

City of Palm Valley, Texas

2021-2022

Water and Wastewater Rate Study



Prepared by:

Real Strategic Solutions

**CITY OF PALM VALLEY, TEXAS
WATER AND WASTEWATER RATE STUDY
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Acknowledgements

During this rate study, several City of Palm Valley officials expended considerable time and effort in assisting the project team. These officials included Mayor Rivera along with the City Council, Ms. Sylvia R. Trevino, Mr. Rosendo “Chendo” Flores and Mr. Jose Rivera. The project team owes a debt of gratitude to the hard work, dedication, and professionalism of these individuals without whom this project would not have been successfully completed.

The project team has relied upon the extensive data supplied by the City of Palm Valley. Thus, the integrity of the study is largely dependent upon the accuracy of this financial and customer data. The project team has made every effort to validate and confirm the information contained herein before preparing the final study documents. This report presents no assurance or guarantees that the forecast contained herein will be consistent with actual results or performances. These represent forecasts based on a series of assumptions about future behavior and are not guaranteed. Any changes in assumptions or actual events may result in significant revisions to the forecast and its conclusions. The cash flow projections and debt service coverage calculations are not intended to present overall financial positions, results of operations, or specific cash flows for the periods indicated.

Executive Summary



On November 9, 2021, the City of Palm Valley, Texas (the "City") engaged Real Strategic Solutions to conduct a comprehensive water and wastewater rate study.

The City was interested in developing a comprehensive rate plan for FY 2022 and beyond. The objective of this study was to develop a long-term rate plan that will enable the City to recover sufficient funds to meet operating expenses, capital outlays, debt service, and any potential coverage requirements, while at the same time minimizing the impact of any adjustments on its ratepayers.

The City identified numerous objectives for this study, including but not limited to the following:

- A detailed analysis and comparison of the City's current and proposed rates to rates in other surrounding communities.
- A forecast of operating expenses over the next decade, taking into consideration important factors such as cost of water and wastewater treatment, inflation, system improvements, and system growth.
- A thorough review of the water and wastewater systems' known capital improvement needs, as well as a determination of the need for funding capital requirements.
- An estimate of current and forecast accounts, volumes, and billing units for the ten-year forecast period.
- An analysis of alternative rate structures for water and wastewater rates that will recover sufficient revenues and will distribute costs equitably.
- A comprehensive analysis and evaluation of the water and wastewater systems' current cost of service and revenue requirements.

Mr. Dan Serna and Mr. David Garcia met with city staff and compiled information relevant to the study. Of particular interest is the fact that the City of Palm Valley pays the nearby utility of Harlingen Waterworks (HWWS) for its water and so the rates Palm Valley charges its customers are dependent on the amount paid to HWWS annually. In our discussion with HWWS it was expressed to us that rate adjustments are scheduled to take place in the near future.

RSS has prepared a forecast analysis of what the annual budget would look like for the water and wastewater departments in the next ten years and has concluded that annual rate increases are warranted to ensure Palm Valley continues to operate and meet its financial obligations to its residents and customers.

During the research analysis the team of RSS was able to uncover a major vulnerability in what we describe as revenue water vs. non-revenue water. After reviewing the billing statements over a one to two year period, we uncovered a substantial amount of water loss occurring. Because of this, the City was being charged for a certain amount of water on a monthly basis but not all of the water charged could be sold back to the ratepayers for usage. To give you an example: in January of 2021, the City paid for 10,315,000 gallons but was only able to charge for 8,121,000 of water consumed. The remaining 2,194,000 was attributed to water loss and in essence non-revenue for the City. Over the course of each month and year, this water loss is significant because it cannot be recouped in terms of revenue to the City. City staff is already addressing this matter and working to stop the leakage where a majority of the water loss is occurring.

As part of this executive summary the RSS team was able to review various neighboring communities and their rate structures. After a thorough review, we focused intently on the City's wastewater structure and how it differentiates from all the other cities. We did not find one entity that charges a per-drain fee like the City of Palm Valley does today.

We are recommending a change to move from a per drain fee to a consumption-based structure for sewer rates. We believe, and the City Council concurred in our workshop, that this is a far more equitable and manageable approach from a long-term perspective. Our study recommends a sewer base rate per Unit (single-family) with that change occurring immediately. For multi-family structures, the per unit base fee would be multiplied by the number of rental units on each meter.

For the city's Water rates, RSS recommends an annual increase starting at 2% the first year and 3% every year thereafter for ten years. This charge will keep you competitive and allow you to hold some monies in reserve for maintenance and improvement purposes.

Finally, we are recommending to increase fees in two categories. The reconnect fee should go up \$50 to reflect \$100 and we recommend the backflow fee increase from \$50 to \$75.

We appreciate the opportunity to work with you and your staff and we thank you for the confidence to provide you this important study.

Introduction and Demographic Profile

Background

The City of Palm Valley, Texas is located just west of Harlingen, Texas off of Stuart Place Rd. Adjacent to the Harlingen Country Club in a bustling part of northern Cameron County. The City of Palm Valley is a Type A General Law municipality and is governed by a six-member City Council, including the Mayor. The City is administered with the assistance of an appointed City Secretary and professional staff.

