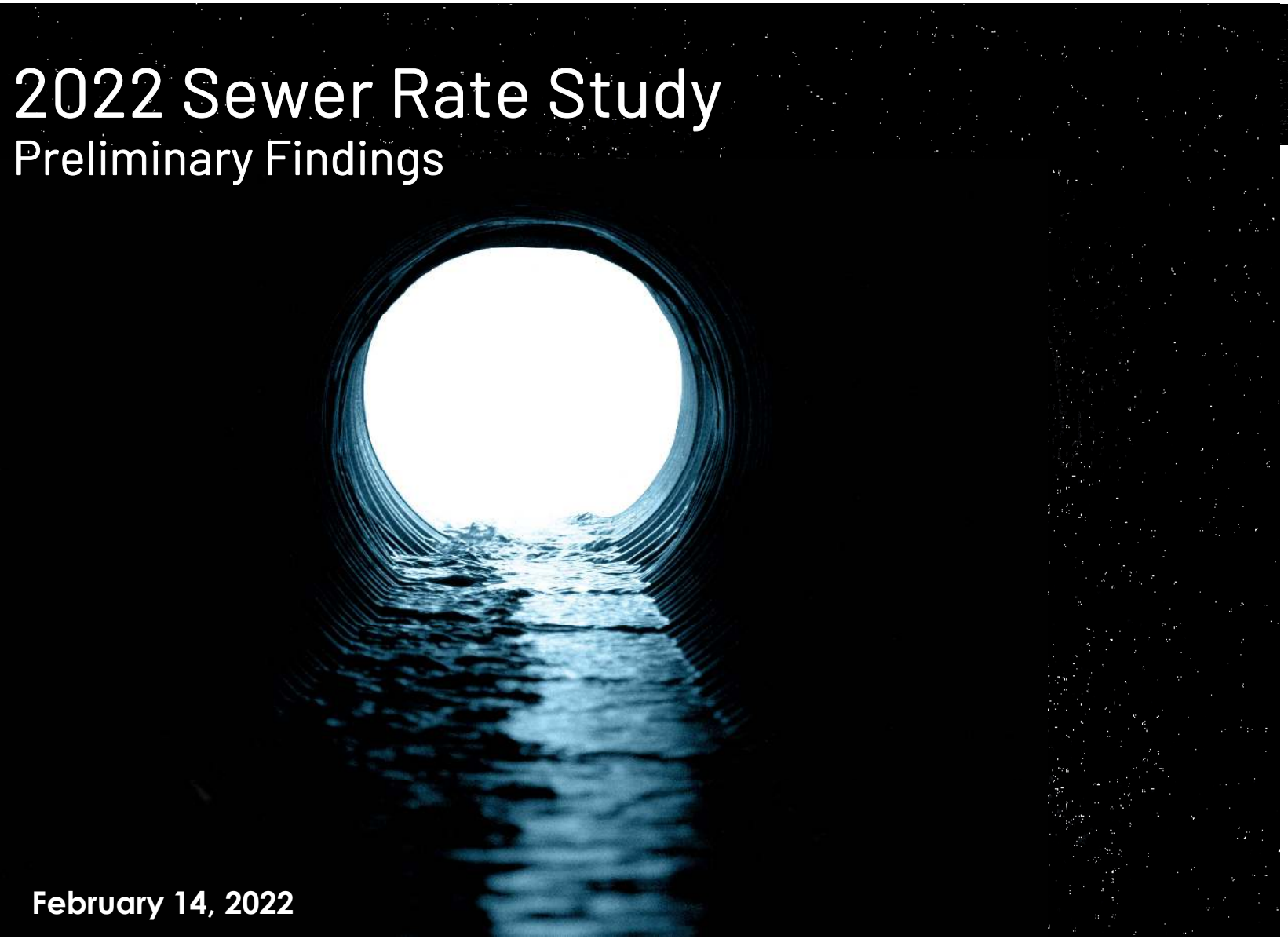
2022 Sewer Rate Study

Preliminary Findings



February 14, 2022

NOVATO SANITARY DISTRICT

HILDEBRAND CONSULTING

AGENDA

1. Background: Quick tour of the District
2. Sewer Rate Study
   - Financial Plan
   - Cost of Service / Rate Design
   - Proposed Rates
   - Survey
3. Project Schedule
4. Discussion and Board decision whether to mail Prop 218 notice

Sanitation is the most important medical advance in the past 150 years **British Medical Journal**

Our modern wastewater system works with such reliability that most people never need to think about it.

Modern sanitation is key to protecting public health, the environment and maintaining quality of life.

Clean water supply systems and better sewage disposal lead to fewer outbreaks of disease.

- Sanitation was the top choice of people worldwide who voted in the medical journal's survey.
- Antibiotics took second.
- Anesthesia took third.

