

City of Garden Ridge 2020 Water Rate Study

Presented By
City Water Commission
to
City Council
November 4, 2020

Background

- November 2019
 - City Council approved 14% water rate increase for 2020
 - City Council approved annual water rate study
- January 2020
 - New rates in effect for billing period 12/20/19 – 1/21/20 for 1/31/20 billing date
- Water & Wastewater Rates Analysis Model
 - Provided by University of North Carolina, Chapel Hill Environmental Finance Center
 - Used by Water Markets
- 2019 Water Study estimated a 16% increase for FY2021

Objective

- Full cost recovery / revenue stability
 - Operations & Maintenance
 - Debt service
 - Replenish Reserves
- Minimizes impact to low-volume users
- Encourages water conservation
- Allow for +/- 15% demand variation due to rain fall
- Follows a logical process and pattern
- Revenue = Expenditures + Reserve

Review of Current Rates

Current Rate Structure

	Start	End	Inside City Limits	Outside City Limits
Base	-	5,000	\$ 25.00	\$ 41.25
Tier 1	5,001	15,000	\$ 2.74	\$ 4.42
Tier 2	15,001	25,000	\$ 4.53	\$ 6.27
Tier 3	25,001	35,000	\$ 6.49	\$ 9.07
Tier 4	35,001	45,000	\$ 8.63	\$ 12.07
Tier 5	45,001	55,000	\$ 10.45	\$ 14.82
Tier 6	55,001	65,000	\$ 12.28	\$ 17.54
Tier 7	65,001	75,000	\$ 14.10	\$ 19.37
Tier 8	75,001	85,000	\$ 15.93	\$ 21.19
Tier 9	85,001	95,000	\$ 17.75	\$ 23.02
Tier 10	95,001	and over	\$ 19.57	\$ 24.84

Review Current Rates

Current Volumetric (Tier) Rate Structure

- No logical process or pattern
- Difference between tiers is not uniform but close to a straight line – see graph
- Alternate volumetric rate structure
 - Straight line mathematical model for current tiers
 - Inside City Limits > $Y=1.87X + 0.87$
 - Outside City Limits > $Y=2.27X + 2.15$

Review of Current Rates

Outside City Limits vs Inside City Limits

Outside City Limits:

- Rates are not consistent with Inside City Limits rates
- Rates are significantly higher than Inside City Limits
- Base rate is 2nd highest in the area
- Need to consider a uniform practice

Update Model Data

Changes to Model from FY2019

- Average consumption up 2.4M gallons per month
- Number of accounts up by 27
- Assumptions
 - Growth Rate: no change at 0.5%/yr
 - Projected Change in Avg Consumption: no change -1.0%/yr
 - Modeled Reduction in Avg Consumption after rate increase: no change at -1.0/yr
 - Cost Growth – 3.5% driven by personnel cost
- Water Fund Expenditures
 - Applied FY2020 Amended Budget and FY2021 Proposed Budget
- Water Fund Reserve
 - Proposed to replenish fund to 12 months O&M + Debt Service in 5 years (\$102,235 per year)

Proposed Water Rates

Base Rates

- 2020 WC Project to consider Commercial Rates
- Review of Area cities
 - Do not have commercial rates
 - Have base rates that vary by meter size
 - Tier rates same for all meter sizes
- Meter Size
 - $\frac{3}{4}$ " meters standard size for residential use
 - Larger meter sizes for commercial use

Proposed Water Rates

Base Rates

- Increase Base Rates by \$2.50 ($\frac{3}{4}$ " meter size)

	<u>Inside</u>
• Current	\$ 25.00
• New	\$ 27.50

- Add Base Rates for larger meter sizes

	<u>Inside</u>
• 1" meters	\$ 30.25
• 1½" meters	\$ 48.13
• 2" meters	\$ 55.00

Inside City Limits - Ten 1½" meters and Eight 2" meters
Outside City Limits - No large meters in service

Proposed Water Rates

Volumetric Tier Rate Structure

Uniform increase between tier rates with an exponential component

- Increase Tier 1 & Tier 2 using straight line model by **A%**
- Take the difference between Tier 1 and Tier 2 and increase by **B%**, then add to Tier 2 to obtain rate for Tier 3

$$\text{Tier 3} = (\text{Tier 2} - \text{Tier 1}) * (1 + \text{B}\%) + \text{Tier 2}$$