Report Organization

This report is organized into the following sections:

Section I – Introduction and Demographic Profile - outlines the background, objectives, and scope of this comprehensive rate study. It also presents the City's current rate structure and a community profile of the City of Palm Valley. This includes a comparison of the City's water and wastewater charges with other Texas cities.

Section II – Water and Wastewater Test Year and Forecast Volumes – analyzes the City's customer base, total accounts, and current volumes of treated water and wastewater. This section presents totals for the current year and forecasts ten years into the future.

Section III – Water and Wastewater Test Year and Forecast Revenue Requirement – outlines the process of analyzing the City's current water and wastewater utility cost structure. The total current or "test year" revenue requirements are developed, and costs are functionalized between water costs, administration, and customer billing. Using the test year as a basis, costs are forecast for a ten-year period.

Section IV – Water and Wastewater Rate Design – presents the Commission-approved rates for the City of Palm Valley. The plan is intended to allow the City to recover its full cost of service. This section also presents an analysis of the impact the rate plan will have on residential and non-residential customers.

Appendix A – presents an electronic copy of the interactive Microsoft Excel spreadsheet model summary of the proposed rate scenario alternatives which automatically generates all calculations based on a set of defined user inputs for city staff to develop real-time "what-if" scenarios. This alternative was developed to calculate water and wastewater current and future revenue requirements.

City Overview

Palm Valley is a city where people want to live, work and play. Once considered a retirement community there are people of all ages and backgrounds that want to come live in this attractive city. In 1990, the population of Palm Valley stood at approximately 1,199 residents and thirty years later in 2020 it is 1,413 based on the latest census figures. The amount of utility customers has been steady and there is limited development available within the city limits of the city.

Palm Valley is within the Harlingen public school district but is serviced by great private schools. It is also within thirty minutes of two universities affiliated with the University of Texas System as well as TSTC in Harlingen.

Palm Valley sits right on the edge of the Harlingen city limits. Due to its proximity to the highway, Palm Valley is minutes away from many of the area attractions both in Cameron and Hidalgo County. There is something for everyone whether its hike and bike trails, bird watching, fishing, recreation such as golf and tennis or shopping at the nearby outlet mall or Bass Pro Shops. We can't forget beautiful South Padre Island which is just a hop and a skip away.

Palm Valley continues to thrive and offer its residents excellent customer service and security. Residents of This quaint community are on a first name basis with the city's leadership and administration. The city police provides topnotch patrol service and are available to its residents within minutes.

The utilities (water and electricity) are provided to its residents at competitive rates and are at or below the rates of surrounding cities. Palm Valley also funds city services with a property tax valuation that it approves every year along with its annual budget.

The water and wastewater rate study included reviews of other neighboring water and wastewater rates, current, and future city utility budgets, water/wastewater costs including operations and maintenance and potential capital improvement set-asides.

Water and Wastewater Current Rates

Table I-1 summarizes the City of Palm Valley's current water and wastewater rate structure. The City last adjusted its rates in 2017.



CURRENT WATER & WASTEWATER RATE STRUCTURE

Current Water Rates

- Monthly service charge is a base fee of 0-4,000 gallons at \$18.50
- Additional charge of \$2.65 per thousand over base

Current Wastewater Rates

- The city charges a sewer rate based on the amount of drains.
- Each drain is \$2.50 per
- Average of 13 drains per unit

Water and Wastewater Rate Comparison


The following Table compares the City's recommended monthly water and wastewater charges to nearby cities in Texas. Volumes of 10,000 gallons for both water and wastewater were used for the residential comparison as it represents typical usage levels for a household. The rate data is based on published rates and ordinances posted by each municipality on their website or collected by RSS. The following points are notable:

- Palm Valley currently has well below average charges for combined monthly water and wastewater service for similar cities in south Texas.
- For 10,000 gallons of water and wastewater usage, Palm Valley's residential charges are significantly below the state average for small communities.
- It should be noted that according to US governmental statistics, as many as 30% of water and wastewater utilities charge rates that do not cover their operational costs. Therefore, if a utility has low rates, this does not necessarily translate into low costs.

RECOMMENDED CITY OF PALM VALLEY RATES MONTHLY RESIDENTIAL COMPARISON

	2020 Population	10,000 Gallons Water	10,000 Gallons Wastewater	Total
Palm Valley	1,413	\$36.62	\$33.50	\$70.12
Harlingen	71,829	\$25.63	\$43.88	\$69.51
Primera	5,243	\$39.67	\$42.55	\$82.22
Combes	2,999	\$39.10	\$29.00	\$68.10
San Benito	24,861	\$43.33	\$34.93	\$78.26
Lyford	2,249	\$58.20	\$25.00	\$83.20
Mercedes	16,258	\$62.20	\$25.95	\$88.15

Illustration from Presentation to City of Palm Valley City Council on Comparison of Rates.