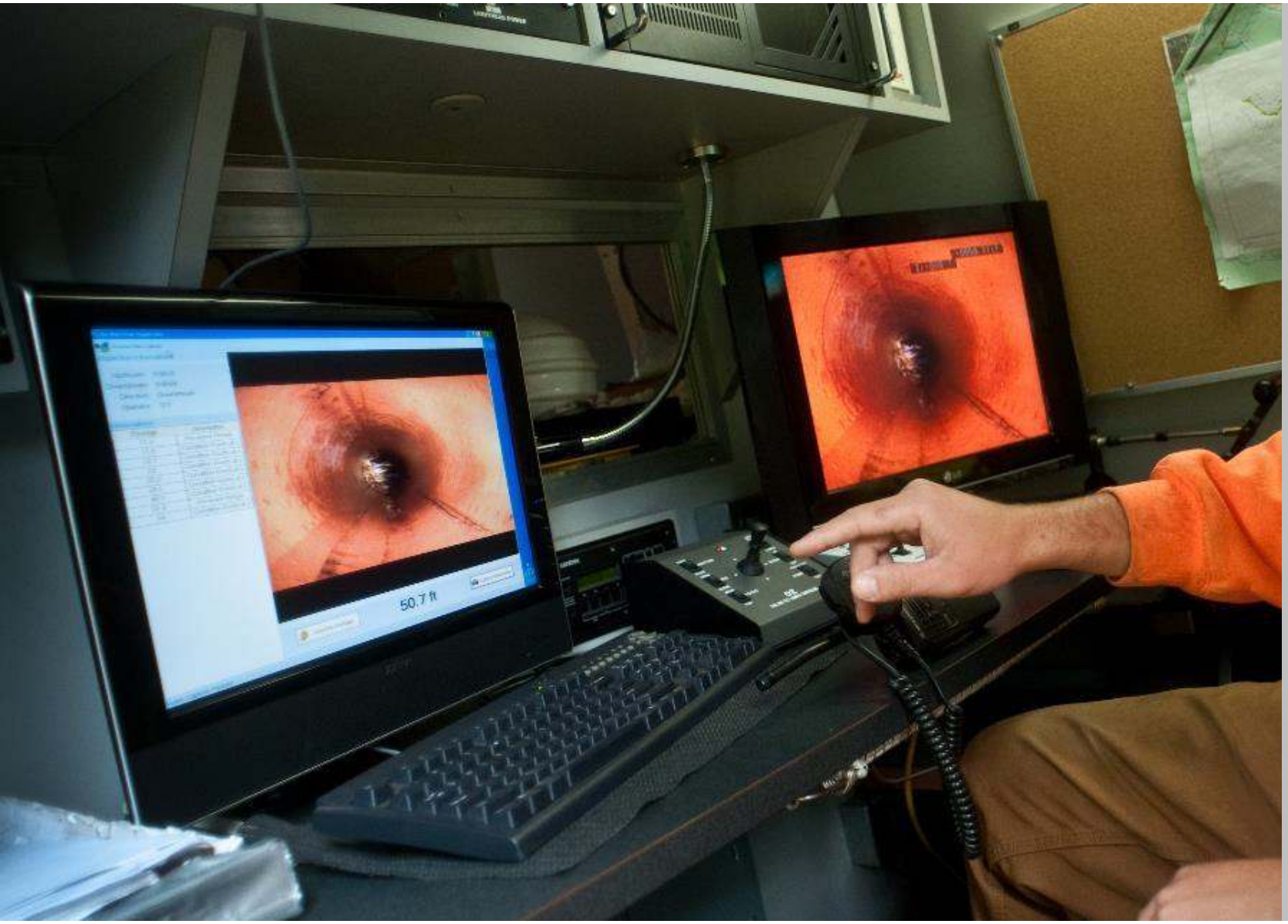
What Novato Is Getting for Its Money

- Public health protection
- Environmental Protection
- Recycled Water
- Support 800 acres of pastureland and wildlife ponds
- Highly skilled, dedicated staff -- most with special certificates and training:
    - Engineers, chemists, certified operators, CPA, electricians, etc.
- $300 million system of pipelines, pumps, treatment facilities, laboratory, and more

State certified operators ensure the treatment plant is operating every day and around the clock.

"Our certified lab runs over 1,500 tests in-house each year to ensure quality and safety"*

*(*does not include samples processed by our lab but tested by third party independent or specialty labs).*



"Video inspect pipelines for proactive maintenance

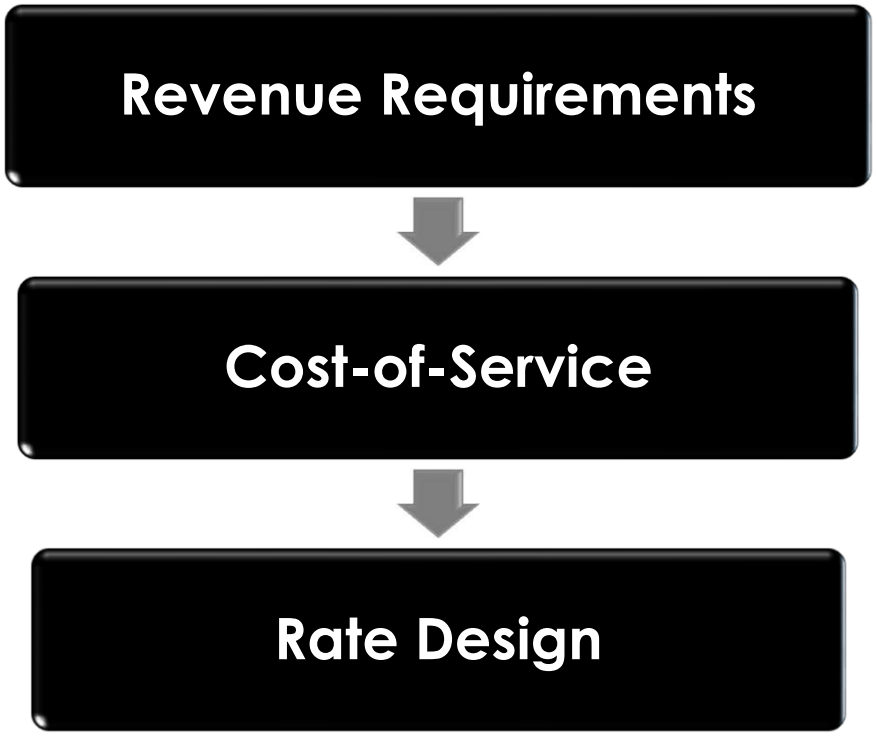

CAMEL

Replacing pipelines; Addressing aging infrastructure

"Birds were everywhere: ducks, coots and grebes in the ponds, blackbirds in the tule, sparrows flushing from the coyote-bush alongside the dirt roads, ruby-crowned kinglets flitting in the eucalyptus, raptors perched on distant wires, skeins of geese threading through the air..."

