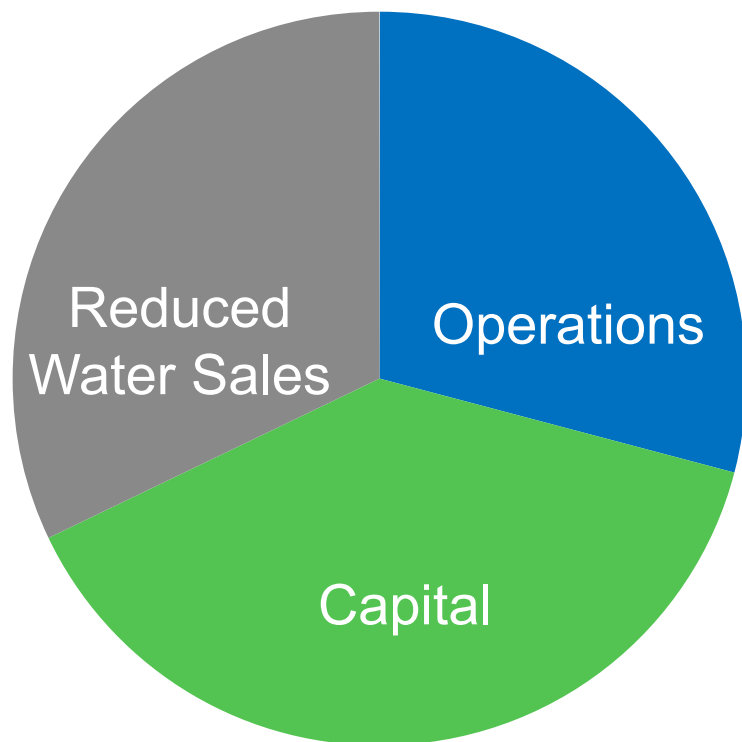
FY16—8% and FY17—7%



	FY15	FY17	2-Yr Δ
Revenue Requirement			
+ O&M expense	\$247.5	\$262.2	5.9%
+ Debt service expense	163.2	180.2	10.4%
+ Capital expense	195.9	236.1	20.5%
Total expenses =	<u>606.6</u>	<u>678.5</u>	11.9%
- Other revenues	-189.6	-225.5	18.9%
Revenue requirement =	<u>417.0</u>	<u>453.0</u>	8.6%
Revenue Adjustment			
+ Revenue requirement		453.0	
- Revenue from existing rates		<u>-394.0</u>	
Difference =		59.0	
		15%	

- Capital and debt service drive increase in total expense
- Other revenues—bond proceeds and use of capital reserves—offset increased expenses
- Revenue requirement increasing about 4.3% annually
- Total increase \$59 MM—15%
 - FY16—8%
 - FY17—7%