Monthly Residential Charge Comparison 10,000 Gallons Water and Wastewater


Rate Comparison per 10000 gallons	water	sewer	combined	proposed using sewer charges based on consumption		
				water	sewer	combined
City of Palm Valley						
Residential / single family	\$35.90	\$25.00	\$60.90	\$36.62	\$33.50	\$70.12
Residential/ Multi-Family Business	\$35.90	\$25.00	\$60.90			
*City of Primera						
Residential / single family	\$39.67	\$42.55	\$82.22			
Residential/ Multi-Family Business						
Commercial						
City of San Benito						
Residential / single family				\$43.33	\$34.93	\$78.26
Residential/ Multi-Family Business						
Commercial						
Town of Combes						
Residential / single family 3/4" line	\$39.10	\$29.00	\$68.10			
Commercial 3/4" line	\$57.40	\$29.00	\$86.40			
Commercial (1" line)	\$69.90	\$29.00	\$98.90			
***City of Lyford						
Residential / single family				\$58.20	\$25.00	\$83.20
Residential/ Multi-Family Business						
Commercial				\$83.70	\$47.50	\$131.20
City of Mercedes						
Residential / single family (ICL)	\$62.20	\$25.95	\$88.15			
Residential / Single Family (OCL)						
Residential/ Multi-Family Business	\$69.84	\$39.90	\$109.74			
Commercial	\$105.79	\$59.88	\$165.67			
** City of Harlingen						
Residential / single family (ICL)				\$25.63	\$43.88	\$69.51
Residential / Single Family (OCL)				\$40.49	\$58.20	\$98.69
Residential/ Multi-Family Business						
Commercial						

Notes:

* Primera is based on a 5/8" water line

** Harlingen is based on a 1" water line

*** Lyford residential based on 3/4" meter and 1" commercial meter



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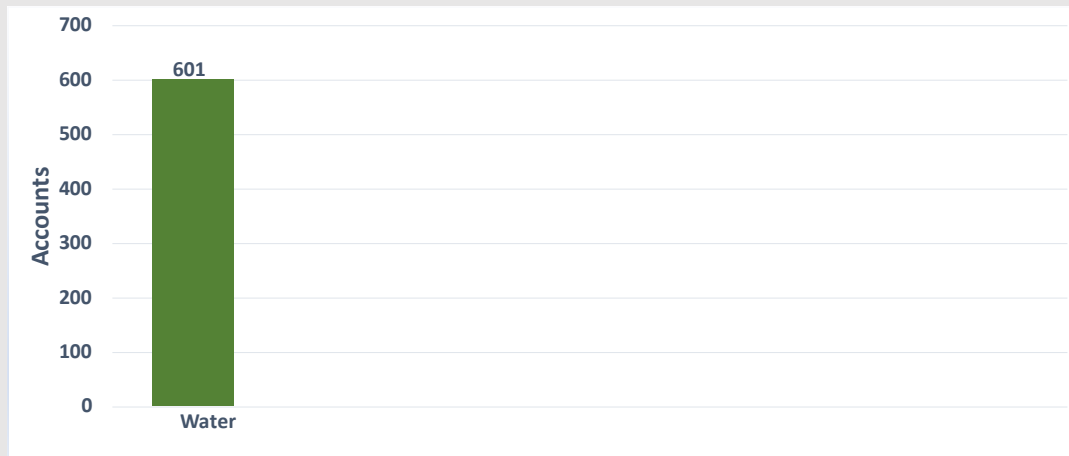
Based on potential annual increases as recommended, the average annual cost to the customer will still be significantly lower or comparable to neighboring cities. It is our belief that rates will increase due to inflation and other factors.

CITY OF PALM VALLEY WATER CUSTOMERS

Total Water Accounts



2021 WATER ACCOUNTS



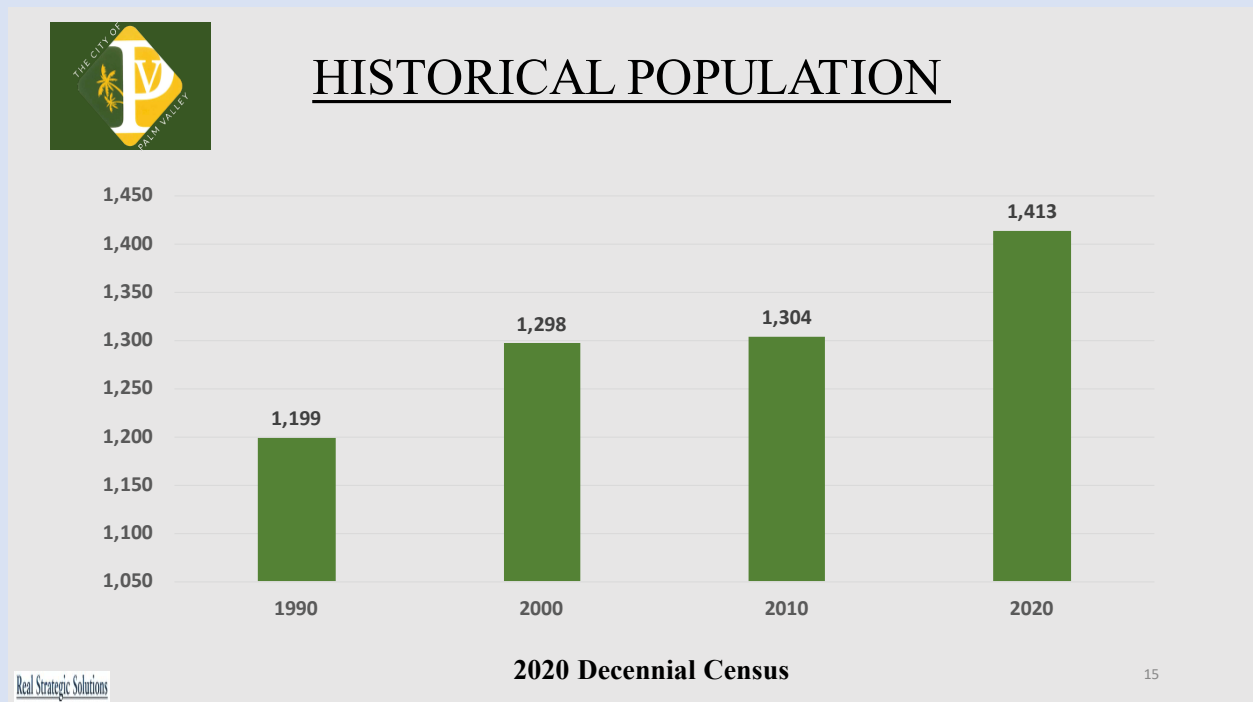
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The water accounts in the City of Palm Valley have remained stationary. We do not anticipate any significant increase in accounts over the next ten years due to limited development. This is an important reason for the need to review and adjust water and wastewater rates annually. If accounts remain the same and rates are not adjusted adequately, the city is prone to utility budget deficits.

