



City of Fullerton  
2018 Water Rate Study

## Water Rate Recommendation

April 2, 2019



## Agenda

- 1) Study Background
- 2) Proposed Rate Structure Adjustments & Impacts
- 3) Financial Plan
- 4) Proposed Rate Increases

## Fullerton's water system is large and aging

- 15** reservoirs (67.5 million gallons)
- 10** active wells
- 14** pump stations
- 4** primary pressure zones (12 sub-zones)
- 6** active MWD connections
- 430\*** miles of distribution pipes

\* Over 50% of pipes older than 50 years old

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## 2018 Water Rate Study Background

Previous water rate study completed in 2013

### **Drivers for current study:**

- ✓ **Schedule:** Last adopted rate schedule ended in 2018
- ✓ **Legal:** Recent court decisions have “raised the bar” for transparency and cost-of-service requirements for water rates (Prop 218).
- ✓ **Revenue Short-Falls:**
  - ✓ Recent drought
  - ✓ Relatively low fixed revenue
  - ✓ Static “pass-through” policy
- ✓ **System Needs:** Fullerton continues to experience above-average water pipe breaks.

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## 2018 Water Rate Study Approach

1. Rate analysis developed by consultant in collaboration with City staff
2. Ad Hoc Committee and public engaged to review and revise recommendations
  - 8 workshops to shape capital investment approach and rate structure
  - Evening meeting to allow for more public input
  - Public invited to attend all Ad Hoc Committee meetings
3. Recommendations to City Council (second meeting tonight)

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## Water Rate Ad Hoc Committee

- The Rate Study Ad-Hoc Committee is made up of 6 at-large members from the Energy and Resource Management Committee (ERMC) and the Citizens Infrastructure Review Committee (CIRC).
- The Ad Hoc Committee was formed to actively participate in:
  - Reviewing and providing input to proposed water rate structure changes and rate increases.
  - Representing not only ratepayers but also owners of the water system.

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Water Rate Study

Rate Structure

Customer Classes

Existing

Classification

- Single Family Residential
- Multifamily Residential
- Commercial
- Industrial
- Fire Line\*
- Temporary Water\*
- Municipal
- Agricultural
- Residential/Agricultural
- Residential Landscape
- Single Family with Fire Sprinkler
- Multifamily with Manual Rubbish

Proposed

Classification

Accounts

• Single Family Residential	26,392	85.0%
• Multifamily Residential	1,913	6.2%
• Commercial	1,974	6.4%
• Industrial	115	0.4%
• Agricultural	2	0.01%
• Landscape	399	1.3%
• Municipal	257	0.9%

\* Excluded from Proposed list. Not part of typical customer and usage base.

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## Current Rates

### Fixed Meter Charge:

- Based on meter size
- 22.4% fixed revenue (relatively low)

Meter Size	Monthly Rate
5/8" & 3/4"	\$14.78
1"	\$17.74
1 1/2"	\$32.52
2"	\$45.82
3"	\$79.81
4"	\$113.81
6"	\$180.32
8"	\$302.99
10"	\$441.92
12"	(na)

### Water Usage Rates:

3 tiers for single family and multi-family

Current Tiered Rates Residential			
Tier	Rate (per TGAL)	Monthly Allocation* (Single Family)	Monthly Allocation* (Multi-Family) (per unit)
1	\$3.213	7,500 gal.	4,000 gal.
2	\$3.510	12,500 gal.	6,000 gal.
3	\$3.799	(na)	(na)

### Uniform water usage rates for all other customers:

Commercial:	\$3.075 / TGAL
Industrial:	\$3.130 / TGAL
Municipal:	\$2.440 / TGAL
Agricultural:	\$3.403 / TGAL
Landscape:	\$3.767 / TGAL

\* Two month billing cycles; double the tier allocation per billing cycle

(TGAL = thousand gallons)

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## Proposed Rate Design Approach

### 1) Implement Water Meter Equivalency Schedule

- More equitable
- Larger meters will be affected

### 2) Enhance connection between water rates and the cost to provide water service

- Tied directly to the cost of purchased and pumped water
- Results in increase in fixed revenue from 22.1% to 40.7%

### 3) Establish a \*dynamic\* Pass-Through policy:

- Ensures that pass-through increases are directly proportionate to the increase in costs

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## Establish Water Meter Equivalency Schedule

Meter Size	Existing Ratio	Proposed Equivalency Schedule <sup>(1)</sup>	Rated flow in gallons per minute
5/8" & 3/4" <sup>(2)</sup>	1.00	1.00	30
1"	1.20	1.67	50
1 1/2"	2.20	3.33	100
2"	3.10	5.33	160
3"	5.40	10.67	320
4"	7.70	16.67	500
6"	12.20	33.33	1,000
8"	20.50	53.33	1,600
10"	29.90	80.00	2,400
12"	47.60	112.50	3,375

(1) Source: Table B-1, Appendix B, *AWWA M1 Manual*, 7th Ed.

(2) Combined per the City's historical practice and common industry practice

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## Rate Structure Cost Categories