From a story about the ponds in BayNature.org

The Rate Setting Process



Compares the revenues of the utility to its expenses to determine the overall level of rate adjustment

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

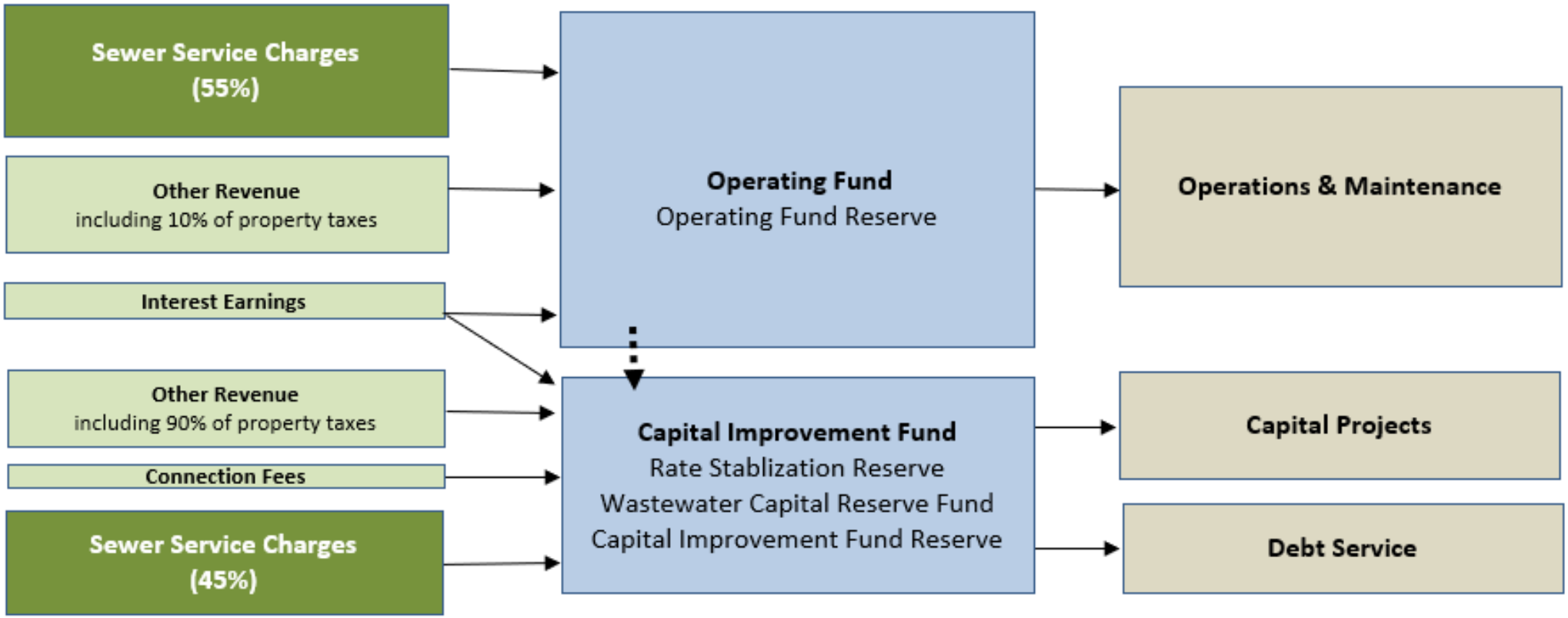
Design rates for each class of service to meet the revenue needs of the utility, along with any other rate design goals and objectives

Legal Requirements for Setting Sewer Rates In California

Proposition 218 (Article XIIID, Section 6 of California Constitution)

- Revenues shall not exceed funds required to provide service; nor used for another purpose
- Amount shall not exceed the proportional cost of the service attributable to the parcel
- Service must be actually used or immediately available
- Approval process includes 45-day notice, public hearing, and written majority protest. Does not require a voting process (unlike taxes).