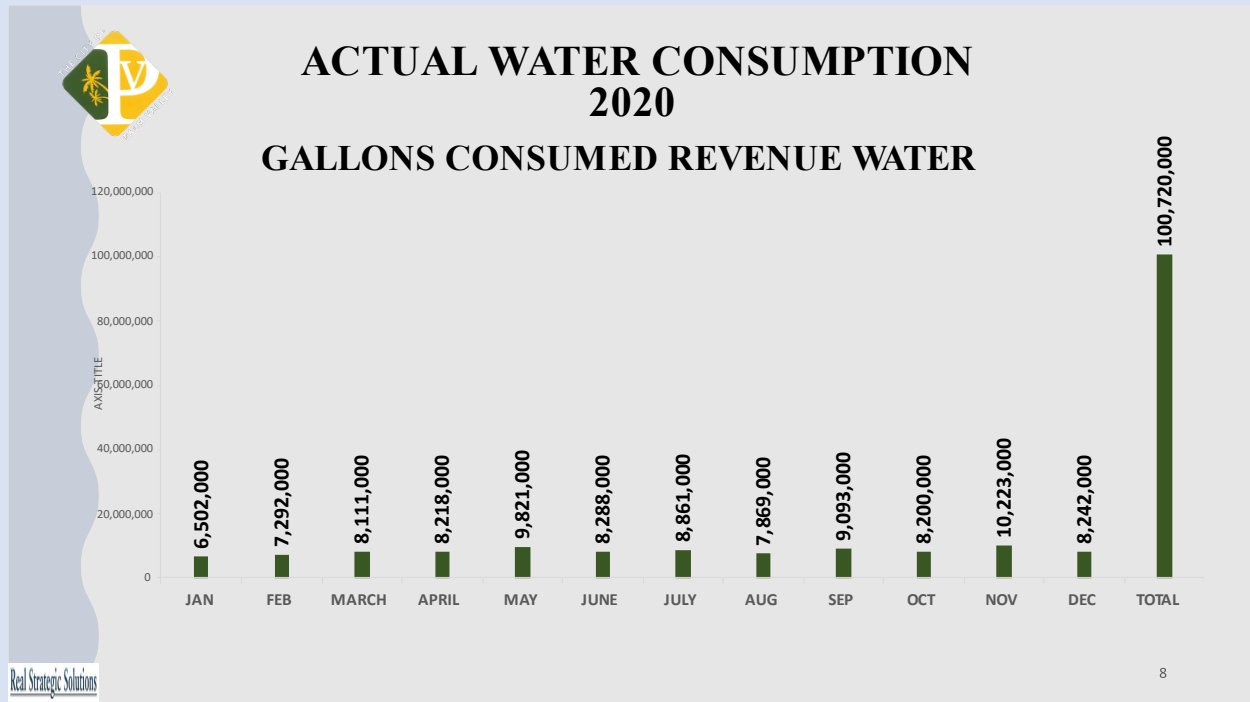
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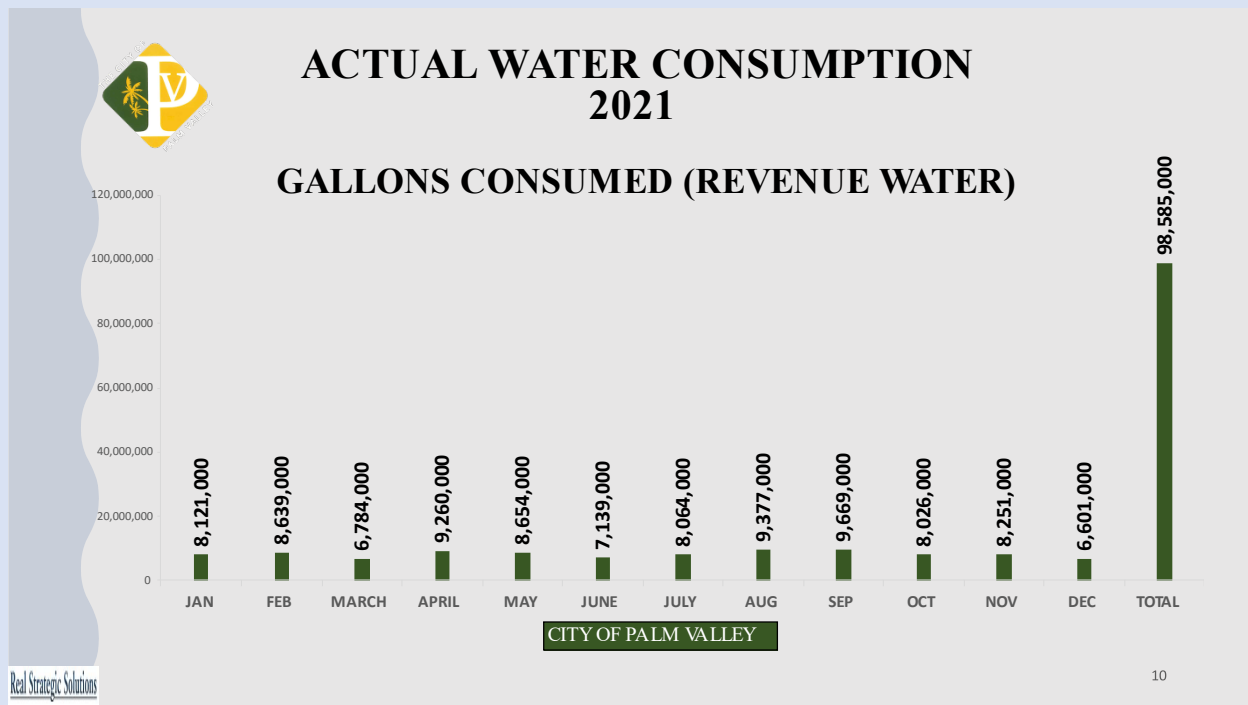
CITY OF PALM VALLEY POPULATION