Water Rate Drivers



Capital—rate funded capital, debt service

Operations—additional funded positions, labor & benefits, and non-labor costs

Reduced Water Sales —assumes water sales of 151 MGD

2-Year Revenue Adjustment—Wastewater

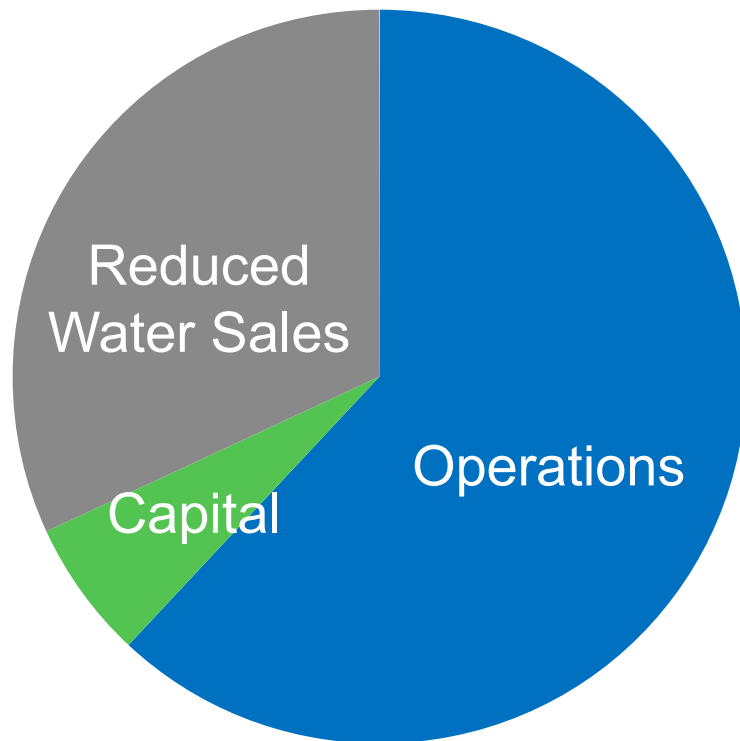
FY16—5% and FY17—5%



	FY15	FY17	2-Yr Δ
Revenue Requirement			
+ O&M expense	\$63.3	\$70.7	11.7%
+ Debt service expense	34.3	34.0	-0.9%
+ Capital expense	30.9	36.7	18.8%
Total expenses =	<u>128.5</u>	<u>141.4</u>	11.9%
- Other revenues	-40.2	-48.3	20.1%
Revenue requirement =	<u>88.3</u>	<u>93.1</u>	5.4%
Revenue Adjustment			
+ Revenue requirement		93.1	
- Revenue from existing rates		<u>-84.8</u>	
Difference =		8.3	
		10%	

- O&M and capital drive increase in total expense
- Other revenues—Resource Recovery, bond proceeds and use of capital reserves—offset increased expenses
- Revenue requirement increasing about 2.7 % annually
- Total increase \$8.3 MM—10%
 - FY16—5%
 - FY17—5%

Wastewater Rate Drivers



Operations—non-labor costs, consent decree program costs, labor & benefits

Reduced Water Sales—lower reduction than water service area

Capital—rate-funded capital and debt service coverage

Cost of Service Impacts— Water



- Fixed charges
 - Significant reduction to private fire meter charges
 - SIP charge sunsets
- Volume rates
 - Steeper tiered rates
 - Modest changes to elevation and recycled water rates

Cost of Service Impacts— Wastewater



- Treatment rates
 - Domestic strength waste concentration increased
- Wet weather charge
 - Allocated by parcel size to reflect linkage to infiltration and inflow

Combined Monthly Water and Wastewater Impacts—Average SFR



	FY15 Current	FY16 Proposed	Change		FY17 Proposed	Change	
Water – 10 Ccf/mo	\$48.60	\$52.17	\$3.57	7.3%	\$55.83	\$3.66	7.0%
Wastewater – 6 Ccf/mo*	\$19.25	\$19.01	-\$0.24	-1.3%	\$19.93	\$0.92	4.8%
Total	\$68.85	\$71.18	\$3.33	4.8%	\$75.76	\$4.58	6.0%

*Wastewater discharge based on winter water use

Monthly Single Family Residential Customer Impacts—Water



	SFR Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change
25 th Percentile	4	\$29.07	\$31.14	\$2.07	7.1%	\$33.33	\$2.19	7.0%
50 th Percentile	7	\$37.80	\$39.99	\$2.19	5.8%	\$42.81	\$2.82	7.1%
75 th Percentile	12	\$55.80	\$60.29	\$4.49	8.0%	\$64.51	\$4.22	7.0%
95 th Percentile	30	\$132.08	\$151.57	\$19.49	14.8%	\$162.23	\$10.66	7.0%
Average SFR Use *	10	\$48.60	\$52.17	\$3.57	7.3%	\$55.83	\$3.66	7.0%