### Commodity Costs

Driven by the volume of water sold

- Water Purchases
- Pumping Electricity
- Conservation Program



### Water Usage Charge

59.3% of total



### Account Costs

Driven by the cost of managing accounts

- Administration
- Billing
- Account management



### Fixed Account Charge

3.2% of total



### Utility Costs

Driven by the size of the utility infrastructure

- Operations
- Maintenance
- Capital

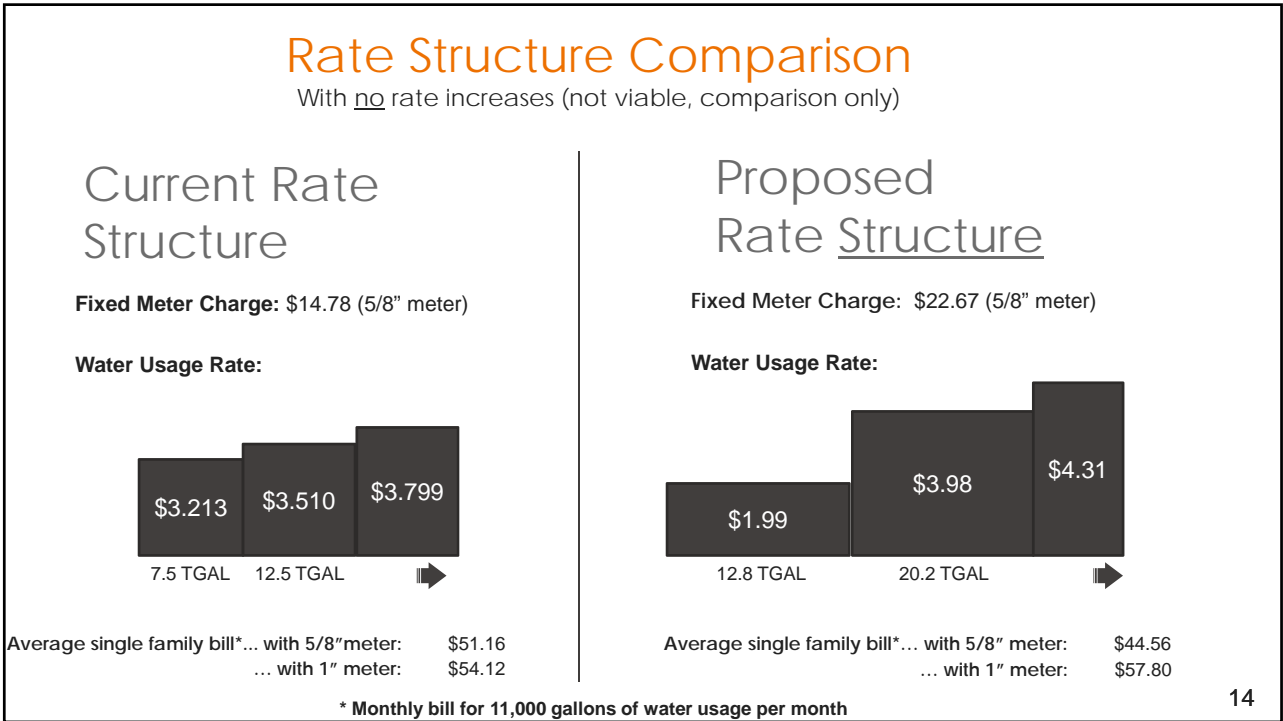
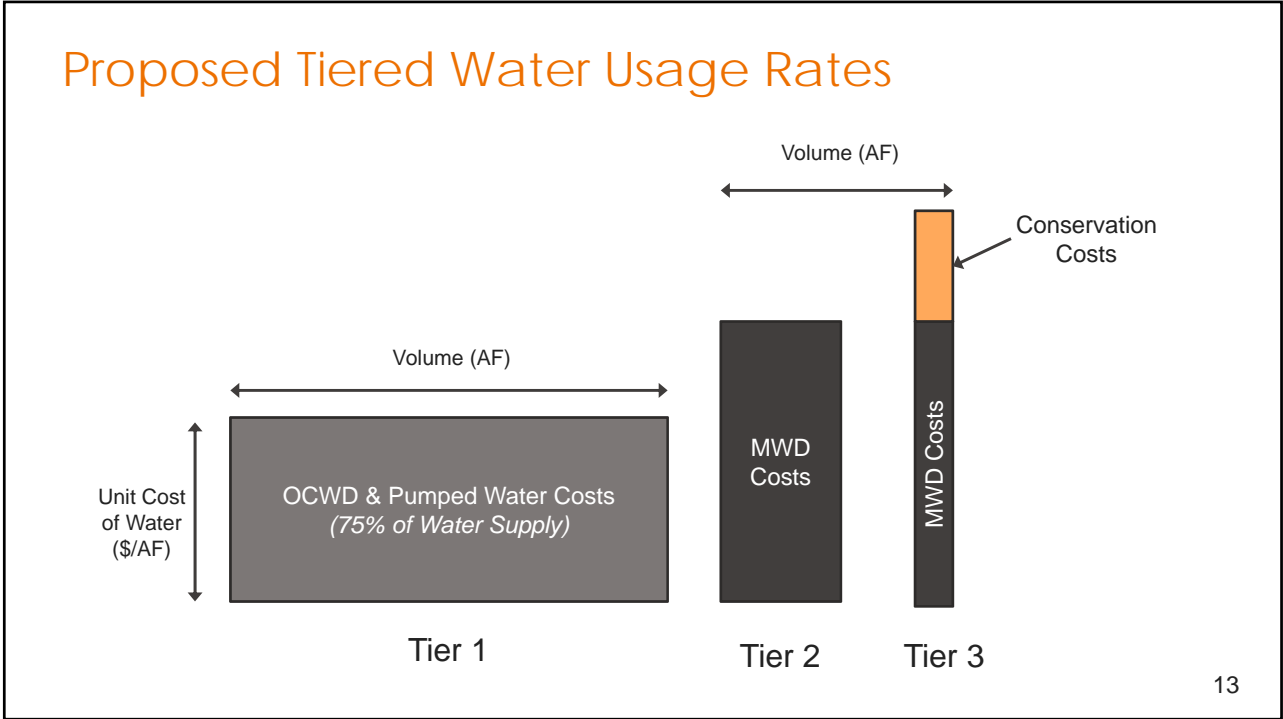


### Fixed Utility Charge

37.5% of total

Total fixed revenue: 40.7% (vs. 22.1% currently)

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Proposed Rate Structure (no rate increases)

Fixed Meter Charge:

	Current	Restructured
Meter Size	Monthly Rate	Monthly Rate
5/8" & 3/4"	\$14.78	\$22.67
1"	\$17.74	\$35.91
1 1/2"	\$32.52	\$69.03
2"	\$45.82	\$108.76
3"	\$79.81	\$214.72
4"	\$113.81	\$333.93
6"	\$180.32	\$665.06
8"	\$302.99	\$1,062.41
10"	\$441.92	\$1,592.22
12"	(na)	\$2,237.92

Current Tiered Rates Residential			
Tier	Rate (per TGAL)	Monthly Allocation* (Single Family)	Monthly Allocation* (Multi-Family) (per unit)
1	\$3.213	7,500 gal.	4,000 gal.
2	\$3.510	12,500 gal.	6,000 gal.
3	\$3.799	(na)	(na)

Restructured Tiered Rates Residential			
Tier	Rate (per TGAL)	Monthly Allocation* (Single Family)	Monthly Allocation* (Multi-Family) (per unit)
1	\$1.99	12,800 gal.	5,100 gal.
2	\$3.98	20,200 gal.	6,700 gal.
3	\$4.31	(na)	(na)

Uniform Water Usage Rates for all other customers:  
Restructured: \$2.50 / TGAL

Current: Commercial: \$3.075 / TGAL  
Industrial: \$3.130 / TGAL  
Municipal: \$2.440 / TGAL  
Agricultural: \$3.403 / TGAL  
Landscape: \$3.767 / TGAL

\* Two month billing cycles; double the tier allocation per billing cycle

Pass-Through Formula

Recommendations:

- Adopt a pass-through policy that dynamically responds to \*actual\* changes in water supply costs
- Increase transparency in the pass-through process

Tiered Rates

Tier 1 Rate Adjustment  $\left(\frac{\$}{\text{TGAL}}\right)$  = Change in OCWD Unit Costs  $\left(\frac{\$}{\text{TGAL}}\right)$

Tier 2 Rate Adjustment  $\left(\frac{\$}{\text{TGAL}}\right)$  = Change in MWD Unit Costs  $\left(\frac{\$}{\text{TGAL}}\right)$

Tier 3 Rate Adjustment  $\left(\frac{\$}{\text{TGAL}}\right)$  = Change in MWD Unit Costs  $\left(\frac{\$}{\text{TGAL}}\right)$

Uniform Rates

Uniform Rate Adjustment  $\left(\frac{\$}{\text{TGAL}}\right)$  = Tier 1 Rate Adjustment  $\left(\frac{\$}{\text{TGAL}}\right)$  x 75% + Tier 2 Rate Adjustment  $\left(\frac{\$}{\text{TGAL}}\right)$  x 25%

(i.e. the weighted average of the adjustments to the tiered rates)