The populations in the City of Palm Valley has grown steadily. We do not anticipate any significant increase in populations over the next ten years due to limited development. This is an important reason for the need to review and adjust water and wastewater rates annually. If accounts remain the same and rates are not adjusted adequately, the city is prone to utility budget deficits.

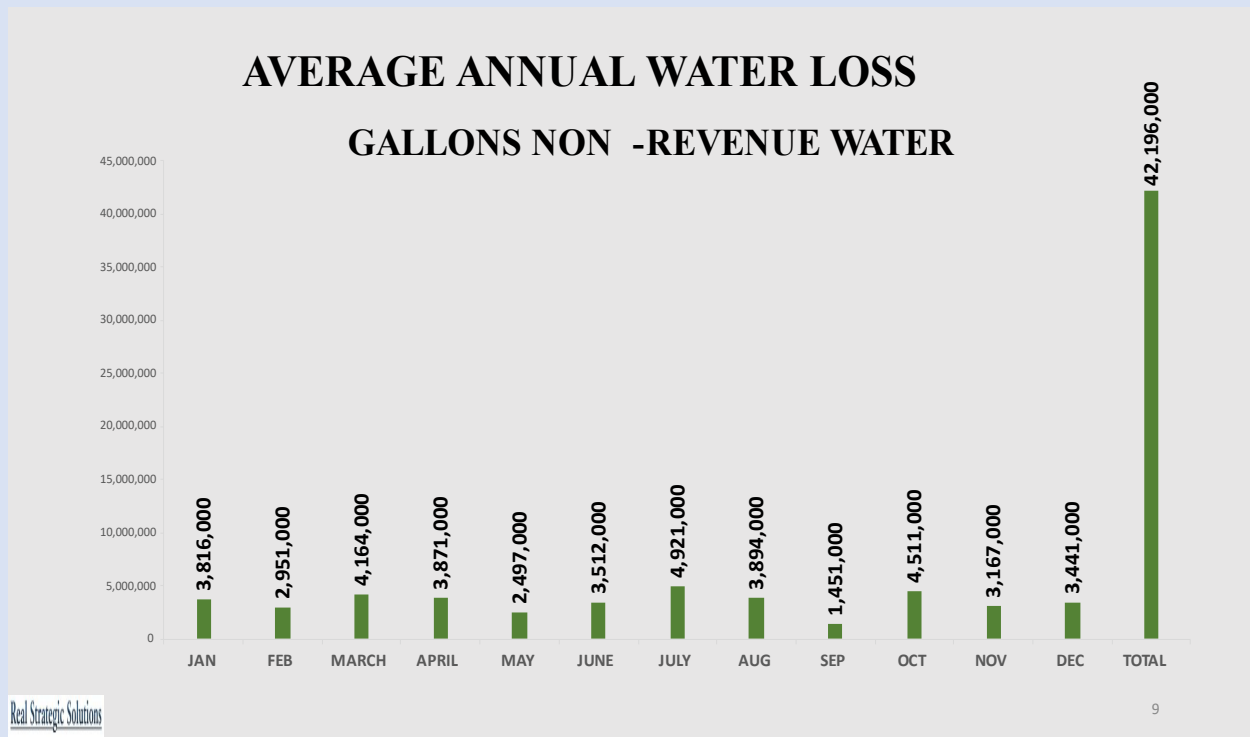
Historical Water Consumption



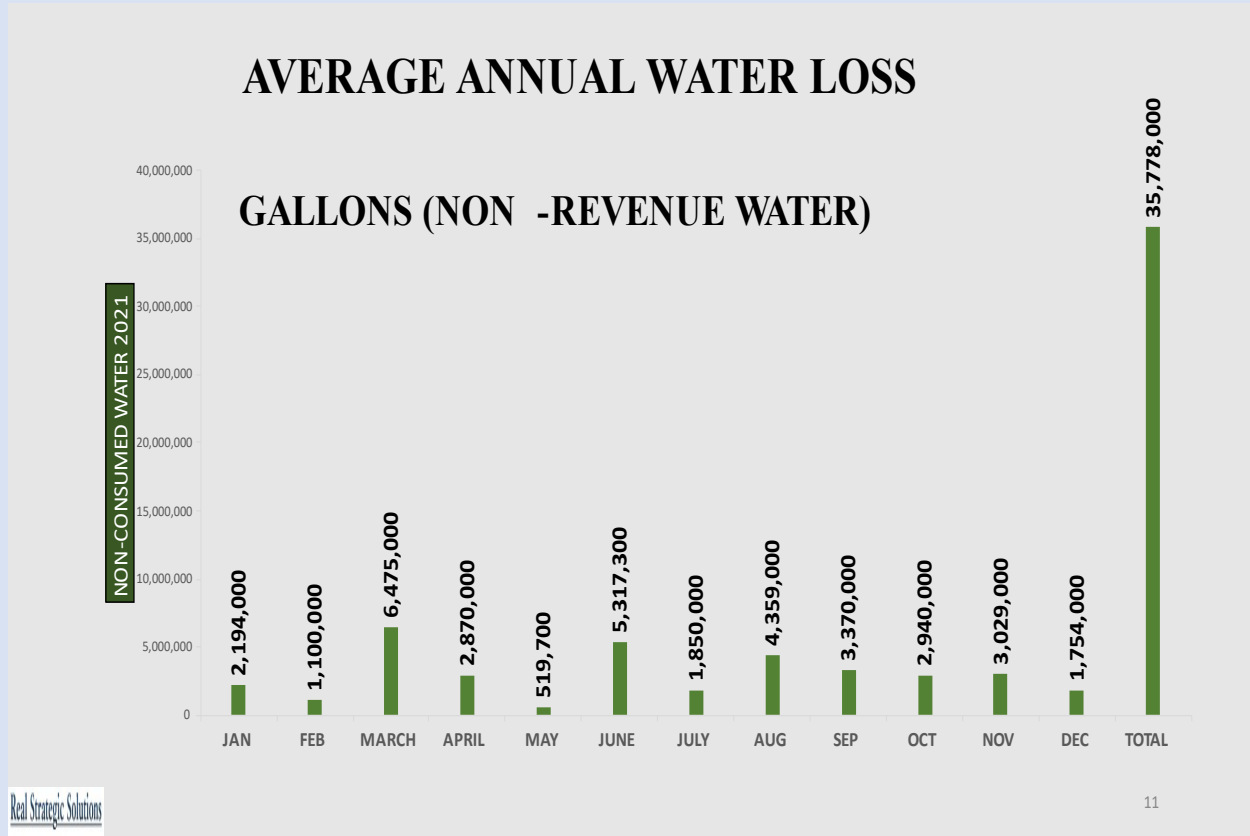


The figures above present historical water consumption for the City for the Fiscal Years 2020 and 2021. It is anticipated that water consumption levels will remain at or close to 2020 and 2021 levels. The city receives its water from Harlingen Waterworks and a new contract with new rates for its customers is also anticipated in the near future.