*10 Ccf/month represents historical average single-family residential use

Monthly Other Customer Impacts— Water



	Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change
Multi-Family Residential 4 Units	25	\$125.54	\$133.45	\$7.91	6.3%	\$142.74	\$9.29	7.0%
Multi-Family Residential 5+ units	50	\$217.54	\$237.70	\$20.16	9.3%	\$254.24	\$16.54	7.0%
Commercial	50	\$225.08	\$236.70	\$11.62	5.2%	\$253.24	\$16.54	7.0%
Industrial	500	\$2,046.68	\$2,158.48	\$111.80	5.5%	\$2,309.32	\$150.84	7.0%

Monthly Customer Impacts— Wastewater Treatment



	Use (Ccf)	FY15 Current	FY16 Proposed	Change		FY17 Proposed	Change	
Single Family Residential Avg	6	\$19.25	\$19.01	-\$0.24	-1.3%	\$19.93	\$0.92	4.8%
Single Family Residential Max	9	\$21.61	\$22.13	\$0.52	2.4%	\$23.20	\$1.07	4.8%
Multi Family Residential 4 units	25	\$56.41	\$61.21	\$4.81	8.5%	\$64.16	\$2.95	4.8%
Commercial Office	50	\$105.61	\$128.77	\$23.16	21.9%	\$135.03	\$6.26	4.9%
Commercial Restaurant	50	\$229.61	\$246.27	\$16.66	7.3%	\$258.53	\$12.26	5.0%
Industrial	500	\$6,557.61	\$6915.77	\$358.16	5.5%	\$7,261.03	\$345.26	5.0%

Annual Customer Impacts— Wet Weather Facilities Charge



Wet Weather Facilities Charge on Property Tax Bill

	FY15	FY16			FY17		
Single Family Residential	\$89.34	\$89.62 Small Lot 0 – 5,000 sq ft	\$140.00 Medium Lot 5,001 – 10,000 sq ft	\$320.00 Large Lot >10,000 sq ft	\$94.10 Small Lot 0 – 5,000 sq ft	\$147.00 Medium Lot 5,001 – 10,000 sq ft	\$336.00 Large Lot >10,000 sq ft
Multi-Family Residential 2 Units	\$178.68						
Multi-Family Residential 4 Units	\$357.36						
Multi-Family Residential 5+ Units	\$446.70						
Commercial	\$134.00						
Industrial	\$134.00						
Parcels with Multiple Accounts	\$223 to \$670 +						

Water—Fixed Charges



		FY15 Current	FY16 Proposed	Change	FY17 Proposed	Change
Private Fire Service Charge						
	4"	\$132.26	\$100.34	-24.1%	\$107.36	7.0%
	6"	\$255.66	\$196.14	-23.3%	\$209.87	7.0%
	8"	\$403.75	\$311.09	-22.9%	\$332.87	7.0%
Water Service Charge						
Single Family Residential	5/8" & 3/4"	\$17.43	\$19.34	11.0%	\$20.69	7.0%
Multi-Family Residential	2"	\$73.14	\$83.48	14.1%	\$89.32	7.0%
Other	4"	\$189.52	\$251.24	32.6%	\$268.83	7.0%

- Cost of Service study re-examined fire protection and meter maintenance cost allocations resulting in reductions to private fire service meter charges.

Water—Volume Charges



Volume Charges	FY15 Current	FY16 Proposed	Change	FY17 Proposed	Change
Single Family Residential					
Tier 1 up to 7 Ccf	\$2.91	\$2.95	1.4%	\$3.16	7.1%
Tier 2 up to 16 Ccf	\$3.60	\$4.06	12.8%	\$4.34	6.9%
Tier 3 over 16 Ccf	\$4.42	\$5.36	21.3%	\$5.74	7.1%
Multi-Family Residential	\$3.68	\$4.17	13.3%	\$4.46	7.0%
Commercial/Industrial	\$3.96	\$4.15	4.8%	\$4.44	7.0%
Non Potable (Recycled)	\$3.17	\$3.23	1.9%	\$3.46	7.1%
Elevation					
Band 2	\$0.55	\$0.60	9.1%	\$0.64	6.7%
Band 3	\$1.12	\$1.24	10.7%	\$1.33	7.3%