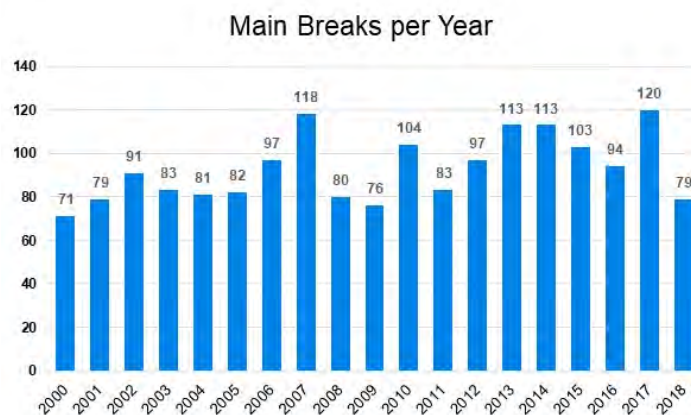


Water Rate Study

## Financial Plan

## Water Main Break History

- Over 50% of pipelines are older than 50 years old (past the expected useful life)
- Highest rate of water main breaks in Orange County
- Water main breaks disrupt service to all customers
  - *Repair shutdowns can affect over 1,000 customers for 5 - 8 hours*
  - *Unsettling to residential customers*
  - *Economic impact on businesses*
- Repair of failed pipes is significantly more expensive than “proactive” repair of aging pipes
- Water main break costs range from \$5,000 to \$20,000 (or more) per event.



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Main Plant Well 4



Oak Street

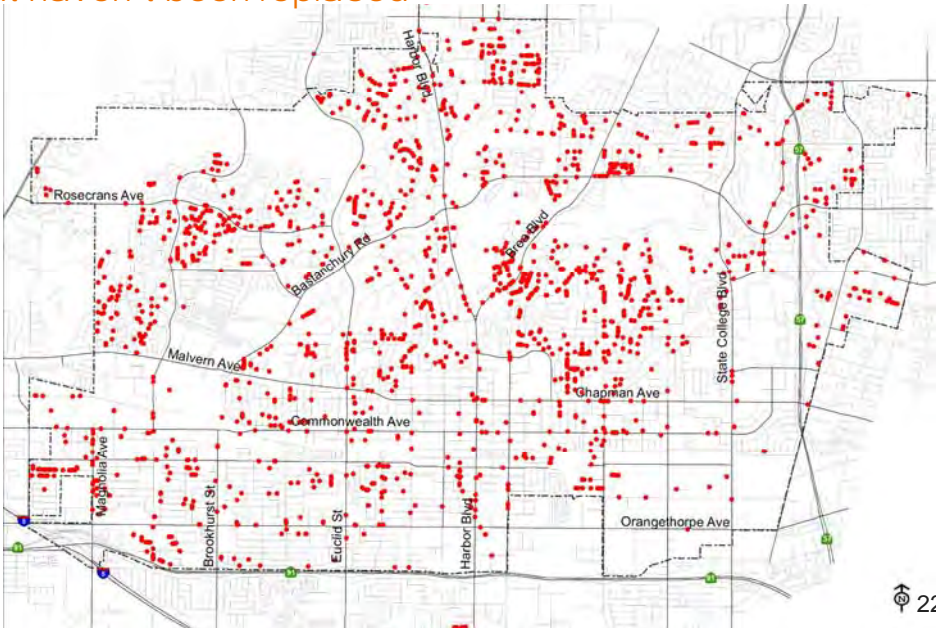


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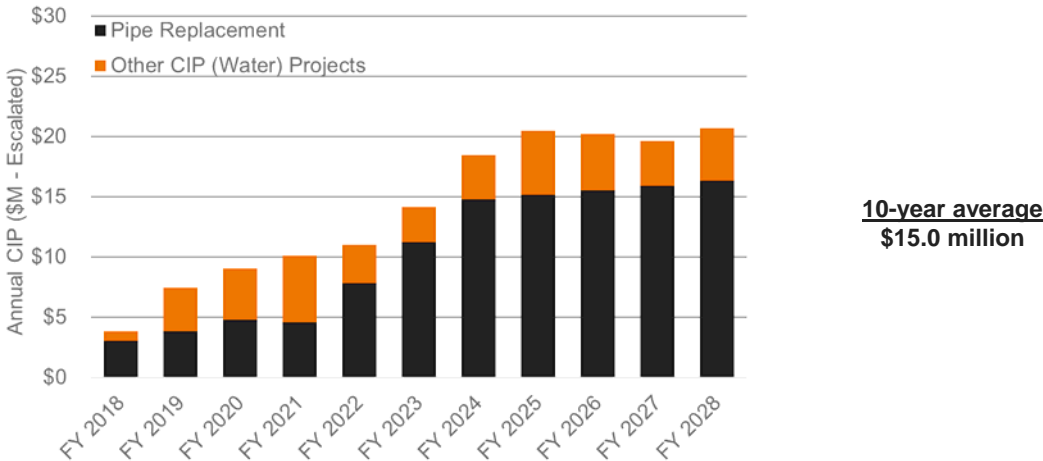
Water Main Rupture Sites  
Only for pipes that haven't been replaced





## Recommended Capital Spending





9 miles of pipe replacement per year by 2024  
+ Critical infrastructure rehabilitation (primarily wells)



**Note:** By 2020, no capital investment will be possible without rate increases

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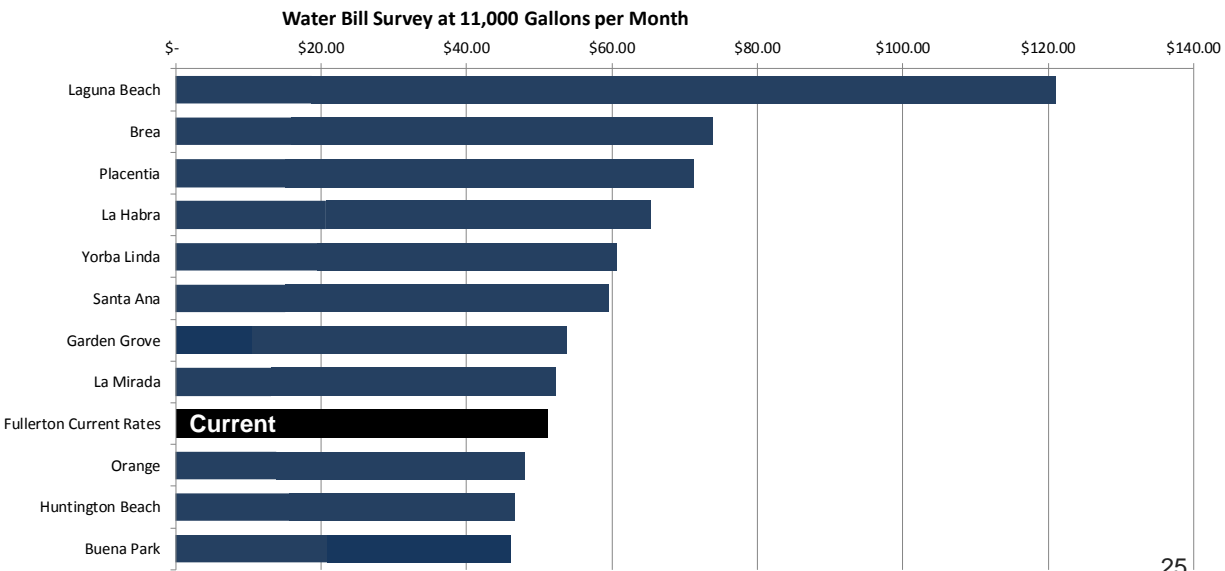
## Non-Pipeline Projects (FY 2019-2024)