Water Loss in 2020 and 2021



In our findings we discovered a significant annual water loss which represented almost 42% of your 2020 water consumption. What this represents is an inability for the City of Palm Valley to charge for this water which the city is paying Harlingen Waterworks for in essence becoming non-revenue water.

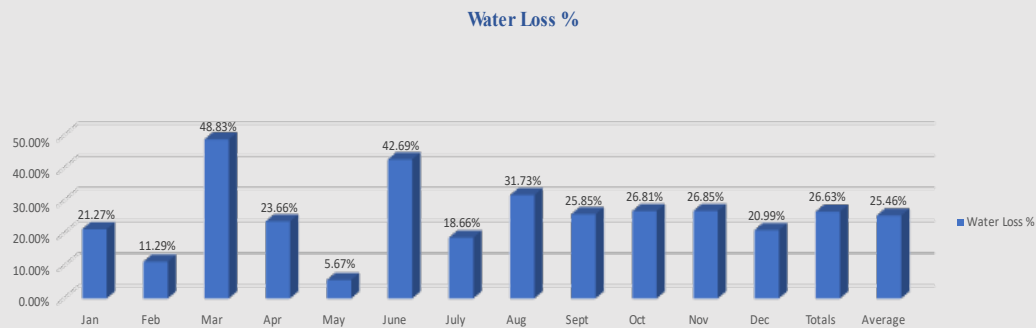


In our findings we discovered a significant annual water loss which represented almost 37% of your 2021 water consumption. What this represents is an inability for the City of Palm Valley to charge for this water which the city is paying Harlingen Waterworks for in essence becoming non-revenue water.