Wastewater—Treatment Rates



Unit Rates	FY15 Rate	FY16 Proposed	Change	FY17 Proposed	Change
Service Charge (\$/acct)	\$7.13	\$5.29	-25.8%	\$5.55	4.9%
Volume (\$/Ccf)	\$0.787	\$1.04	32.1%	\$1.09	4.9%
CODf (\$/lb)	\$0.294	\$0.306	4.1%	\$0.321	4.9%
Total Suspended Solids (\$/lb)	\$0.431	\$0.447	3.7%	\$0.469	4.9%

Drought Rates

Staged System of Drought Rates



- Six month public engagement process
 - 2 public workshops
 - 4 public meetings throughout service area
- Four stages depending on severity
- Three elements
 - Series of increasing surcharges on volume
 - Supersaver recognition
 - Excessive use penalty
- Costs recovered by drought rates
 - Cost to purchase, pump and treat supplemental supplies
 - Loss of sales
 - Customer service/outreach

Staged System of Drought Rates



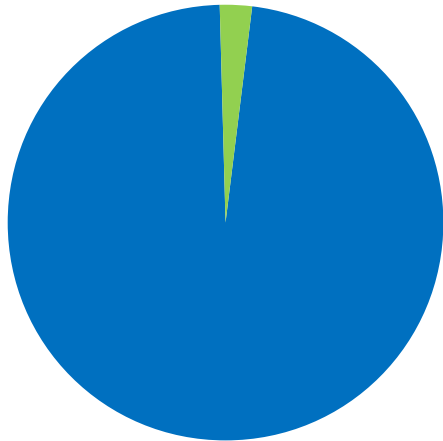
Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory 15%	Mandatory 15%
Supplemental Supplies			Up to 35,000 acre feet	35,000-65,000 acre feet	> 65,000 acre feet
Rates and Charges	Normal rates	Normal rates	Normal rates + 8%	Normal rates + 20% Supersaver recognition* Excessive use penalty*	Normal rates + 25% Supersaver recognition* Excessive use penalty*

*Supersaver recognition and excessive use penalty not subject to Prop 218 requirements.

Supply Mix Drives Drought Cost

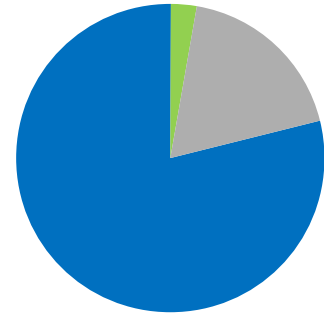


Normal Conditions

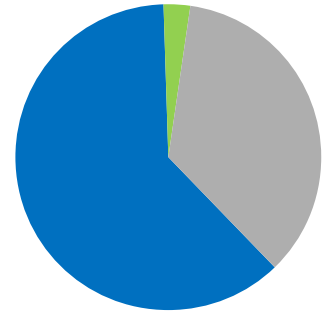


- Mokelumne and Local Supply
-Low cost, gravity fed with in-line treatment
- Recycled Water
- Supplemental Supply
-High cost for purchase, pumping and conventional treatment

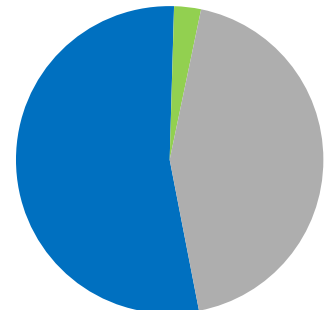
Stage 2



Stage 3



Stage 4



Drought Surcharge Bill Impacts— Stage 2—Single Family Residential



Impact of Water Charges and Drought Surcharges on Water Bill

Impact of Surcharge

	Single Family Residential Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
25 th Percentile	4	\$29.07	\$32.06	\$2.99	10.3%	\$34.33	\$2.27	7.1%	\$0.92	\$1.00
50 th Percentile	7	\$37.80	\$41.60	\$3.80	10.1%	\$44.56	\$2.96	7.1%	\$1.61	\$1.75
75 th Percentile	12	\$55.80	\$63.45	\$7.65	13.7%	\$67.91	\$4.46	7.0%	\$3.16	\$3.40
95 th Percentile	30	\$132.08	\$161.57	\$29.49	22.3%	\$172.97	\$11.40	7.1%	\$10.00	\$10.74
Average Single Family Residential Use	10	\$48.60	\$54.71	\$6.11	12.6%	\$58.57	\$3.86	7.1%	\$2.54	\$2.74