Schematic of Utility Funds/Reserve Structure



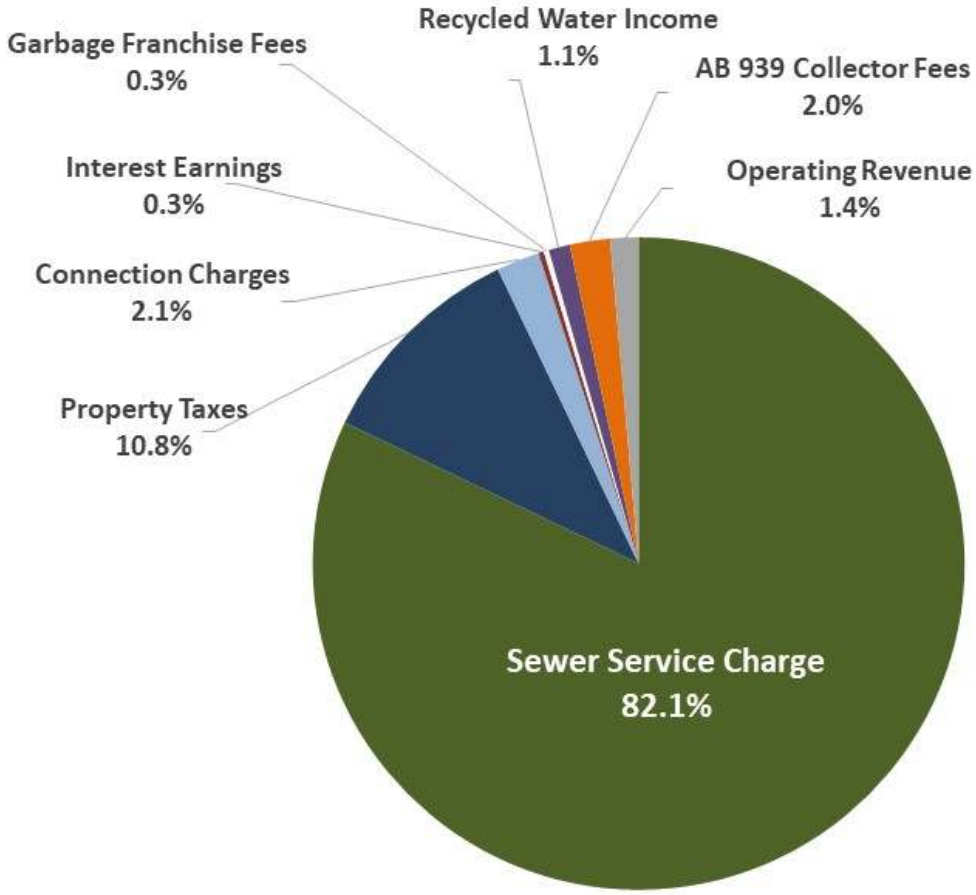
Cash Balances

Fiscal Year beginning July 1, 2021

Operating Fund	$14,969,000
Capital Improvement Fund	$17,180,000
Wastewater Capital Reserve Fund (WCRF)	$1,150,000
Rate Stabilization Reserve	$1,845,000
Total:	**$35,144,000**

Revenue
FY2021/22 Budget

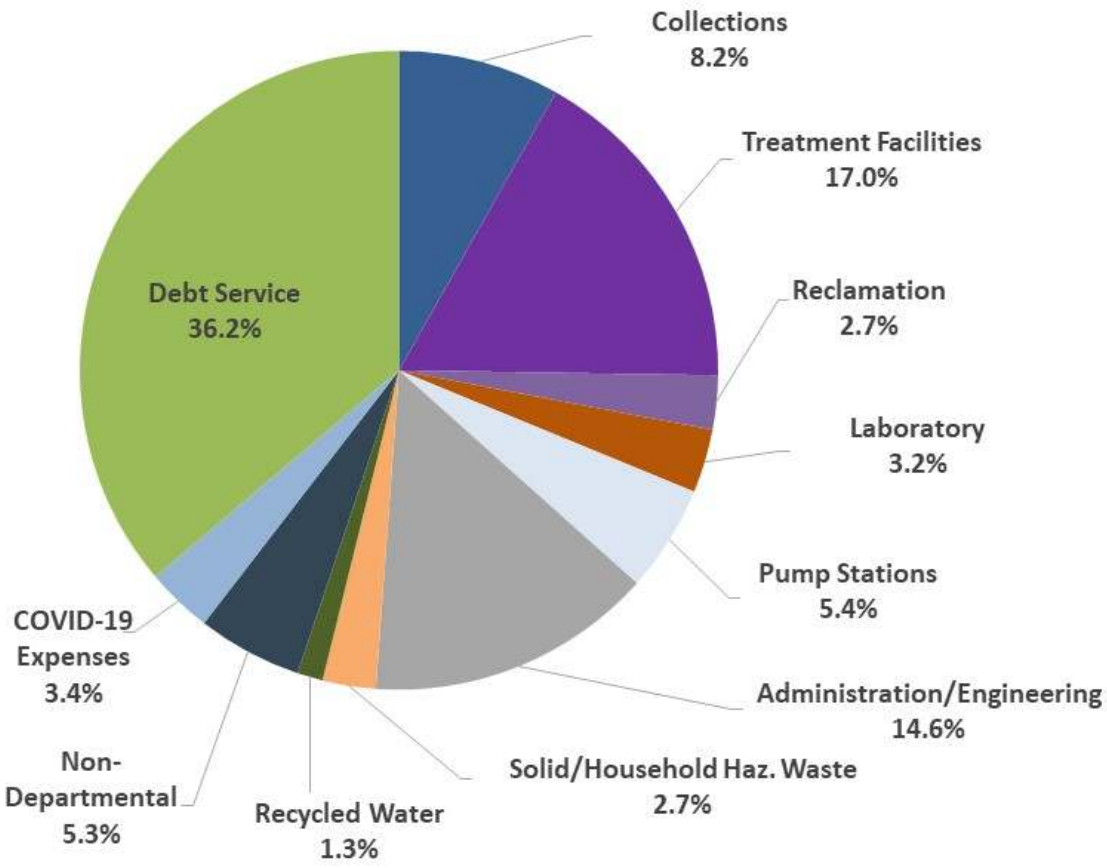
Sewer Service Charge	$19,400,000
Non-Rate Revenue	
Property Taxes	$2,545,000
Connection Charges	$504,000
Interest Earnings	$63,000
Garbage Franchise Fees	$61,000
Recycled Water Income	$249,000
AB 939 Collector Fees	$471,000
Operating Revenue	$331,000
Total:	**$23,624,000**