Percentage of Water loss in 2021 (year of review)



City of PalmValley Percentage Water Loss (2021)



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In this illustration you can see the monthly percentage of water loss. It is important to note that city staff, once made aware of this situation, reviewed all areas of the city for potential leaks and found and rectified the problem. It will be just as important for staff to review and reconcile all statements so that water coming to the city from its partners at Harlingen Waterworks is actually being billed back to the city's consumers.

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CITY OF PALM VALLEY

RECOMMENDED WATER AND WASTEWATER RATE SCHEDULE

Year Rates are Effective

	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26	Oct 27	Oct 28	Oct 29	
WATER Monthly Charge -- 1st 4,000 Gallons									
	\$18.50	\$18.87	\$19.44	\$20.02	\$20.62	\$21.24	\$21.88	\$22.53	\$23.21

**WATER Volume Charge -- per 1,000 Gallons
4,001 - 10,000**

	\$2.65	\$2.70	\$2.78	\$2.87	\$2.95	\$3.04	\$3.13	\$3.23	\$3.32
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WASTEWATER -- Residential Charges**Base Rate per Unit - Year Rates are Effective**

Apr 22	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26	Oct 27	Oct 28	Oct 29
\$21.00	\$21.00	\$21.00	\$21.00	\$21.63	\$22.28	\$22.95	\$23.64	\$24.34

WASTEWATER Volume Charge -- per 1,000 Gallons

	\$1.25	\$1.25	\$1.25	\$1.25	\$1.29	\$1.33	\$1.37	\$1.41	\$1.45
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Changes to Residential Rates by Category

Proposed Rate Structure Residential		FY2021/22 Cost per 10K gal				FY2022/23 Cost per 10K gal				FY2023/24 Cost per 10K gal.		
Base Fee 0-4000 gallons	0.00%	\$0.00	\$18.50	\$18.50	2.00%	\$0.37	\$18.87	\$18.87	3.00%	\$0.5661	\$19.44	\$19.44
Charge per 1000 over base	0.00%	\$0.00	\$2.65	\$15.90	2.00%	\$0.05	\$2.70	\$16.22	3.00%	\$0.0811	\$2.78	\$16.70
Sewer Base rate	0.00%	\$0.00	\$21.00	\$21.00	0.00%	\$0.00	\$21.00	\$21.00	0.00%	\$0.0000	\$21.00	\$21.00
Sewer Rate per 1000 gallons over base	0.00%		\$1.25	\$12.50			\$1.25	\$12.50	0.00%	\$0.0000	\$1.25	\$12.50
Fuel Adjustment/per 1000	0.00%	\$0.00	\$0.15	\$1.50	2.00%	\$0.00	\$0.15	\$1.53	3.00%	\$0.0046	\$0.16	\$1.58
				\$69.40				\$70.12				\$71.22
		FY2024/25 Cost per 10K gal.				FY2025/26 Cost per 10K gal.				FY2026/27 Cost per 10K gal.		
	3.00%	\$0.5831	\$20.02	\$20.02	3.00%	\$0.6006	\$20.62	\$20.62	3.00%	\$0.6186	\$21.24	\$21.24
	3.00%	\$0.0835	\$2.87	\$17.21	3.00%	\$0.0860	\$2.95	\$17.72	3.00%	\$0.0886	\$3.04	\$18.25
	0.00%	\$0.0000	\$21.00	\$21.00	3.00%	\$0.6300	\$21.63	\$21.63	3.00%	\$0.6489	\$22.28	\$22.28
	0.00%	\$0.0000	\$1.25	\$12.50	3.00%	\$0.0375	\$1.29	\$12.88	3.00%	\$0.0386	\$1.33	\$13.26
	3.00%	\$0.0047	\$0.16	\$1.62	3.00%	\$0.0049	\$0.17	\$1.67	3.00%	\$0.0050	\$0.17	\$1.72
				\$72.35				\$74.52				\$76.75
		FY2027/28 Cost per 10K gal.				FY2028/29 Cost per 10K gal.				FY2029/30 Cost per 10K gal.		
	3.00%	\$0.6372	\$21.88	\$21.88	3.00%	\$0.6563	\$22.53	\$22.53	3.00%	\$0.6760	\$23.21	\$23.21
	3.00%	\$0.0913	\$3.13	\$18.80	3.00%	\$0.0940	\$3.23	\$19.37	3.00%	\$0.0968	\$3.32	\$19.95
	3.00%	\$0.6684	\$22.95	\$22.95	3.00%	\$0.6884	\$23.64	\$23.64	3.00%	\$0.7091	\$24.34	\$24.34
	3.00%	\$0.0398	\$1.37	\$13.66	3.00%	\$0.0410	\$1.41	\$14.07	3.00%	\$0.0422	\$1.45	\$14.49
	3.00%	\$0.0052	\$0.18	\$1.77	3.00%	\$0.0053	\$0.18	\$1.83	3.00%	\$0.0055	\$0.19	\$1.88
				\$79.06				\$81.43				\$83.87