- Repeat for the remaining tiers with **B%** increase between tiers
- Referred in options as **A/B%**

Proposed Water Rates

Volumetric Rate Structure - Options

Option	Model	Inside City Limits		Outside City Limits		Net Revenue
		Base	Tiers	Base	Tiers	
0	No Change					- \$ 77,014
1	Current	+ \$2.50	Flat 4%	No Change	No Change	\$ 5,513
2	Straight Line	+ \$2.50	3% / 2%	No Change	No Change	\$ 4,224
3	Current	+ \$2.50	Flat 3.5%	+ \$2.50	Flat 3.5%	\$ 3,544
4	Straight Line	+ \$2.50	3% / 2%	+ \$2.50	3% / 2%	\$ 7,388
5	Straight Line	+ \$2.50	4% / 2%	ICL + 30%	ICL + 30%	\$ 6,826
6	Straight Line	+ \$2.50	3% / 2%	+ \$2.50	Same Δ ICL	\$ 6,144

Net Revenue Target ~ \$10,000 (0.6% of estimated revenue)

Proposed Water Rates

Total Cost

	Inside City						
Gallons	Current	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
5,000	\$ 25.00	\$ 27.50	\$ 27.50	\$ 27.50	\$ 27.50	\$ 27.50	\$ 27.50
10,000	\$ 38.70	\$ 39.36	\$ 41.61	\$ 41.68	\$ 41.61	\$ 41.75	\$ 41.61
15,000	\$ 52.40	\$ 53.73	\$ 55.72	\$ 55.86	\$ 55.72	\$ 56.00	\$ 55.72
30,000	\$ 130.15	\$ 135.30	\$ 136.21	\$ 136.33	\$ 136.21	\$ 137.83	\$ 136.21
50,000	\$ 301.15	\$ 314.85	\$ 311.31	\$ 313.32	\$ 311.31	\$ 314.06	\$ 311.31
75,000	\$ 617.20	\$ 646.72	\$ 643.29	\$ 640.43	\$ 643.29	\$ 649.27	\$ 643.29
100,000	\$ 1,051.85	\$ 1,103.08	\$ 1,116.30	\$ 1,090.29	\$ 1,116.30	\$ 1,126.87	\$ 1,116.30

	Outside City						
Gallons	Current	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
5,000	\$ 41.25	\$ 41.25	\$ 41.25	\$ 43.75	\$ 43.75	\$ 35.75	\$ 43.75
10,000	\$ 63.35	\$ 63.35	\$ 63.35	\$ 66.97	\$ 66.51	\$ 54.27	\$ 65.87
30,000	\$ 193.50	\$ 193.50	\$ 193.50	\$ 203.67	\$ 204.50	\$ 179.18	\$ 193.04
50,000	\$ 433.65	\$ 433.65	\$ 433.65	\$ 455.88	\$ 438.78	\$ 408.28	\$ 399.60
75,000	\$ 876.85	\$ 876.85	\$ 876.85	\$ 921.27	\$ 869.72	\$ 844.05	\$ 771.61
100,000	\$ 1,443.15	\$ 1,443.15	\$ 1,443.15	\$ 1,515.88	\$ 1,471.73	\$ 1,464.93	\$ 1,284.64

See Reference Slides section for complete tables

Water Rate Comparisons

Comparison Benchmark Cities – Inside City

Base Rate including 5,000 gallons	
Selma	\$ 14.80
Garden Ridge - current	\$ 25.00
Converse	\$ 27.05
New Braunfels Utility	\$ 29.88
Universal City	\$ 39.55
Schertz	\$ 39.81
SAWS	\$ 41.20
Shavano Park	\$ 50.99
Fair Oaks	\$ 56.69
Cibolo	\$ 58.00
Alamo Heights	\$ 126.58

Average Consumption – 17,000 gallons	
Selma	\$ 45.21
Garden Ridge - current	\$ 61.46
Converse	\$ 63.17
Universal City	\$ 72.12
Schertz	\$ 80.61
New Braunfels Utility	\$ 79.58
Shavano Park	\$ 91.79
Fair Oaks	\$ 109.05
SAWS	\$ 114.76
Cibolo	\$ 142.00
Alamo Heights	\$ 161.38