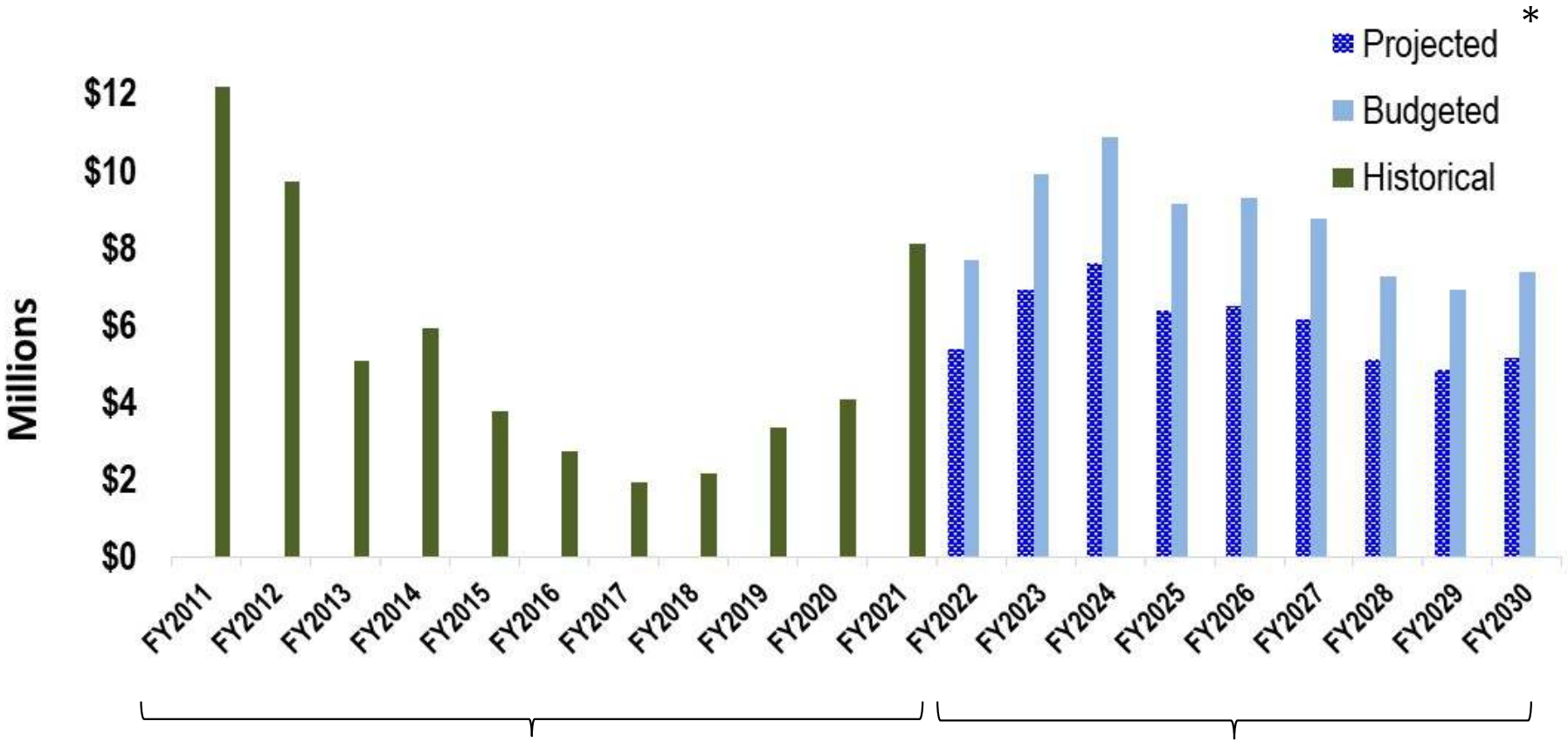
Operating Expenses

FY2021/22 Budget

Collections	$1,580,000
Treatment Facilities	$3,288,000
Reclamation	$529,000
Laboratory	$621,000
Pump Stations	$1,042,000
Administration/Engineering	$2,807,000
Solid/Household Haz. Waste	$520,000
Recycled Water	$249,000
Non-Departmental	$1,025,000
COVID-19 Expenses	$647,000
Debt Service	$6,979,000
Total:	**$19,287,000**



Projected Capital Spending



Recent average Capital:
$5.4M

Forecasted average Capital:
$6.1M

* For purposes of financial planning, projected capital spending is 70% of the budgeted capital program

Reserve Policies

Reserve policies are important for protecting the District against unforeseen circumstances, stabilizing revenue requirements, and contributing towards the District's credit rating. The following reserve targets are proposed by this Study and are consistent with recent District practices.

Operating Fund: Equal to 67% of O&M budget (reserve target is currently **$8.2M**)

Rate Stabilization Reserve: For unusual or unexpected operating or capital expenses.

Target is **$1.9M** and increases with inflation.

Wastewater Capital Reserve Fund: For expansion, major repair, or replacement of treatment plant. Required by 2011 SRF loan. The District deposits $400K per year. Current balance is **$1.2M**.

Capital Fund Reserve: For catastrophic failure of critical infrastructure and to manage the inherent volatility of capital spending.