	<b>Wells</b> <ul style="list-style-type: none"><li>Rehabilitate two wells</li><li>Replace two wells</li></ul>	<b>Reservoirs</b> <ul style="list-style-type: none"><li>Rehabilitate two reservoirs</li></ul>	
	<b>Booster Pump Station</b> <ul style="list-style-type: none"><li>Rehabilitate two booster pump stations and associated electrical equipment</li></ul>	<b>Miscellaneous</b> <ul style="list-style-type: none"><li>Isolation Valve Replacement</li><li>Emergency Generators</li><li>SCADA Upgrades</li><li>Water Master Plan</li></ul>	

12 critical projects identified by staff

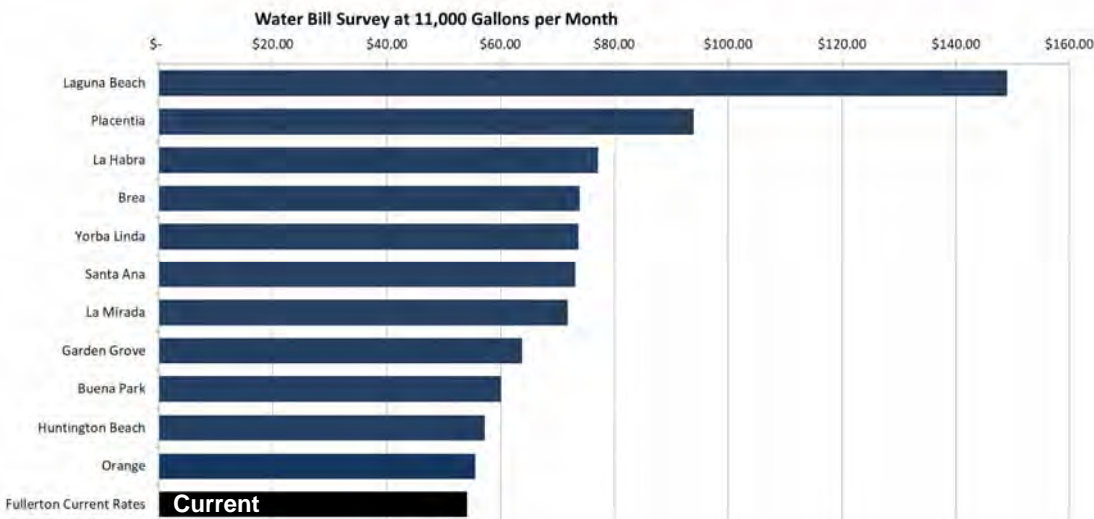
*Note: Projects subject to change based on Water Master Plan findings*

Survey – Monthly water bill for 5/8" Meter Single Family Customer



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Survey – Monthly water bill for 1" Meter Single Family Customer



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# Proposed rate revenue increases

9 miles of pipe replacement per year by 2024  
+ Critical infrastructure rehabilitation (primarily wells)

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Rate Revenue:	\$37.9 M	\$41.2 M	\$45.7 M	\$48 M	\$49.9 M
Increase (%) **	15.0%	14.0%	11.0%	5.0%	4.0%

And inflationary increases forecasted thereafter...

Typical Residential Monthly Water Bill*					
Based on proposed rates: **	\$51.15	\$58.31	\$64.73	\$67.96	\$70.68
Based on current rate structure:	\$58.84				

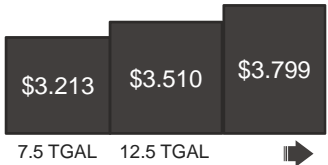
\* Monthly water bill for single family home with 5/8" meter and 11,000 gallons of water usage  
\*\* Percent increases and bill projections do not include any applicable pass-through increases

## Rate Comparison Year 1

### Current Rate Structure

Fixed Meter Charge: \$14.78 (5/8" meter)

Water Usage Rates:

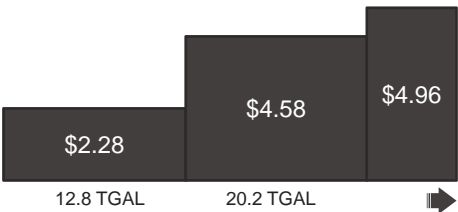


Average single family bill\*... with 5/8" meter: \$51.16  
... with 1" meter: \$54.12

### Proposed Rates

Fixed Meter Charge: \$26.07 (5/8" meter)

Water Usage Rates:



Average single family bill\*... with 5/8" meter: \$51.15  
... with 1" meter: \$66.38

\* Monthly bill for 11,000 gallons of water usage per month

## Proposed Rates in Year 1

### Fixed Meter Charge:

Meter Size	Current Monthly Rate	Proposed Monthly Rate
5/8"	\$14.78	\$26.07
1"	\$17.74	\$41.30
1 1/2"	\$32.52	\$79.39
2"	\$45.82	\$125.08
3"	\$79.81	\$246.95
4"	\$113.81	\$384.04
6"	\$180.32	\$764.86
8"	\$302.99	\$1,221.84
10"	\$441.92	\$1,831.15
12"	(na)	\$2,573.75

Current Tiered Rates Residential			
Tier	Rate (per TGAL)	Monthly Allocation* (Single Family)	Monthly Allocation* (Multi-Family) (per unit)
1	\$3.213	7,500 gal.	4,000 gal.
2	\$3.510	12,500 gal.	6,000 gal.
3	\$3.799	(na)	(na)

Restructured Tiered Rates Residential			
Tier	Rate (per TGAL)	Monthly Allocation* (Single Family)	Monthly Allocation* (Multi-Family) (per unit)
1	\$2.28	12,800 gal.	5,100 gal.
2	\$4.58	20,200 gal.	6,700 gal.
3	\$4.96	(na)	(na)

**Uniform Water Usage Rates for all other customers:**  
Proposed: \$2.88 / TGAL

Current: Commercial: \$3.075 / TGAL  
 Industrial: \$3.130 / TGAL  
 Municipal: \$2.440 / TGAL  
 Agricultural: \$3.403 / TGAL  
 Landscape: \$3.767 / TGAL

\* Two month billing cycles; double the tier allocation per billing cycle

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## Changes Since Feb 5 Presentation