*Water cost only

**GR only city to include 5K gals with base rate

Water Rate Comparisons

Comparison Benchmark Cities – Inside City

Base Rate including 50,000 gallons	
Converse	\$ 178.10
Selma	\$ 183.95
Converse	\$ 178.10
Shavano Park	\$ 206.87
Schertz	\$ 238.35
Alamo Heights	\$ 250.78
New Braunfels Utility	\$ 300.46
Garden Ridge - current	\$ 301.15
Universal City	\$ 409.85
Cibolo	\$ 452.50
SAWS	\$ 591.04

Average Consumption – 100,000 gallons	
Converse	\$ 358.60
Alamo Heights	\$ 395.78
Schertz	\$ 478.85
Shavano Park	\$ 487.17
Selma	\$ 539.95
New Braunfels Utility	\$ 666.96
Fair Oaks Ranch	\$ 990.27
Garden Ridge - current	\$1,051.85
Cibolo	\$1,077.50
Universal City	\$1,240.35
SAWS	\$1,346.29

Water cost only

Water Rate Comparisons

Outside City - Benchmark Cities

Base Rate including 5,000 gallons	
Converse	\$ 31.15
Universal City	\$ 28.50
SAWS	\$ 39.57
Garden Ridge - Current	\$ 41.25
Schertz	\$ 58.44

Average Consumption – 10,000 gallons	
Converse	\$ 48.50
Garden Ridge – Current	\$ 63.35
SAWS	\$ 68.09
Universal City	\$ 34.84
Schertz	\$ 88.78

Base Rate including 50k gallons	
Converse	\$ 204.55
Universal City	\$ 414.61
Schertz	\$ 440.18
Garden Ridge - Current	\$ 433.65
SAWS	\$ 610.90

Average Consumption – 100k gallons	
Converse	\$ 412.55
Schertz	\$ 901.68
Universal City	\$ 1,245.11
SAWS	\$ 1,438.35
Garden Ridge - Current	\$ 1,443.15

Water cost only

Water Rate Comparisons Texas Municipal League

Water Rates Survey - 2020 Results

Average Cost for 10,000 gallons – includes fees and taxes	
574 Texas Cities reporting	\$65.47
Garden Ridge	\$42.33

Garden Ridge Ranking

For 10,000 gallons water consumption (where "1" is the lowest)		
State Wide	113 out of 574	19.7%
Cities under 5000 population	64 out of 365	17.5%
Cities between 2001 – 5000 population	19 out of 109	17.4%

Recommendation

Option 2

Option	Model	Inside City Limits		Outside City Limits		Net Revenue
		Base	Tiers	Base	Tiers	
0	No Change					- \$ 77,014
1	Current	+ \$2.50	Flat 4%	No Change	No Change	\$ 5,513
2	Straight Line	+ \$2.50	3% / 2%	No Change	No Change	\$ 4,224
3	Current	+ \$2.50	Flat 3.5%	+ \$2.50	Flat 3.5%	\$ 3,544
4	Straight Line	+ \$2.50	3% / 2%	+ \$2.50	3% / 2%	\$ 7,388
5	Straight Line	+ \$2.50	4% / 2%	ICL + 30%	ICL + 30%	\$ 6,826
6	Straight Line	+ \$2.50	3% / 2%	+ \$2.50	Same Δ ICL	\$ 6,144

Option 2 creates a logical pattern for tiers, increases conservation incentive and begins process to rationalize outside rates

Recommendation

Option 2 – Base Rates & Tier Rates

Base Rates		
Meter Size	Inside City Limits	Outside City Limits
3/4"	\$ 27.50	\$ 41.25
1"	\$ 30.25	\$ 44.00
1-1/2"	\$ 48.13	\$ 61.88
2"	\$ 55.00	\$ 68.75

Volumetric Rate Structure			
Start	End	Inside City Limits	Outside City Limits
5,001	15,000	\$ 2.82	\$ 4.42
15,001	25,000	\$ 4.75	\$ 6.27
25,001	35,000	\$ 6.71	\$ 9.07
35,001	45,000	\$ 8.72	\$ 12.07
45,001	55,000	\$ 10.76	\$ 14.82
55,001	65,000	\$ 12.85	\$ 17.54
65,001	75,000	\$ 14.97	\$ 19.37
75,001	85,000	\$ 17.14	\$ 21.19
85,001	95,000	\$ 19.35	\$ 23.02
95,001	and over	\$ 21.61	\$ 24.84

