City of Merced
2018 Water Rate Study

Proposed Rate Plan

July 16, 2018

Stantec

Agenda

1. Financial Plan Results
2. Cost of Service & Rate Design Recommendations
3. Miscellaneous Rates
4. Capital Facility Charges
5. Next Steps

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The Rate Setting Process

Revenue Requirements

The Financial Plan compares the revenues of the utility to its expenses to determine the overall level of rate adjustment

Cost-of-Service

Equitably allocates the revenue requirements between the various customer classes of service

Rate Design

Ensure that the rate structure reflects the cost of providing service while meeting the utility's policy objectives and revenue requirements

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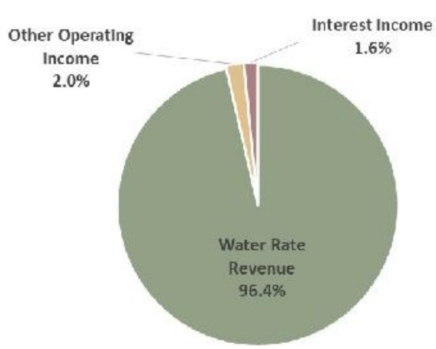
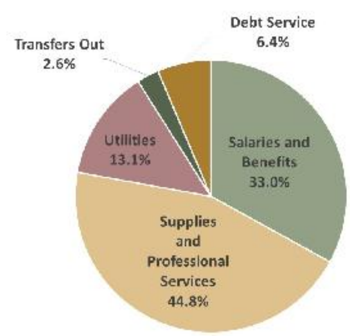
FY2019 Budget

Revenue	
Water Rate Revenue	$ 12,362,400
Other Operating Income	$ 259,769
Interest Income	$ 200,727
Total:	**$ 12,822,896**



Operating Expenses	
Salaries and Benefits	$ 3,853,147
Supplies and Professional Services	$ 5,235,624
Utilities	$ 1,535,206
Transfers Out	$ 308,562
Debt Service	$ 744,851
Total:	**$ 11,677,388**



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Reserve Policies

1. **Operating Reserve**
   < 6 month of operating budget
2. **Capital Improvement Reserve**
   $5M ~ equal to value of vulnerable assets

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Financial Planning Assumptions

Growth = 1%

Cost Inflation (5-Year Average)

- Salaries = 1.9%
- Benefits = 5.5%
- All other categories = 3.0%

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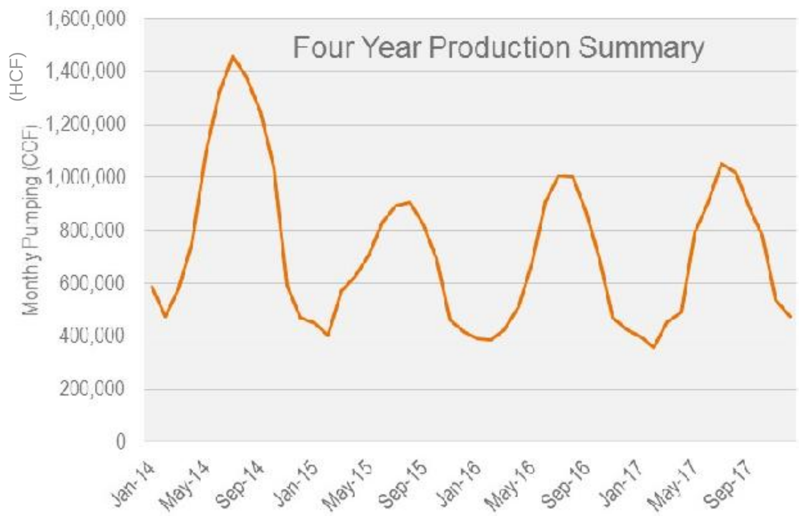
Historical Water Usage



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Capital Spending Forecast

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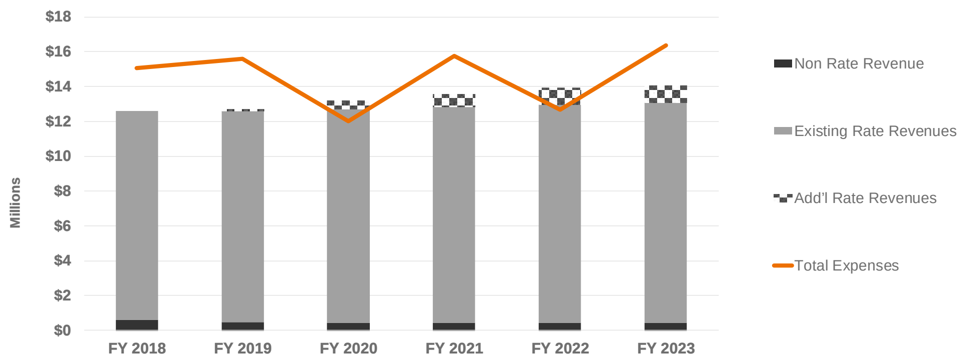
Financial Forecast
Revenue vs. Expenses