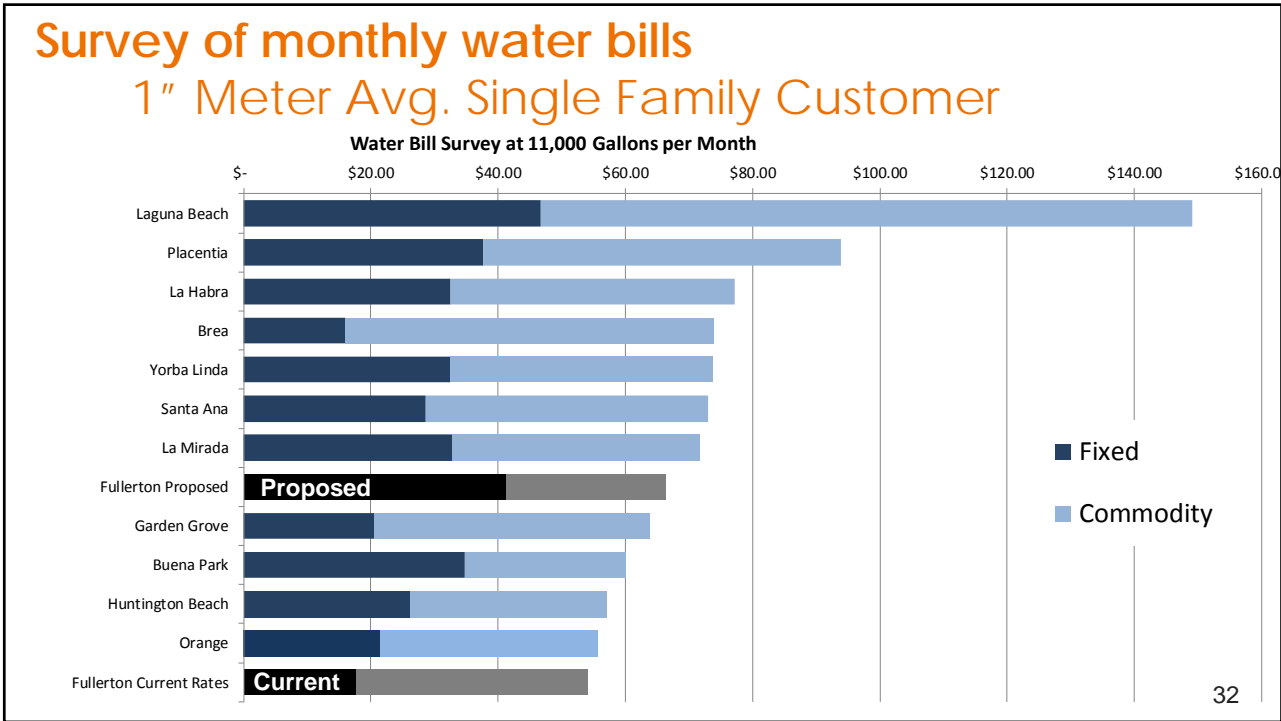
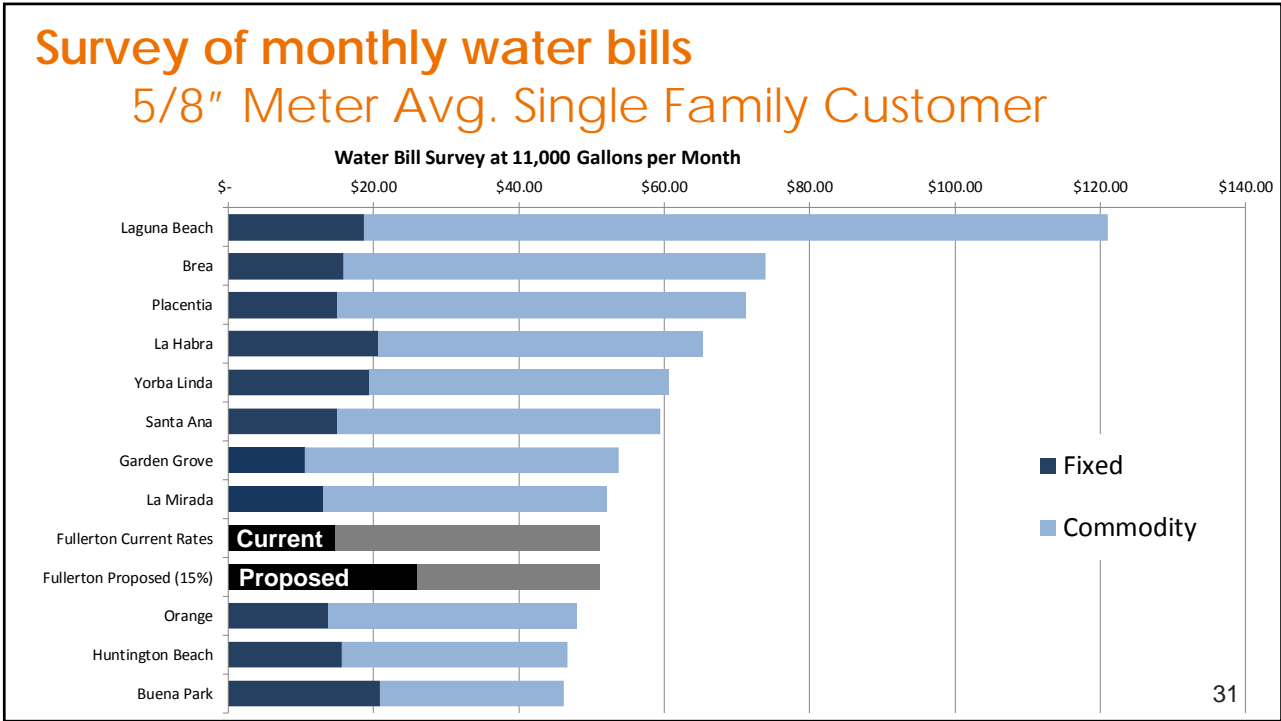
### 1) Confirmation and finalization of financial assumptions

### 2) Recommendation for annual Water Enterprise Capital Report

- Summarizes the progress of the capital program;
- Discusses receipt and opportunities for alternative source of funding; and
- Assesses the Water Funds' cash reserves to determine whether there exist opportunities to delay or avoid previously-approved rate increases.

To be presented to the Infrastructure and Natural Resources Advisory Committee (INRAC).