Effective

Billing Period: Dec 2020 – Jan 2021

Billing Date: Jan 31, 2021

Recommendation

Option 2 - Financial Analysis

Quick View

With the 'New' rates you selected, the model is projecting that the net revenue in FY2021 will be:

\$4,224

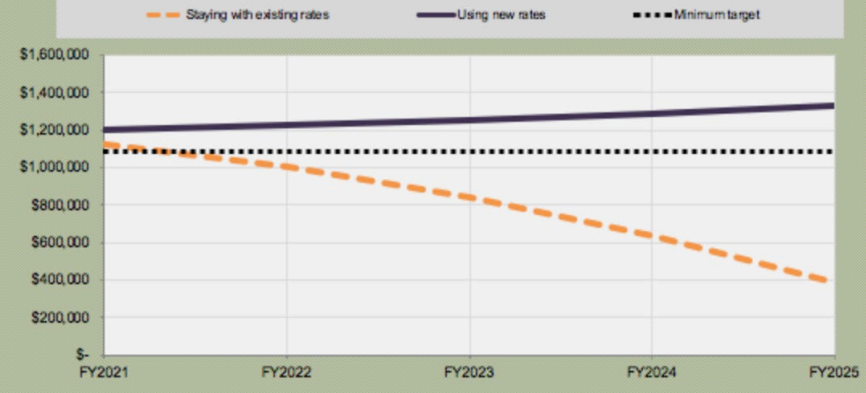
and the end-of-year fund balance will be

AT OR ABOVE the minimum target

Projected Total Annual Revenues in the Next Five Fiscal Years



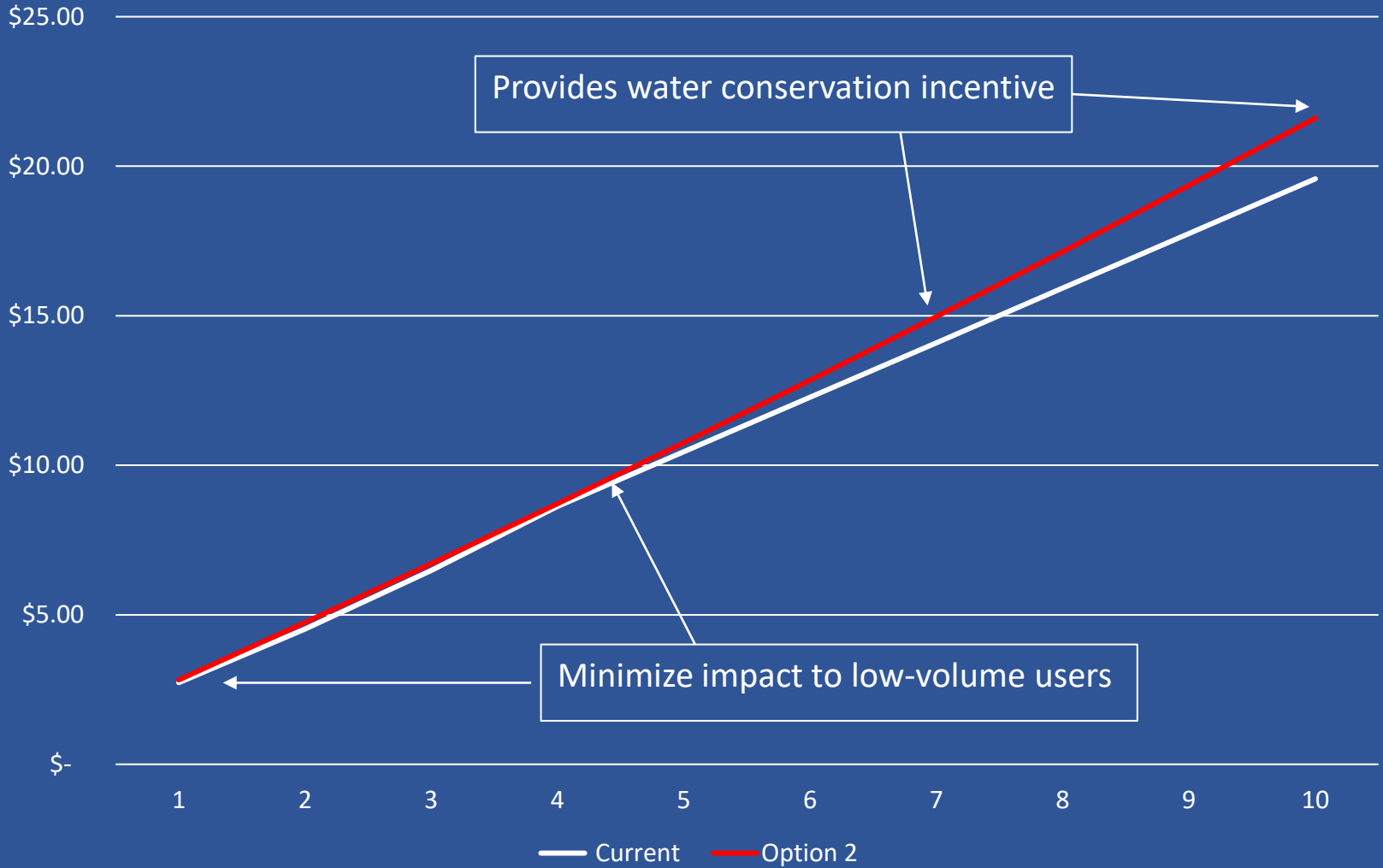
Projected End-of-Year Fund Balance in the Next Five Fiscal Years