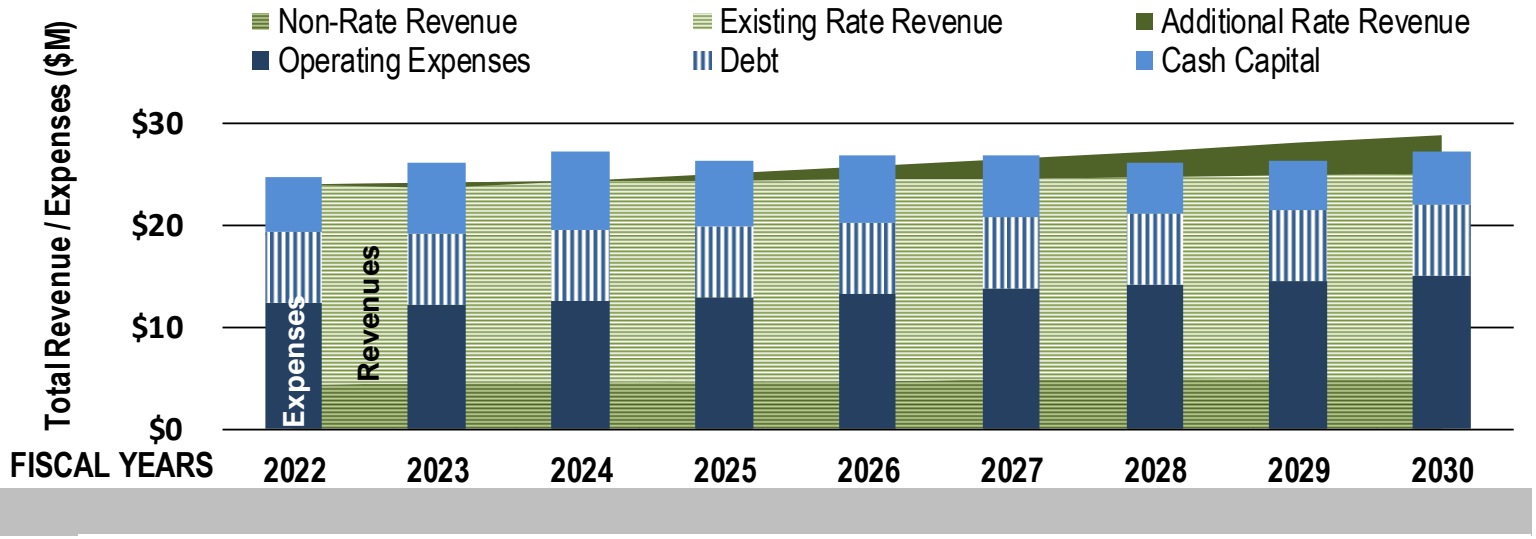
Current target policy: Annual debt payments plus the PayGo capital projects budget for the upcoming fiscal year.

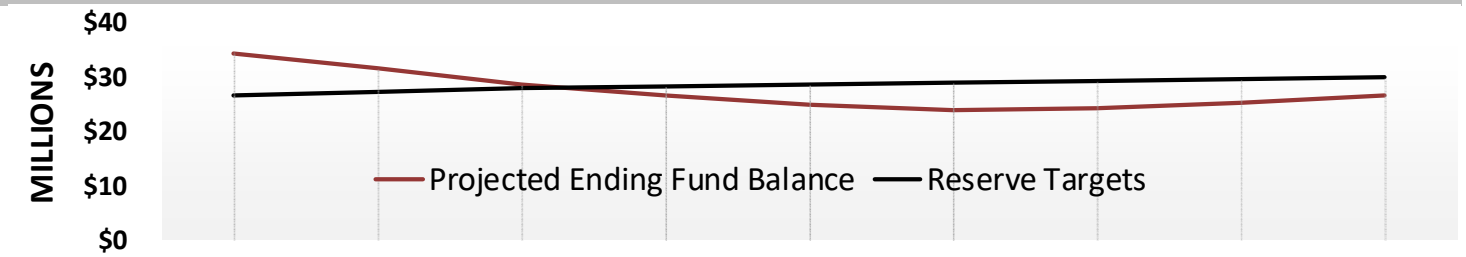
Proposed policy: Annual debt payments plus the average annual PayGo capital projects budget for the next 10 years. Current target: **$15.3M**

Rate Increase History

Fiscal Year	Percent Increase
FY 2016/17	3.8%
FY 2017/18	3.7%
FY 2018/19	3.5%
FY 2019/20	3.4%
FY 2020/21	3.3%
FY 2021/22	0%

Financial Forecast





FISCAL YEARS	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rate Revenue Increase:		-2.6%*	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Debt Coverage Ratio:	1.64	1.60	1.65	1.70	1.74	1.79	1.85	1.90	1.96

* While overall rate revenue will decrease for the District in Year 1, rate structure changes mean that some customers will see increases while others will see decreases

Current Sewer Rates

Residential (monthly)		
Low Usage	$32.85	per dwelling unit
Average Usage	$54.75	per dwelling unit
High Usage	$98.55	per dwelling unit

Non-residential (annual)		
Annual Fixed Charge	$0.27	per factored[1] sq. ft.
Volumetric Charge		
Low Strength	$4.77	per TGAL
Medium Strength	$6.68	per TGAL
High Strength	$10.37	per TGAL

[1] The floor area (square footage) of different types of non-residential accounts are multiplied by a "flow factor" which accounts for the volume of wastewater associated with different types of commercial

TGAL = thousand gallons

Cost of Service Updates

1. Allocate flow and loadings to residential and non-residential customers with recent data
   - Note: results may not be comparable to prior studies that utilized different flow and strength assumptions (prior to 2011 treatment plant upgrade)

2. Allocate District costs to fixed revenue and variable revenue
   - Primarily recover collection costs through the fixed charge
   - Primarily recover treatment cost through the usage charge

Cost Recovery Functionalization

		Cost Recovery			
	FY 2022/23 Preliminary Budget	Fixed Revenue	Variable Revenue	Fixed Revenue	Variable Revenue
Collections	$1,657,000	100%		$1,657,000	
Treatment Facilities	$3,413,000		100%		$3,413,000
Reclamation	$529,000		100%		$529,000
Laboratory	$645,000		100%		$645,000
Pump Stations	$1,119,000	100%		$1,119,000	
Administration/Engineering	$2,930,000	60%	40%	$1,758,000	$1,172,000
Recycled Water	$265,000		100%		$265,000
Non-Departmental	$1,114,000	60%	40%	$668,000	$446,000
COVID-19 Expenses	$50,000	100%		$50,000	
Capital Improvement Program (cash)	$6,930,000	50%	50%	$3,465,000	$3,465,000
Debt	$6,964,000	50%	50%	$3,482,000	$3,482,000
Non-Rate Revenue	-$3,956,000		100%		-$3,956,000
Change in Fund Balance	-$2,712,000	47.6%	52.4%	-$1,292,000	-$1,420,000
Total:	**$18,948,000**			**$10,907,000**	**$8,041,000**