Drought Surcharge Bill Impacts— Stage 3—Single Family Residential



Impact of Water Charges and Drought Surcharges on Water Bill

Impact of Surcharge

	Single Family Residential Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
25 th Percentile	4	\$29.07	\$33.50	\$4.43	15.2%	\$35.85	\$2.35	7.0%	\$2.36	\$2.52
50 th Percentile	7	\$37.80	\$44.12	\$6.32	16.7%	\$47.22	\$3.10	7.0%	\$4.13	\$4.41
75 th Percentile	12	\$55.80	\$68.37	\$12.57	22.5%	\$73.22	\$4.85	7.1%	\$8.08	\$8.71
95 th Percentile	30	\$132.08	\$177.23	\$45.15	34.2%	\$190.06	\$12.83	7.2%	\$25.66	\$27.83
Average Single Family Residential Use	10	\$48.60	\$58.67	\$10.07	20.7%	\$62.82	\$4.15	7.1%	\$6.50	\$6.99

Drought Surcharge Bill Impacts— Stage 4—Single Family Residential



Impact of Water Charges and Drought Surcharges on Water Bill									Impact of Surcharge	
	Single Family Residential Use (CCF)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
25 th Percentile	4	\$29.07	\$34.06	\$4.99	17.2%	\$36.49	\$2.43	7.1%	\$2.92	\$3.16
50 th Percentile	7	\$37.80	\$45.10	\$7.30	19.3%	\$48.34	\$3.24	7.2%	\$5.11	\$5.53
75 th Percentile	12	\$55.80	\$70.35	\$14.55	26.1%	\$75.39	\$5.04	7.2%	\$10.06	\$10.88
95 th Percentile	30	\$132.08	\$183.79	\$51.71	39.2%	\$196.99	\$13.20	7.2%	\$32.22	\$34.76
Average Single Family Residential Use	10	\$48.60	\$60.25	\$11.65	24.0%	\$64.57	\$4.32	7.2%	\$8.08	\$8.74

Drought Surcharge and Excessive Use SFR Bill Impacts—Stage 4



Impact of Water Charges, Drought Surcharges, and Excessive Use
Penalty on Water Bill for a Single Family Residential Use of 60
Ccf/month Who Does Not Cut Back Use

Impact of
Surcharge &
Penalty

FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
\$264.68	\$413.66	\$148.98	56.3%	\$441.19	\$27.53	6.7%	\$101.29	\$106.76

In Stage 4, use over 45 CCF/month penalized as Excessive Use at
\$2/CCF.