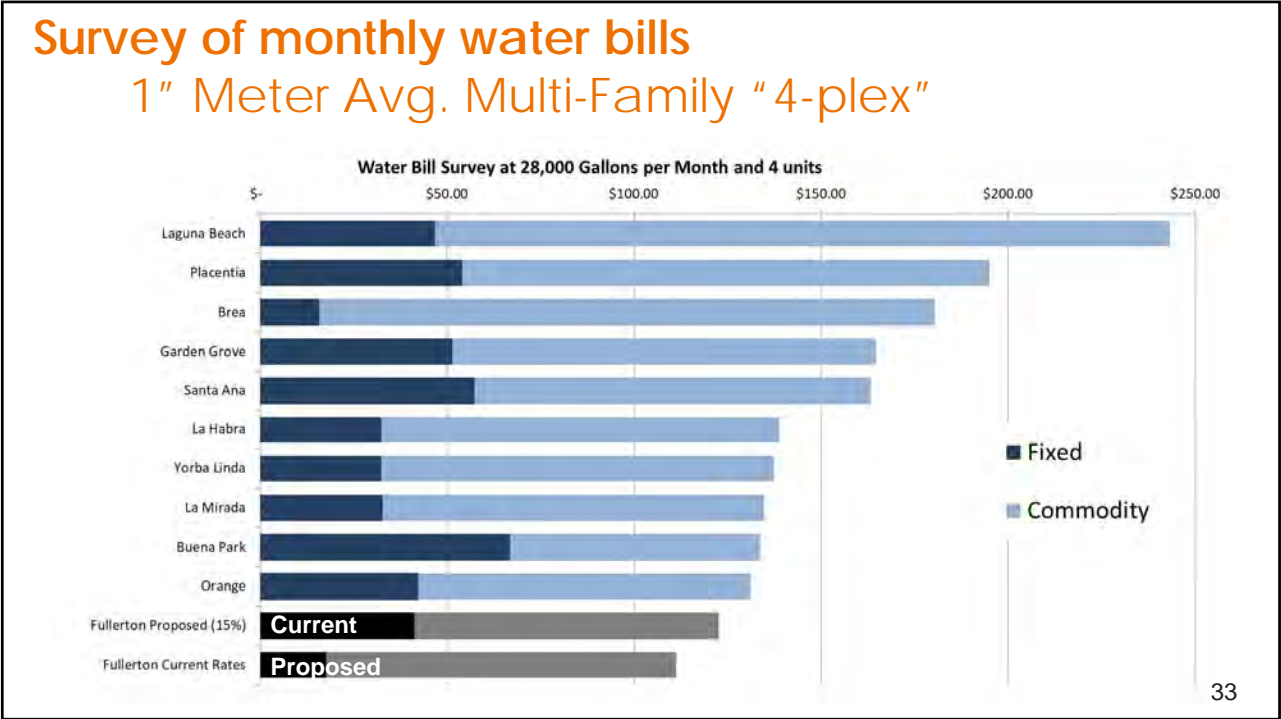
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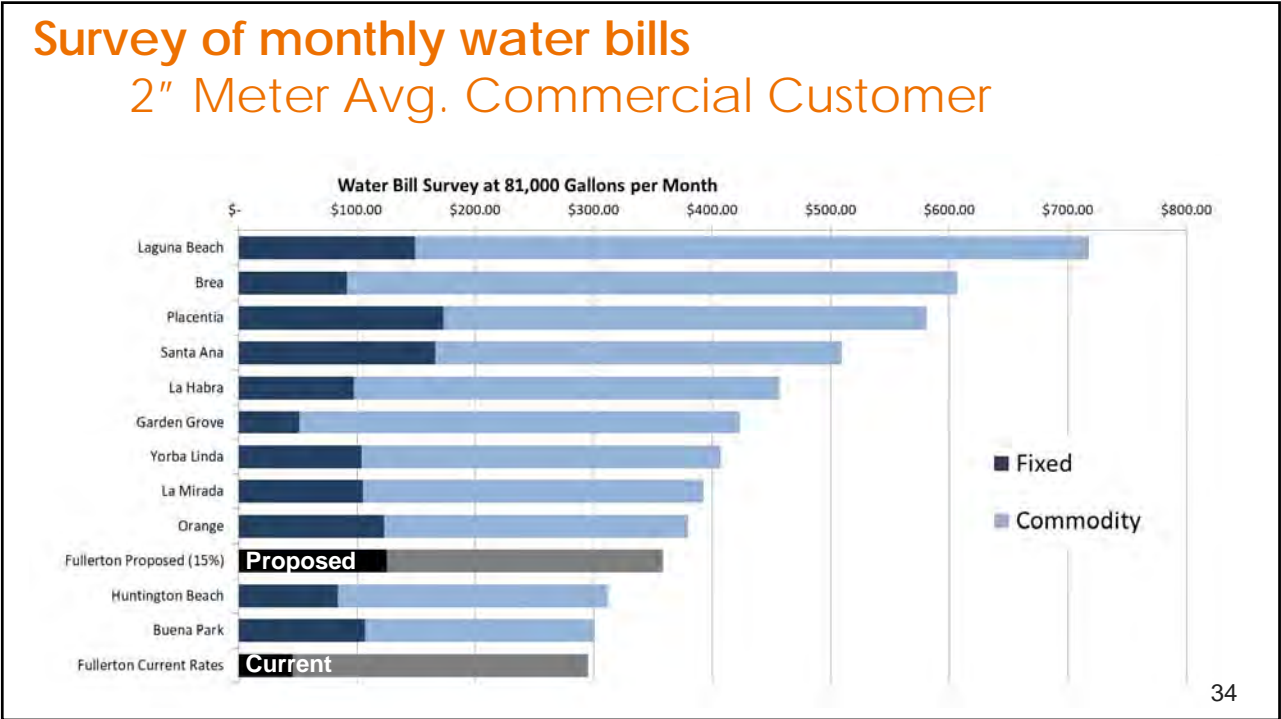
Survey of monthly water bills

1" Meter Avg. Multi-Family "4-plex"