	FY2021	FY2022	FY2023	FY2024	FY2025
Net revenues without changing rates (existing rates)	-\$76,422	-\$122,726	-\$163,444	-\$206,578	-\$246,115
Net revenues after changing rates (new rates)	\$4,224	\$7,592	\$17,017	\$24,700	\$36,660

FY2022 – 2025 Assume 3% rate increase year over year for reference only

Current vs Option 2 Inside City Limits



Alternate Consideration

Option	Model	Inside City Limits		Outside City Limits		Net Revenue
		Base	Tiers	Base	Tiers	
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1	Current	+ \$2.50	Flat 4%	No Change	No Change	\$ 5,513
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3	Current	+ \$2.50	Flat 3.5%	+ \$2.50	Flat 3.5%	\$ 3,544
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6	Straight Line	+ \$2.50	3% / 2%	+ \$2.50	Same Δ ICL	\$ 6,144
Alt	Straight Line	+ \$2.50	3% / 2%	+ \$2.50	No Change	\$ 6,578

Alternate is same as Option 2 but adds \$2.50 to the Outside City Base Rate

Alternate Consideration

Meter Size	Inside City Limits	Outside City Limits
3/4"	\$ 27.50	\$ 43.75
1"	\$ 30.25	\$ 46.50
1-1/2"	\$ 48.13	\$ 64.38
2"	\$ 55.00	\$ 71.25

Volumetric Rate Structure			
Start	End	Inside City Limits	Outside City Limits
5,001	15,000	\$ 2.82	\$ 4.42
15,001	25,000	\$ 4.75	\$ 6.27
25,001	35,000	\$ 6.71	\$ 9.07
35,001	45,000	\$ 8.72	\$ 12.07
45,001	55,000	\$ 10.76	\$ 14.82
55,001	65,000	\$ 12.85	\$ 17.54
65,001	75,000	\$ 14.97	\$ 19.37
75,001	85,000	\$ 17.14	\$ 21.19
85,001	95,000	\$ 19.35	\$ 23.02
95,001	and over	\$ 21.61	\$ 24.84

Effective

Billing Period: Dec 2020 – Jan 2021

Billing Date: Jan 31, 2021

Alternate Consideration

Option 2 vs Alternate

	Inside City		
Gallons	Current	Option 2	Alt
5,000	\$ 25.00	\$ 27.50	\$ 27.50
10,000	\$ 38.70	\$ 41.61	\$ 41.61
30,000	\$ 130.15	\$ 136.21	\$ 136.21
50,000	\$ 301.15	\$ 311.31	\$ 311.31
75,000	\$ 617.20	\$ 643.29	\$ 643.29
100,000	\$ 1,051.85	\$1,116.30	\$1,116.30

	Outside City		
Gallons	Current	Option 2	Alt
5,000	\$ 41.25	\$ 41.25	\$ 43.75
10,000	\$ 63.35	\$ 63.35	\$ 65.85
30,000	\$ 193.50	\$ 193.50	\$ 196.00
50,000	\$ 433.65	\$ 433.65	\$ 436.15
75,000	\$ 876.85	\$ 876.85	\$ 879.35
100,000	\$1,443.15	\$1,443.15	\$1,445.65