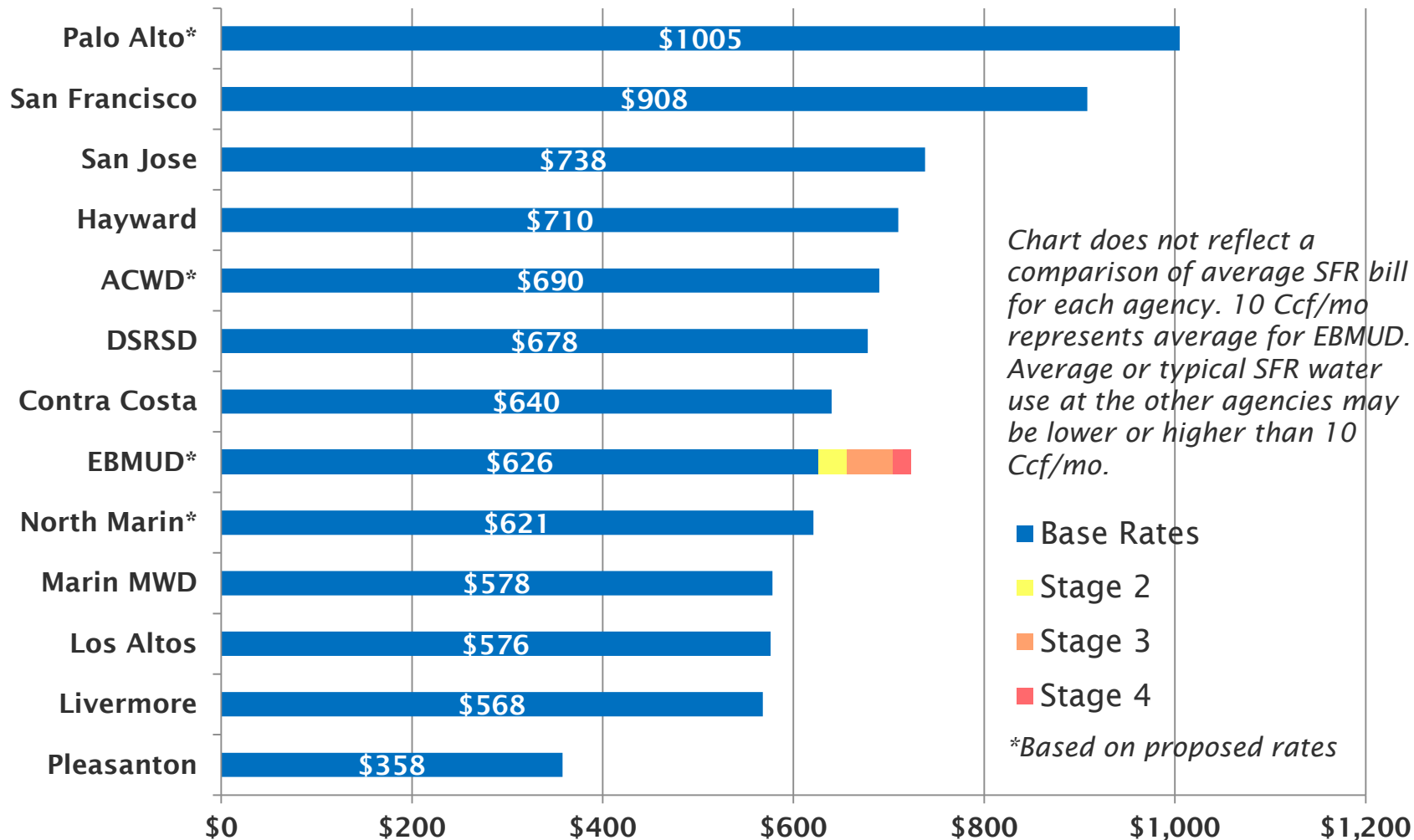
Agency Comparison Consideration



- Average use varies by agency
 - District average is 10 CCF/month
 - Others may be higher or lower depending on:
 - Housing density,
 - Climate variation, and
 - Demographics
- Some agencies have instituted drought rates
- Schedule for rate changes vary