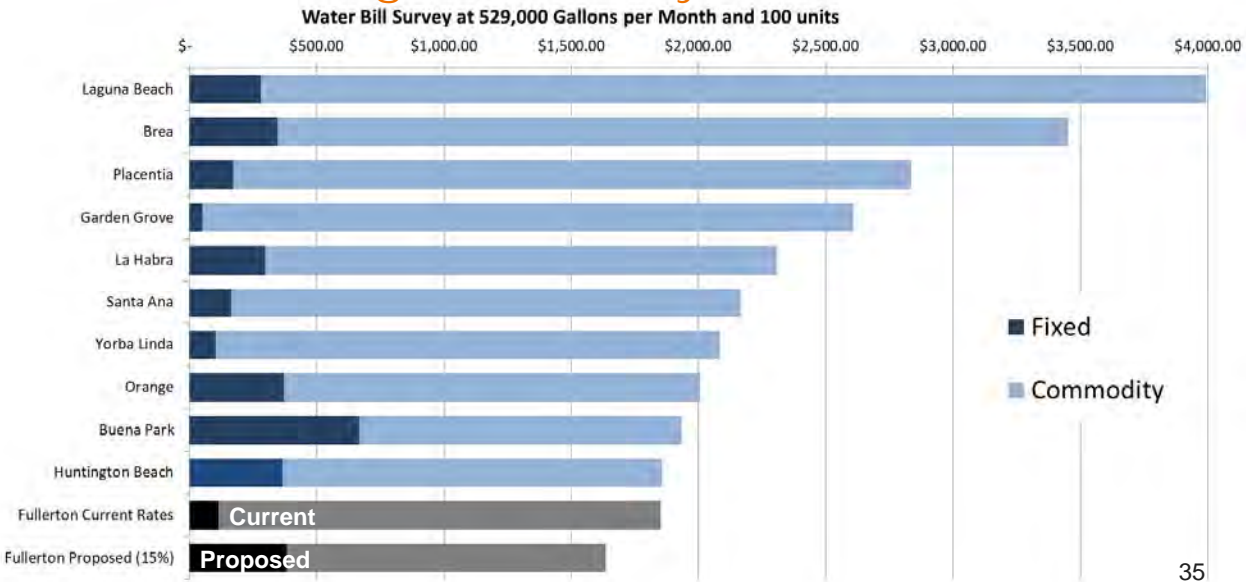
Survey of monthly water bills

2" Meter Avg. Commercial Customer

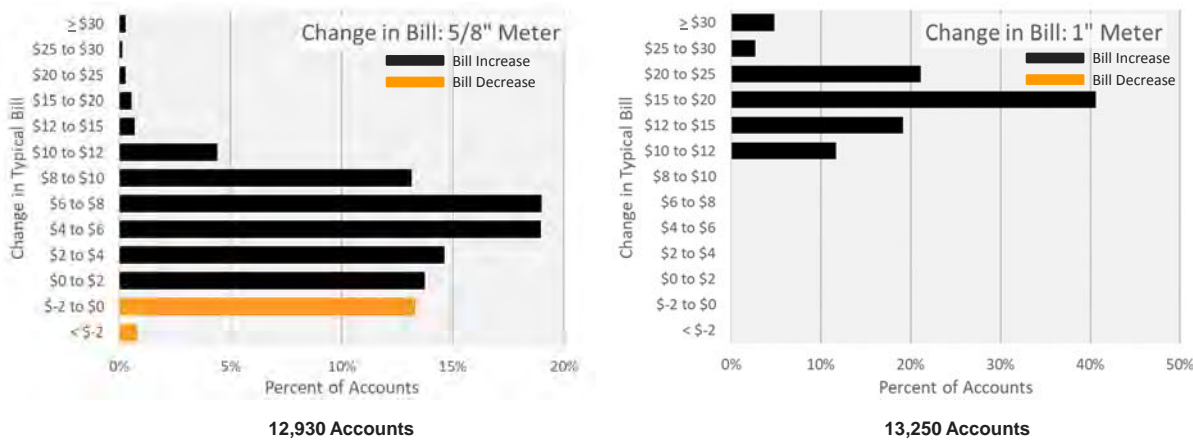


## Survey of monthly water bills

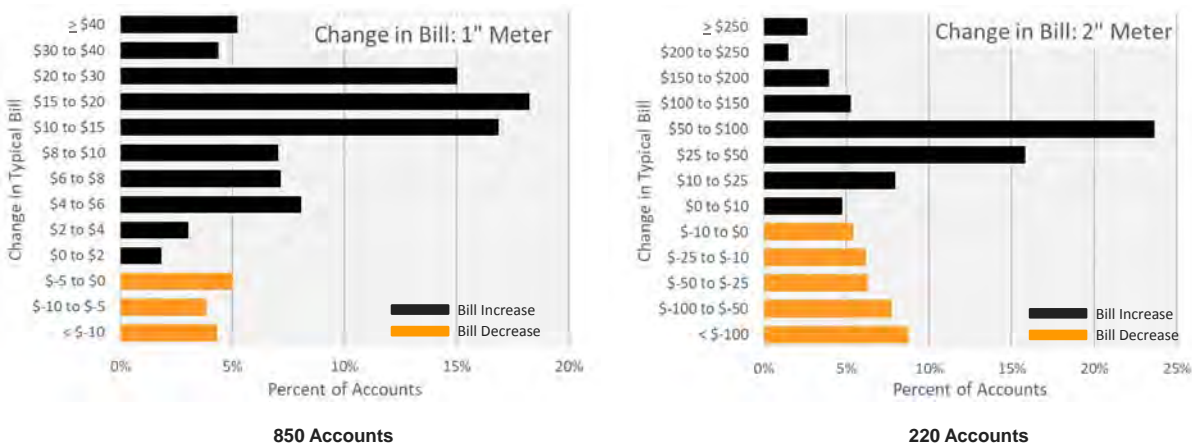
### 4" Meter Avg. Multi-Family Customer



## Monthly Water Bill Impacts – Single Family



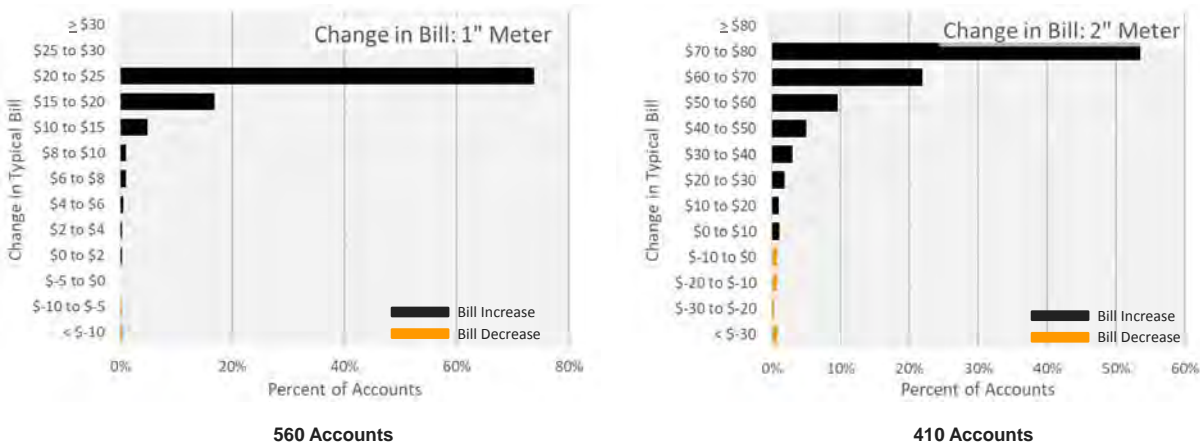
### Monthly Water Bill Impacts – Multi-Family Residential



\* Based on Year 1 of proposed rate schedule

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### Monthly Water Bill Impacts – Commercial



\* Based on Year 1 of proposed rate schedule

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## Monthly Water Bill Projections – Single Family

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Proposed general increase:		15%	14%	11%	5%	4%
<b>Single Family Residential 5/8"</b>						
	<b>Current</b>	<b>Proposed</b>				
<b>Low Volume 5 TGAL/mo</b>		\$30.85	\$37.47	\$42.72	\$47.41	\$51.78
(with Pass-Through Example)			\$37.47	\$43.22	\$48.41	\$51.29
Increase over current rates:			\$6.63	\$12.37	\$17.57	\$20.44
<b>Average Volume 11 TGAL/mo</b>	\$51.16		\$51.15	\$58.31	\$64.73	\$67.96
(with Pass-Through Example)			\$51.15	\$59.41	\$66.93	\$71.26
Increase over current rates:			(\$0.01)	\$8.25	\$15.76	\$20.10
<b>High Volume 80 TGAL/mo</b>	\$310.69		\$380.89	\$434.21	\$481.98	\$506.08
(with Pass-Through Example)			\$380.89	\$445.57	\$504.70	\$540.16
Increase over current rates:			\$70.20	\$134.88	\$194.01	\$229.46
<b>Single Family Residential 1"</b>						
	<b>Current</b>	<b>Proposed</b>				
<b>Low Volume 5 TGAL/mo</b>	\$33.81		\$52.70	\$60.08	\$66.69	\$70.02
(with Pass-Through Example)			\$52.70	\$60.58	\$67.69	\$71.52
Increase over current rates:			\$18.90	\$26.77	\$33.88	\$37.72
<b>Average Volume 11 TGAL/mo</b>	\$54.12		\$66.38	\$75.67	\$84.00	\$88.20
(with Pass-Through Example)			\$66.38	\$76.77	\$86.20	\$91.50
Increase over current rates:			\$12.26	\$22.65	\$32.07	\$37.37
<b>High Volume 80 TGAL/mo</b>	\$313.65		\$396.12	\$451.58	\$501.25	\$526.31
(with Pass-Through Example)			\$396.12	\$462.94	\$523.97	\$560.39
Increase over current rates:			\$82.47	\$149.28	\$210.32	\$246.74

Pass-Through Cost Assumptions (for example only):

- Annual OCWD Increase = \$0.10 / TGAL increase per year
- Annual MWD Increase = \$0.15/ TGAL increase per year

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## Monthly Water Bill Projections – Multi-Family