Rate Increases:		2.0%*	2.0%	2.0%	2.0%	TBD

* FY 2019 rate increase to occur on January 1, 2019. All other rate increases to occur on July 1 thereafter.
Water rates in FY2019 will only increase by 0.2%, with the remaining increases coming from other charges.

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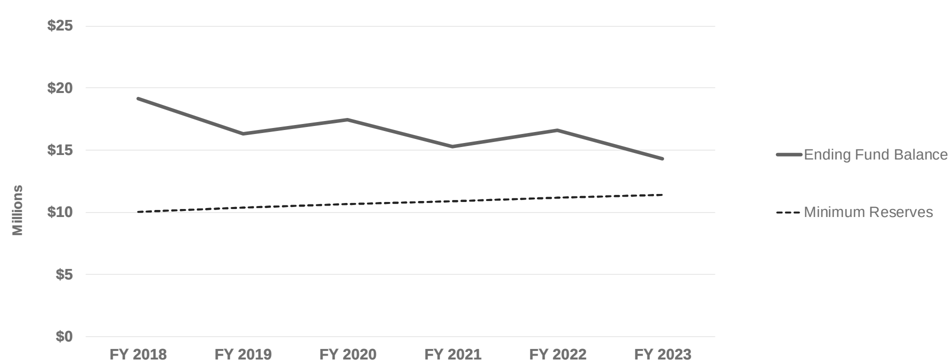
Financial Forecast
Fund Balance



Rate Increases:		2.0%	2.0%	2.0%	2.0%	TBD

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Water Rate Study

Cost of Service & Rate Design

System Background

Customers: 23,196 Accounts

- 19,906 “Residential”
- 1,584 Apartments (multifamily)
- 1,140 Commercial
- 134 Public
- 432 Irrigation

Source: Groundwater Wells

Treatment: Wellhead Treatment

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Customer Classes

"Retail" Customers (all customers)

+ Outside City Customers

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Current Rate Design

Base Monthly Charge:
- Based on meter size
- Includes water allocation (30 to 50 HCF)

Volumetric Rate (metered water):
- Uniform rate

(No customer classes)

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Rate Design Considerations

#1 - Cost basis (Prop 218 compliance)

And…

A. Equitability
B. Revenue Stability
C. Affordability
D. Conservation Signal
E. Simplicity

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Rate Design Elements

1. Fixed revenue vs. variable revenue
   - Allocation of peaking costs to Base Charge or Volumetric Charge
2. Water Allocation (Water included in the Base Monthly Charge)
   - Examined 30 HCF, 20 HCF, and 10 HCF
3. Meter Equivalency Schedule
   - (see next page)

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Rate Design Elements

Meter Equivalency

Meter Equivalency Schedule

Meter Size	Existing Ratio	Meter Equivalence (1)
3/4"	1.0	1.0
1"	1.0	1.0
1 1/2"	1.4	2.0
2"	1.9	3.2
3"	2.2	6.4
4"	2.6	10.0
6"	3.1	20.0
8"	4.4	32.0
10"	5.7	48.0
12"	7.1	67.5

(1) Source: AWWA M1 Manual , 6th Ed.