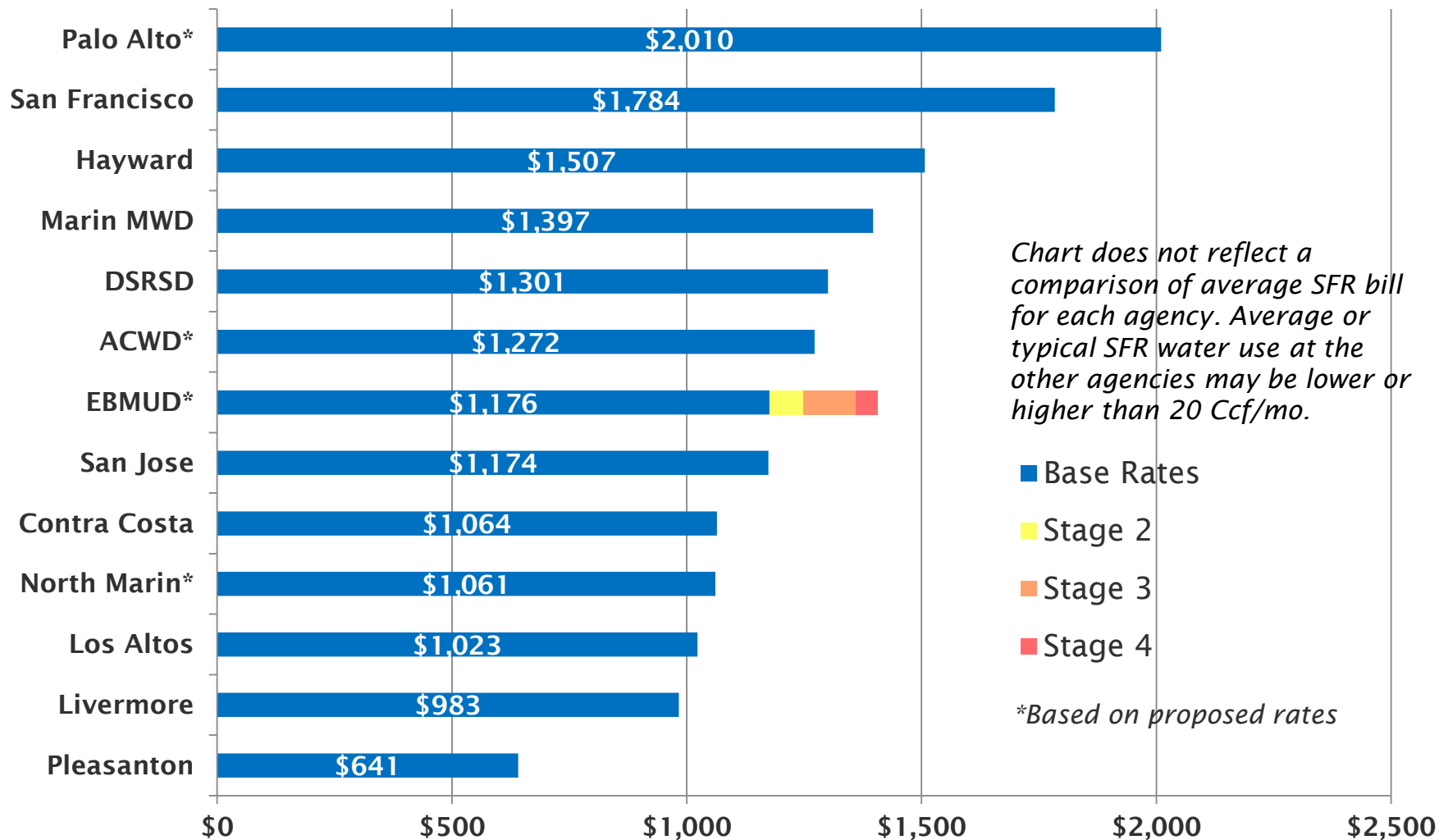
Water Bills Calculated for 10 CCF/Mo

Annual Charge for SFR – Effective 7/1/15



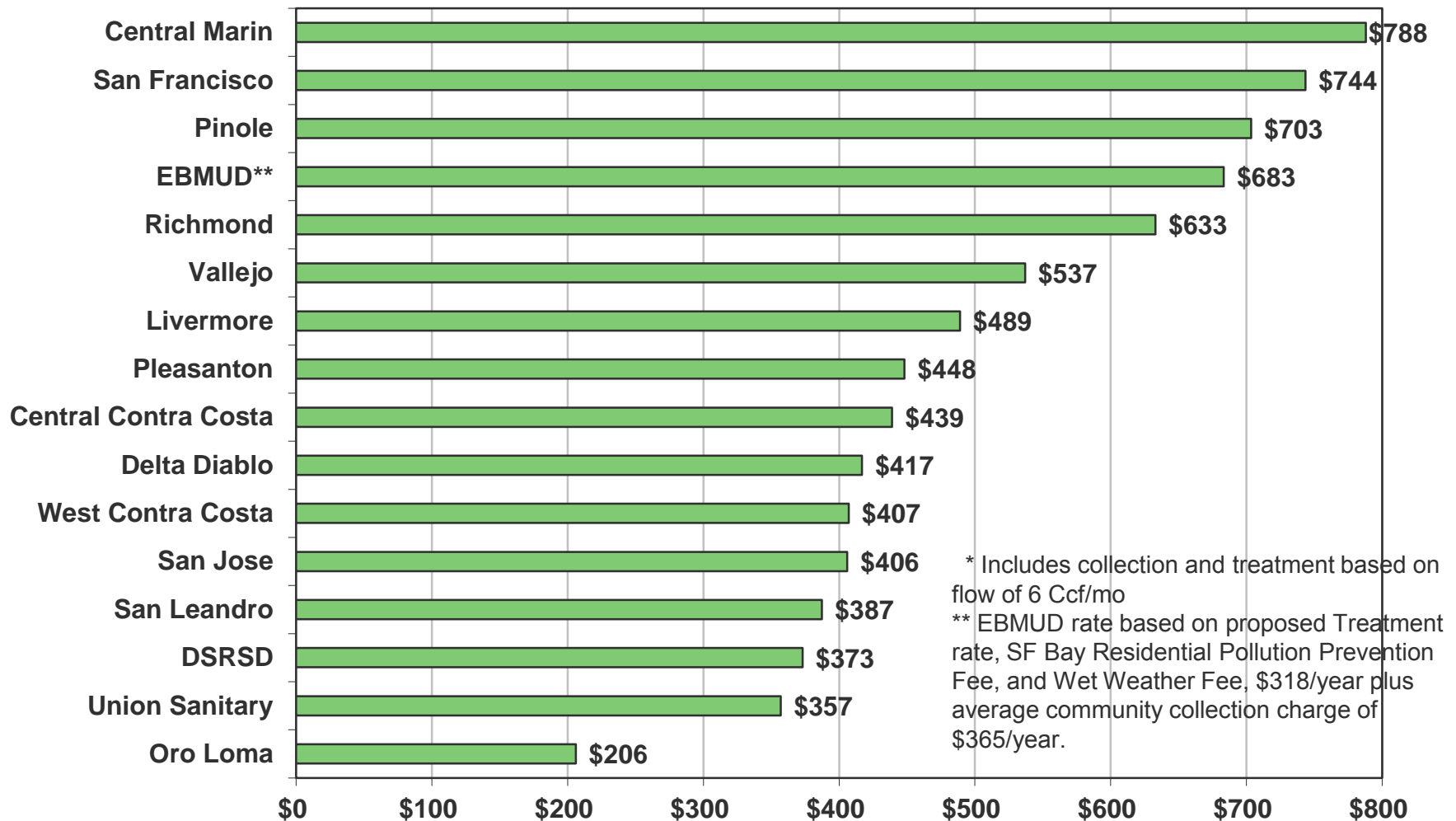
Water Bills Calculated for 20 CCF/Mo

Annual Charge for SFR – Effective 7/1/15



Wastewater Bills Calculated for 6 CCF/Mo Discharge

Annual Charge for SFR – Effective 7/1/15



Budget Priorities

- Make sustained reinvestments in aging physical infrastructure
- Invest in critical information technology infrastructure
- Manage impacts of extended drought

Rates & Charges

- Increase rates in line with prior projections
- Implement staged system of drought rates

FY16 & FY17 Budget Schedule



Budget Workshop

March 24

- Biennial Budget FY16 & FY17
- FY16 & FY17 Prop 218 rates and charges

Budget Workshop

April 14

- If necessary

Mail Proposition 218 Notice

April 15 - April 24

Board Meeting

May 12

- GM's Report on rates & charges

Board Meeting

June 9

- Public hearing on rates and charges
- Board consideration of budget and rates

FY16 Rates & Charges Effective

July 1

Board Discussion