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Proposed general increase:		15%	14%	11%	5%	4%
<b>Multifamily Residential</b>						
	<b>Current</b>	<b>Proposed</b>				
<b>Average Vol 31.8 TGAL/mo w. 1" meter &amp; 5 Units</b>	\$123.42		\$128.29	\$146.26	\$162.34	\$170.46
Bill per Housing Unit	\$24.68		\$25.66	\$29.25	\$32.47	\$34.09
(with Pass-Through Example)			\$128.29	\$149.75	\$169.33	\$180.95
Increase over current rates:			\$4.88	\$26.33	\$45.92	\$57.53
<b>Average Vol 148.5 TGAL/mo w. 2" meter &amp; 30 Units</b>	\$531.42		\$463.66	\$528.57	\$586.72	\$616.05
Bill per Housing Unit	\$17.71		\$15.46	\$17.62	\$19.56	\$20.54
(with Pass-Through Example)			\$463.66	\$543.42	\$616.42	\$660.60
Increase over current rates:			(\$67.76)	\$12.01	\$85.00	\$129.19
<b>Average Vol 529.1 TGAL/mo w. 4" meter &amp; 100 Units</b>	\$1,852.15		\$1,634.32	\$1,863.12	\$2,068.07	\$2,171.47
Bill per Housing Unit	\$18.52		\$16.34	\$18.63	\$20.68	\$21.71
(with Pass-Through Example)			\$1,634.32	\$1,916.99	\$2,175.80	\$2,333.06
Increase over current rates:			(\$217.83)	\$64.84	\$323.64	\$480.91
<b>Average Vol 414 TGAL/mo w. 6" meter &amp; 115 Units</b>	\$1,510.50		\$1,708.78	\$1,948.01	\$2,162.29	\$2,270.40
Bill per Housing Unit	\$13.13		\$14.86	\$16.94	\$18.80	\$19.74
(with Pass-Through Example)			\$1,708.78	\$1,989.41	\$2,245.09	\$2,394.60
Increase over current rates:			\$198.28	\$478.91	\$734.59	\$884.10

Pass-Through Cost Assumptions (for example only):

- Annual OCWD Increase = \$0.10 / TGAL increase per year
- Annual MWD Increase = \$0.15/ TGAL increase per year

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## Monthly Water Bill Projections – Commercial

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Proposed general increase:		15%	14%	11%	5%	4%
<b>Commercial 2"</b>						
	<b>Current</b>	<b>Proposed</b>				
<b>Low Volume 20 TGAL/mo &amp; 2" Meter</b>	\$107.32	\$182.68	\$208.26	\$231.16	\$242.72	\$252.43
(with Pass-Through Example)		\$182.68	\$210.51	\$235.66	\$249.47	\$261.43
Increase over current rates:		\$75.36	\$103.19	\$128.34	\$142.15	\$154.11
<b>Average Volume 81 TGAL/mo &amp; 2" Meter</b>	\$294.90	\$358.36	\$408.53	\$453.47	\$476.14	\$495.19
(with Pass-Through Example)		\$358.36	\$417.64	\$471.69	\$503.48	\$531.64
Increase over current rates:		\$63.47	\$122.75	\$176.80	\$208.58	\$236.74
<b>High Volume 300 TGAL/mo &amp; 2" Meter</b>	\$968.32	\$989.08	\$1,127.55	\$1,251.58	\$1,314.16	\$1,366.73
(with Pass-Through Example)		\$989.08	\$1,161.30	\$1,319.08	\$1,415.41	\$1,501.73
Increase over current rates:		\$20.76	\$192.98	\$350.76	\$447.09	\$533.41
<b>Commercial 4"</b>						
	<b>Current</b>	<b>Proposed</b>				
<b>Low Volume 100 TGAL/mo &amp; 4" Meter</b>	\$421.31	\$672.04	\$766.13	\$850.40	\$892.92	\$928.64
(with Pass-Through Example)		\$672.04	\$777.38	\$872.90	\$926.67	\$973.64
Increase over current rates:		\$250.73	\$356.07	\$451.59	\$505.36	\$552.33
<b>Average Volume 396.9 TGAL/mo &amp; 4" Meter</b>	\$1,334.28	\$1,527.11	\$1,740.91	\$1,932.41	\$2,029.03	\$2,110.19
(with Pass-Through Example)		\$1,527.11	\$1,785.56	\$2,021.71	\$2,162.98	\$2,288.79
Increase over current rates:		\$192.83	\$451.28	\$687.43	\$828.70	\$954.52
<b>High Volume 1500 TGAL/mo &amp; 4" Meter</b>	\$4,726.31	\$4,704.04	\$5,362.61	\$5,952.49	\$6,250.12	\$6,500.12
(with Pass-Through Example)		\$4,704.04	\$5,531.36	\$6,289.99	\$6,756.37	\$7,175.12
Increase over current rates:		(\$22.27)	\$805.05	\$1,563.68	\$2,030.06	\$2,448.81

Pass-Through Cost Assumptions (for example only):

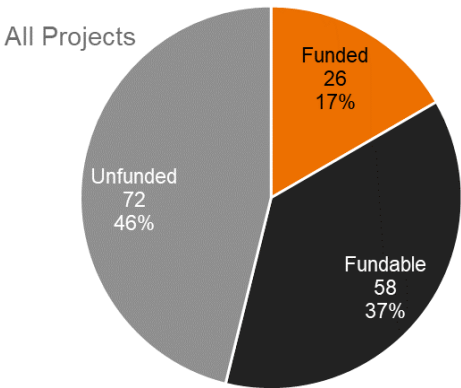
- Annual OCWD Increase = \$0.10 / TGAL increase per year
- Annual MWD Increase = \$0.15/ TGAL increase per year

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Water Rate Study

## Discussion of State Revolving Fund Program

# Drinking Water SRF Details



16%-17% funded in year of application, 50%-65% funded or fundable  
Difficult to build this level of “certainty” into 5-year financial plan

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# SRF Funding Scenarios

	2020	2021	2022	2023	2024	2025	2026	Cumulative
No Debt: Proposed Cash Funded Scenario	15.0%	14.0%	11.0%	5.0%	4.0%	2.5%	2.5%	67%
SRF Loan (\$M)	-	-	-	-	-	-	-	-
Low Debt: SRF Funding 2021 Well	15.0%	14.0%	9.0%	6.0%	4.0%	4.0%	3.0%	69%
SRF Loan (\$M)	-	\$2.17	-	-	-	-	-	\$2.17
High Debt: SRF Funding 2021-22 Pipe Repl.	15.0%	9.0%	7.0%	7.0%	7.0%	7.0%	5.0%	73%
SRF Loan (\$M)	-	\$4.57	\$7.80	-	-	-	-	\$12.37

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## Rate Study Achievements

- ✓ Established standard meter equivalency schedule to be more equitable
- ✓ **Enhanced connection between water rates and the cost to provide water service**
- ✓ **Increased revenue stability through higher fixed rates**
- ✓ **Proposed rate increases to meet the needs of system deficiencies**
- ✓ **Established a \*dynamic\* policy to “pass-through” increases in wholesale water costs**

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## Next Steps

- Request that City Council direct City staff to mail Prop. 218 Notification
- 45-day waiting period
- Public Hearing
- Rates implemented on July 1, 2019

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