Water Allocation

Current (HCF)	Proposed (HCF)
30	20
30	20
40	40
50	64
50	128
50	200
50	400
50	640
50	960
50	1,350

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Proposed Rates

	Current	Proposed
Water Allocation: (3/4" meter)	30 HCF	20 HCF
Volumetric Rate (per HCF)	$0.89	$0.74
Meter Size	**Base Monthly Charge**	
¾"	$34.24	$30.70
1"	$35.64	$30.70
1 ½"	$47.52	$60.94
2"	$65.50	$97.22
3"	$76.13	$193.97
4"	$89.81	$302.82
6"	$104.99	$605.17
8"	$150.58	$967.99
10"	$196.12	$1,451.75
12"	$241.42	$2,041.33
¾" Meter Bills (examples)		
22 HCF usage:	$34.24	$32.18
44 HCF usage:	$46.70	$48.46
Fixed Revenue:	77.1%	78.7%

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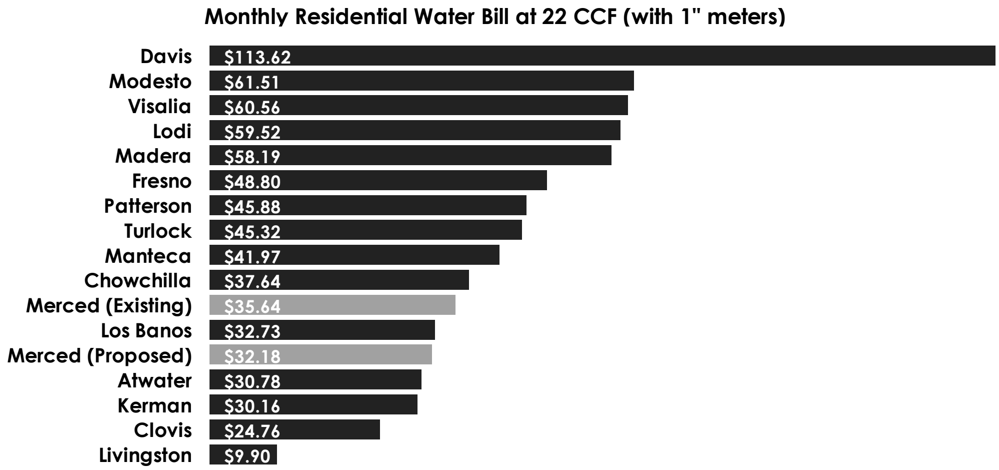
Rate Survey



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Example Bill for Larger Customers

Customer #1

Meter Size: 3”

Water Usage: 6,840 HCF

	Current	Proposed
Base Monthly Charge:	$76.13	$193.94
Water Allocation:	50 HCF	128 HCF
Volumetric Charge:	$6,043	$4,966
Total Bill:	**$6,119**	**$5,160**

Customer #2

Meter Size: 4”

Water Usage: 241 HCF

	Current	Proposed
Base Monthly Charge:	$89.81	$302.82
Water Allocation:	50 HCF	200 HCF
Volumetric Charge:	$170	$302
Total Bill:	**$260**	**$333**

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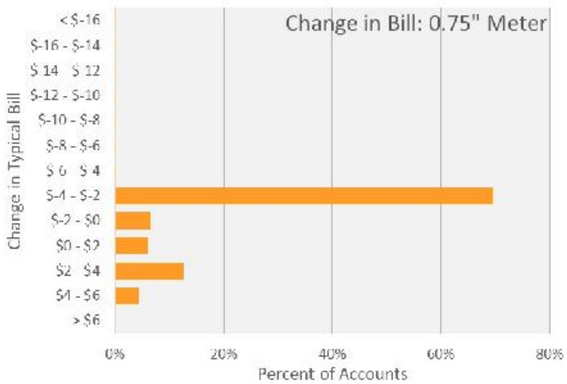
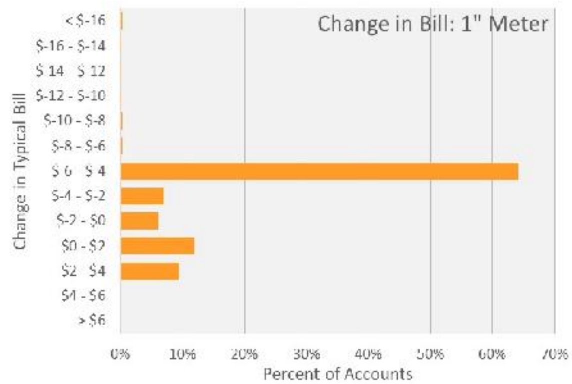
Bill Impact Analysis