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RATE RECOMMENDATION - IMPACT OF RESIDENTIAL WATER AND WASTEWATER MONTHLY CHARGES

Year Rates are Effective

Current	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26	Oct 27	Oct 28	Oct 29
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BASE WATER Monthly Charge -- 1st 4,000 Gallons

\$18.50	\$18.87	\$19.44	\$20.02	\$20.62	\$21.24	\$21.88	\$22.53	\$23.21
Increase	\$0.37	\$0.57	\$0.58	\$0.60	\$0.74	\$0.64	\$0.65	\$0.68
Annually	\$4.44	\$6.84	\$6.96	\$7.20	\$8.88	\$7.68	\$7.80	\$8.16

WATER Volume charge – per 1,000 gallons

\$2.65	\$2.70	\$2.78	\$2.87	\$2.95	\$3.04	\$3.13	\$3.23	\$3.32
Increase	\$0.05	\$0.08	\$0.09	\$0.08	\$0.09	\$0.09	\$0.10	\$0.09
Annually	\$0.60	\$0.96	\$1.08	\$0.96	\$1.08	\$1.08	\$1.20	\$1.08

WASTEWATER monthly charge Per Unit

April 22	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26	Oct 27	Oct 28	Oct 29
\$21.00	\$21.00	\$21.00	\$21.00	\$21.63	\$22.28	\$22.95	\$23.64	\$24.34

WASTEWATER Volume Charge -- per 1,000 Gallons

\$1.25	\$1.25	\$1.25	\$1.25	\$1.29	\$1.33	\$1.37	\$1.41	\$1.45
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Other Fees

Other Charges Being Recommended



Late Penalty Fee	10%					
Activation Fee	\$50.00		0.00%	\$0.00	Increase \$0.00	\$50.00
Reconnect	\$50.00		0.00%	\$0.00	\$50.00	\$100.00
Services after 5:00 p.m. (for disconnects/non - payment)	\$75.00		0.00%	\$0.00	\$0.00	\$0.00
Returned Check Fee	\$30.00					
Tampering Fee	\$100.00		0.00%	\$0.00	\$0.00	\$100.00
Meter Removal/reset fee	\$50.00		0.00%	\$0.00	\$0.00	\$50.00
Lock Fee (illegally cutting lock)	\$100.00		0.00%	\$0.00	\$0.00	\$100.00
Straight Connect	\$300.00		0.00%	\$0.00	\$0.00	\$300.00
Backflow Prevention program	\$50.00	400	0.00%	\$0.00	\$25.00	\$75.00

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RSS also recommends to City Council that reconnect and backflow prevention program fees be adjusted. We recommend the changes in the illustration above. City Council has conditionally approved and will adopt this new fee at a subsequent meeting.

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Water and Wastewater Rate Recommendations

The project team and City staff evaluated alternative rate plans during the course of this engagement. After a series of meetings and discussions, the project team presented the recommended rate plan to the City Commission in January 2022. Prior to these meetings, additional alternatives were evaluated by staff and the project team. At a subsequent City Commission regular meeting, the City was presented with an update from RSS and a series of potential recommendations. Those recommendations were adopted and an ordinance is being adopted for the new rates to take effect immediately. The City Council reviewed and approved a rate adjustment that is intended to accomplish the following objectives:

- The plan will ensure that water rates will cover the water cost of service and wastewater rates will cover the wastewater cost of service.
- We have maintained the City of Palm Valley's existing water rate structure and recommend revising the sewer rate structure based on consumption to reflect a sewer base rate per unit and a fee per 1,000 gallons consumed.
- The rate plan presents a forecast of rates for ten years. City staff and the project team discussed the adoption of a rate plan, with rates to be automatically implemented on October 1 of each year, beginning with October 2022 and ending in October 2029. The City Commission reserves the right to reevaluate the rates at any time.
- Given there is essentially no residential and non-residential growth in the City and the potential for unexpected events, the project team recommends that the City not commit itself to a rate plan beyond five years. Further, the project team suggests that the City periodically review these rates each year to incorporate any significant changes to costs, volumes, or growth assumptions that may occur during that time.
- Should the City make material changes to its project forecasts, the City should undertake an immediate review of its rate plan.

Summary

- Most operating costs are expected to increase at an annual rate of 3.0%, which is approximately equivalent to the rate of inflation.
- Certain expenses will increase at above-inflation rates to reflect the rapid pace of increase of these costs. These expenses include chemicals, workers' compensation, Medicare, and insurance.
- The City of Palm Valley staff provided guidance on inflation factors that were then applied within the model.
- Utility Billing Costs are generally allocated 50/50 to water and wastewater based on FY 2021 budgeted revenues unless otherwise indicated within the budget.
- As shown in these spreadsheets and charts, wholesale water purchases and contracted wastewater treatment charges are the most significant annual expense paid by Palm Valley's water and wastewater utilities. The project team utilized the most recent information available from Harlingen as the basis for these line-item cost estimates. Any changes in forecast rate estimates used in determining the City's water and wastewater revenue requirement for this rate study could require significant changes to the rate plan presented in this report.

THANK YOU!



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