* Household hazard waste costs and revenues are excluded from this analysis

Cost of Service Analysis

Cost Category	Parameter Allocation Percentages	Annual Cost Allocated to Each Parameter
Fixed Revenue Costs		$10,907,000
Usage Revenue Costs		
Flow	34%	$2,733,900
BOD	33%	$2,653,500
TSS	33%	$2,653,500
Rate Revenue Requirement:		**$18,947,900**

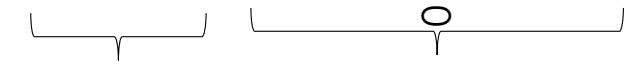
	Metric		Costs	Calculated Unit Rates
Residential	***Residential***			
Fixed Revenue	22,480	dwelling units	$8,869,380	$394.55 / Dwelling Unit
Variable Revenue	885,360	TGAL annual wastewater	$6,365,940	$7.19 / TGAL wastewater
Non-Residential				
Fixed Revenue	11,412,000	factored square feet [1]	$2,037,620	$0.179 / factored sq. ft.
Variable Revenue				
Low Strength	171,900	TGAL annual water	$1,264,700	$7.36 / TGAL wastewater
Medium Strength	3,600	TGAL annual water	$31,920	$8.87 / TGAL wastewater
High Strength	27,900	TGAL annual water	$378,340	$13.56 / TGAL wastewater
		Rate Revenue Requirement:	**$18,947,900**	

Residential SSCs: EDU charge = $32.88 per month

Usage charge = $7.19 per TGAL

Average Customer: uses 3.28 TGAL WW per month*

therefore $32.88 + $7.19 x 3.28 TGAL = **$56.48 per month**



Low User: District Policy = Uses 25% or less than average (0.82 TGAL WW per month)

The average usage among customers that qualify as lower users: 0.43 TGAL

therefore $32.88 + $7.19 x 0.43 TGAL = **$35.94 per month**

High User: District policy = Uses 200% or more than average (6.57 TGAL per month)

The average usage among customers that qualify as high users: 9.46 TGAL

therefore $32.88 + $7.19 x 9.46 TGAL = **$100.89 per month**

* Equates to approximately 4.8 TGAL of water usage during winter

Proposed Rates – Year 1

Portion of Residential Customers		Current Rates	Proposed Rates		Change	
	Residential (monthly)					
5.4%	Low Usage	$32.85	$35.94	per dwelling unit	$3.09	9.4%
87.8%	Average Usage	$54.75	$56.48	per dwelling unit	$1.73	3.2%
6.8%	High Usage	$98.55	$100.89	per dwelling unit	$2.34	2.4%
	Non-residential (annual)					
	Annual Fixed Charge	$0.27	$0.18	per factored[1] sq. ft.	-$0.09	-33.7%
	Volumetric Charge					
	Low Strength	$4.77	$7.36	per TGAL	$2.59	54.2%
	Medium Strength	$6.68	$8.87	per TGAL	$2.19	32.7%
	High Strength	$10.37	$13.56	per TGAL	$3.19	30.7%

Monthly Bill Impact Analysis
(Year 1 rates)

Residential (per dwelling unit)					
	Monthly Wastewater Flows [1]	Current Bill	Proposed Bill [2]	Change $	Change %
Low Use	0.43 TGAL	$32.85	$35.94	$3.09	9.4%
Average	3.3 TGAL	$54.75	$56.48	$1.73	3.2%
High Use	9.5 TGAL	$98.55	$100.89	$2.33	2.4%

Sample Non-Residential							
Strength	Size	Square Feet	Water Flows (TGAL per mo.)	Current Bill	Proposed Bill [1]	Change $	Change %
Low	Small	1,000	1.5	$29.66	$25.96	-$3.70	-12.5%
	Medium	4,000	8.0	$128.18	$118.55	-$9.64	-7.5%
	Large	20,000	25.0	$569.32	$482.33	-$86.98	-15.3%
Medium	Small	1,000	1.5	$32.53	$28.22	-$4.31	-13.2%
	Medium	2,000	8.0	$98.48	$100.79	$2.32	2.4%
	Large	5,000	21.0	$252.87	$260.85	$7.98	3.2%
High	Small	1,000	3.0	$53.62	$55.60	$1.97	3.7%
	Medium	10,000	11.0	$339.12	$298.33	-$40.79	-12.0%
	Large	30,000	36.0	$1,048.48	$935.66	-$112.82	-10.8%

[1] Residential wastewater flows assumes that only a portion of metered water is returned to the sewer

[2] With Year 1 rate changes

Proposed 5-Year Rate Schedule

Overall Rate Revenue Increase:	**-2.6%** [1]	**3.0%**	**3.0%**	**3.0%**	**3.0%**	
	Proposed (maximum) Rates					
	July 1, 2022	**July 1, 2023**	**July 1, 2024**	**July 1, 2025**	**July 1, 2026**	
Residential (monthly)						
Low Usage	$35.94	$37.02	$38.13	$39.27	$40.45	per dwelling unit
Average Usage	$56.48	$58.17	$59.92	$61.72	$63.57	per dwelling unit
High Usage	$100.89	$103.92	$107.04	$110.25	$113.56	per dwelling unit
Non-residential (annual)						
Annual Fixed Charge [2]	$0.179	$0.184	$0.190	$0.196	$0.202	per sq. ft.
Volumetric Charge						
Low Strength	$7.36	$7.58	$7.81	$8.04	$8.28	per TGAL
Medium Strength	$8.87	$9.14	$9.41	$9.69	$9.98	per TGAL
High Strength	$13.56	$13.97	$14.39	$14.82	$15.26	per TGAL

[1] While overall rate revenue will decrease, some customers will still experience an increase in their bill due to rate structure changes.