73.9% of customers will see a decrease in their bill





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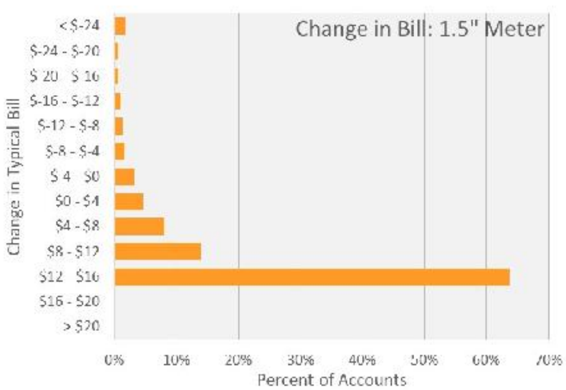
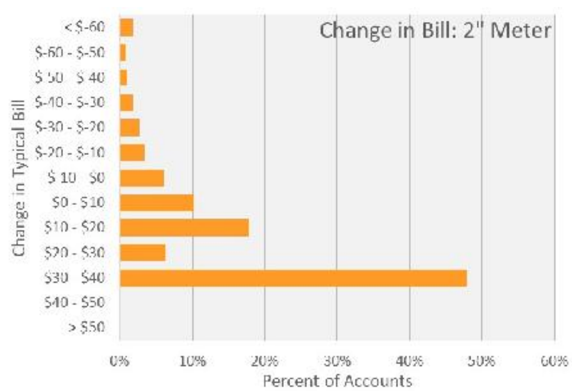
Bill Impact Analysis





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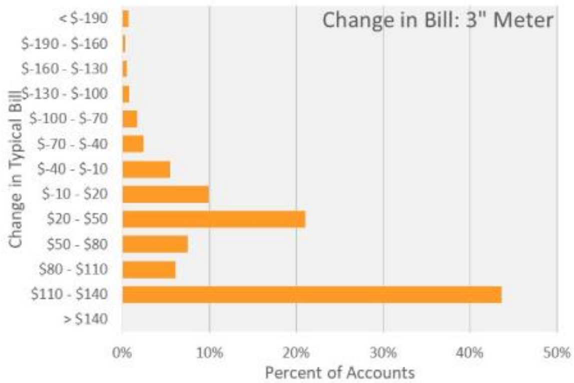
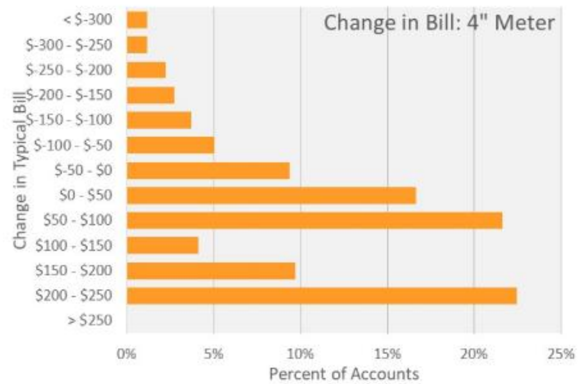
Bill Impact Analysis





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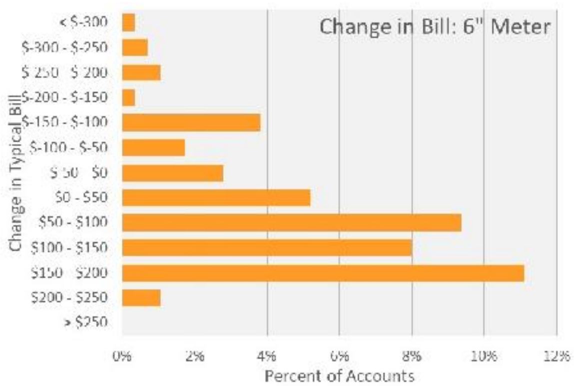
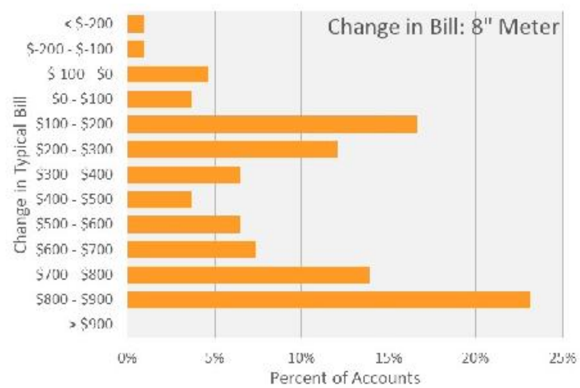
Bill Impact Analysis (Scenario 1)





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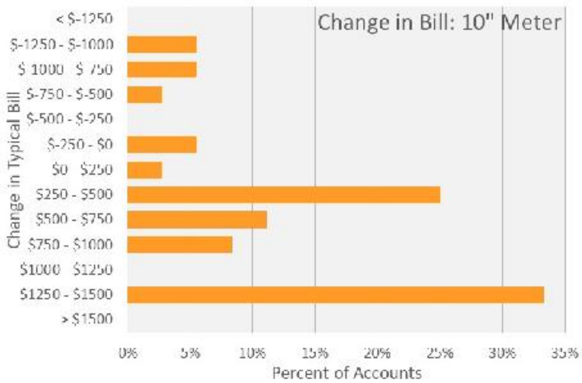
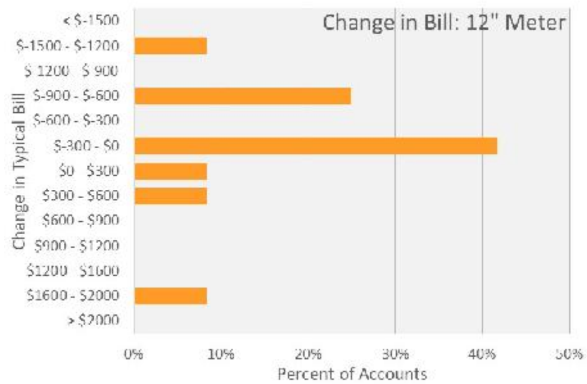
Bill Impact Analysis (Scenario 1)





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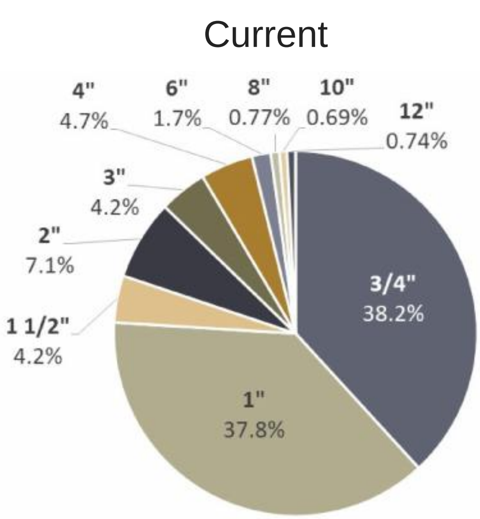
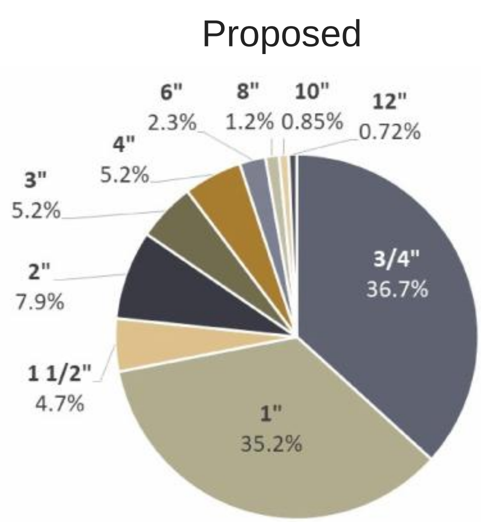
Revenue by Meter Size





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Drought Surcharge

- *Rate schedule to be implemented in the event of a Stage 3 drought (as declared by City Council)*
- *Assume a 20% reduction in water usage*

	Current	Proposed	With Surcharge
		VOLUMETRIC RATE	
	$0.89	$0.74	**$0.99**
Meter Size		**BASE MONTHLY CHARGE**	
¾”	$34.24	$30.70	**$31.40**
1”	$35.64	$30.70	**$31.40**
1 ½”	$47.52	$60.94	**$62.33**
2”	$65.50	$97.22	**$99.45**
3”	$76.13	$193.97	**$198.43**
4”	$89.81	$302.82	**$309.78**
6”	$104.99	$605.17	**$619.09**
8”	$150.58	$967.99	**$990.26**
10”	$196.12	$1,451.75	**$1,485.16**
12”	$241.42	$2,041.33	**$2,088.31**
¾” Meter Bills (examples)			
22 HCF:	$34.24	$32.18	**$33.38**
44 HCF:	$46.70	$48.46	**$55.16**

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Outside Customer Charge

Utility-Basis Approach*

- Quantifies the risk factors associated with delivering services to customer outside City boundaries
- Based on an acceptable rate of return based on the weighted cost of capital (3.5%)
- Fiscal impact: $60,000