[2] Subject to additional flow factor multiplier as shown below.

Proposed 5-Year Rate Schedule

Overall Rate Revenue Increase:	**-2.6%** [1]	**3.0%**	**3.0%**	**3.0%**	**3.0%**	
	Proposed (maximum) Rates					
	July 1, 2022	**July 1, 2023**	**July 1, 2024**	**July 1, 2025**	**July 1, 2026**	
Residential (annual)						
Low Usage	$431.28	$444.24	$457.56	$471.24	$485.40	per dwelling unit
Average Usage	$677.76	$698.04	$719.04	$740.64	$762.84	per dwelling unit
High Usage	$1,210.68	$1,247.04	$1,284.48	$1,323.00	$1,362.72	per dwelling unit
Non-residential (annual)						
Annual Fixed Charge [2]	$0.179	$0.184	$0.190	$0.196	$0.202	per sq. ft.
Volumetric Charge						
Low Strength	$7.36	$7.58	$7.81	$8.04	$8.28	per TGAL
Medium Strength	$8.87	$9.14	$9.41	$9.69	$9.98	per TGAL
High Strength	$13.56	$13.97	$14.39	$14.82	$15.26	per TGAL

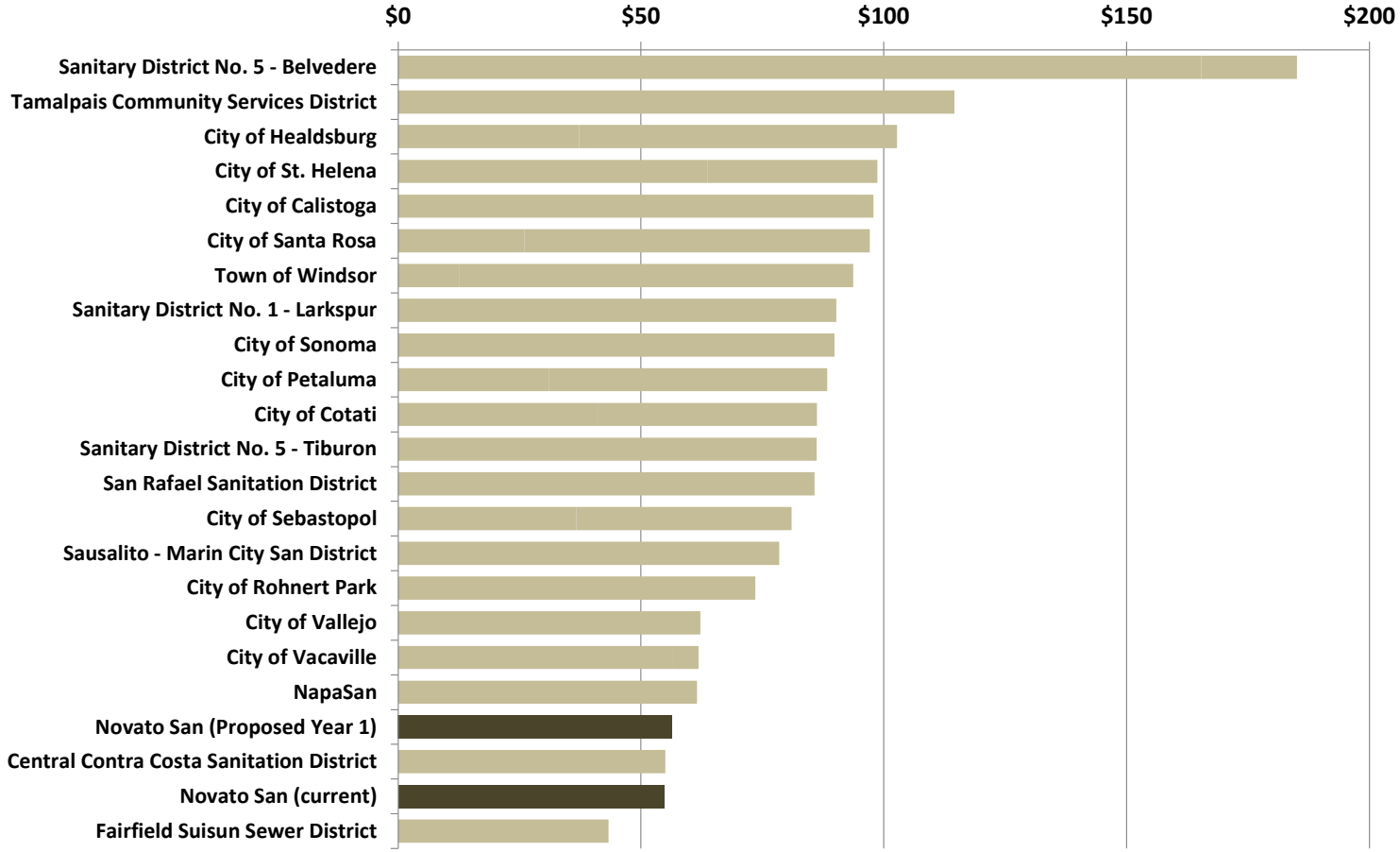
[1] While overall rate revenue will decrease, some customers will still experience an increase in their bill due to rate structure changes.

[2] Subject to additional flow factor multiplier as shown below.

Survey

Monthly Sewer Service Charges for Single Family Homes

(assumes 4.7 TGAL of winter water usage)



Schedule

1. Preliminary Presentation to Finance Committee – February 7
2. Present recommendations to Board – February 14
3. Present final recommendations to Board – March 14
4. Deadline to mail Prop 218 Notices – March 18
5. Hold Public Hearing – May 9
6. Implement Rates - July 1

Questions & comments