Meter Size	Monthly Charge
3/4"	$5.51
1"	$5.51
1 1/2"	$11.03
2"	$17.64
3"	$35.28
4"	$55.13
6"	$110.25
8"	$176.40

* As outline by AWWA's M1 Manual

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Backflow Program

Total Program Costs:

- ✓ Labor: $234K
- ✓ Vehicle depreciation: $16K

Total number of units: 2,383

Proposed Monthly Charge: $8.75
Current Monthly Charge: $5.00

Increase: 75%
Fiscal impact : $120,000

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Private Fire

Current Revenue: $86,400
Proposed Revenue: $124,100

Size of Connection	Demand Factor (1)	Proposed Monthly Charge	Current Monthly Charge	Number of Accounts
2"	6.19	$1.36	na	0
3"	17.98	$3.96	na	0
4"	38.32	$8.44	$17.54	48
6"	111.31	$24.53	$20.47	95
8"	237.21	$52.28	$29.24	104
10"	426.58	$94.01	$38.01	11
12"	689.04	$151.85	$60.66	2
Fire Hydrant	68.91	$15.19	$19.83	

(1) Based on AWWA's practice of estimating the relative flow through pressure conduits as the diameter raised to power of 2.63.

Major Assumption: Assumes that system is sized to handle two simultaneous fire events at 1,500 gpm for 2 hours in the same pressure zone

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Water Rate Study

Capacity Charge Topics

Capacity Facility Charge

Methodologies*

Past Investments in Capacity

Future Investments in Capacity

Buy-In Approach

Incremental Cost Approach

$$\frac{\text{Value of Plant in Service}}{\text{Existing Capacity}} = \textbf{Fee}$$

$$\frac{\text{Cost of Proposed Growth Projects}}{\text{Planned New Capacity}} = \textbf{Fee}$$

* As described in AWWA's M1 manual

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Capital Facility Charges

Proposed

Meter Sizes	Current Scaling Factors	Current Capital Facilities Charge	AWWA Scaling Factor[1]	Proposed Capital Facilities Charge	Percent Increase
1"	1.0	$5,184	1.0	$6,037	16.5%
1.5"	2.0	$10,368	2.0	$12,074	16.5%
2"	3.2	$16,588	3.2	$19,318	16.5%
3"	6.4	$33,178	6.4	$38,637	16.5%
4"	10.0	$51,841	10.0	$60,370	16.5%
6"	20.0	$103,681	20.0	$120,740	16.5%
8"	32.0	$165,892	32.0	$193,184	16.5%
10"	50.0	$259,205	84.0	$507,108	95.6%
12"	(na)	(na)	106.0	$639,922	(na)

[1] **Source:** Table VII.2-5, AWWA M1 Principles of Water Rates, Fees, and Charges (indexed to a minimum meter size of 1-inch)

Private Fire Connection Charge - Accounts with fire flow requirements that are higher than the basic requirement (1,500 gpm for 2 hours) will be charged proportionately higher in increments of 1" Meter charges.

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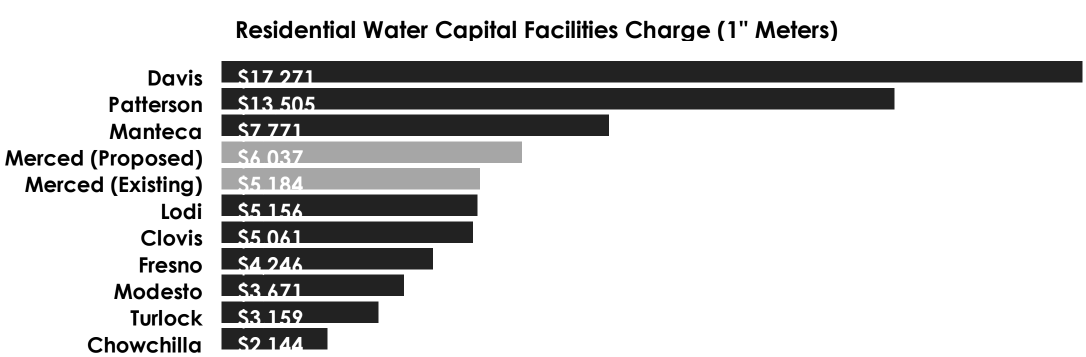
Capital Facility Charge

Survey



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NEXT STEPS

Direct staff to issue Prop 218 Notice
Public Hearing

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