Economic Impact Study
Related to the Annexation of the
Council Grove City Lake Area

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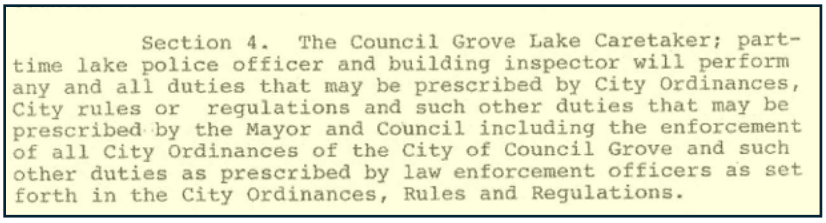
Executive Summary

The annexation of the Council Grove City Lake area presents a significant opportunity to unify governance, enhance public services, and secure economic sustainability. Evolving from a seasonal recreation area into a diverse residential community, the lake area now includes a mix of modest homes and high-value properties. Annexation will allow the City of Council Grove to provide consistent municipal services, distribute tax responsibilities equitably, and implement long-term growth strategies that benefit both city and lake residents.

Introduction

Annexing the City Lake area into Council Grove has been a topic of discussion for decades. The potential annexation process would formalize the longstanding economic and social relationship between the city and the lake community, addressing challenges such as fragmented governance and inconsistent service delivery. It also presents a transformative opportunity to position Council Grove for long-term sustainability and growth, creating a stronger, more unified community. The idea of this integration of lake residents and City of Council Grove isn't new. Ordinance 1770 (passed 32 years ago) describes the position of Lake Caretaker; Part-Time Lake Police Officer; Building Inspector and their duties. Section #4 of that Ordinance reads



Section 4. The Council Grove Lake Caretaker; part-time lake police officer and building inspector will perform any and all duties that may be prescribed by City Ordinances, City rules or regulations and such other duties that may be prescribed by the Mayor and Council including the enforcement of all City Ordinances of the City of Council Grove and such other duties as prescribed by law enforcement officers as set forth in the City Ordinances, Rules and Regulations.

Since that point in time many ordinances have been passed that have been treated as regulations(requirements) on the lake and its residents as if the City Lake was part of the city(annexed). Yet the lake is not an annexed portion of the city. The roads system at the lake is considered a collection of trails and as such are maintained by the city even though this is an unincorporated area of Morris County. Those trails in truth would be better described as gravel roads. The platting of these roads is currently underway. The map on the following page offers you an aerial view of a subsection of the lake showing what is better described as a county road system.

Enhanced Municipal Services

A primary benefit of annexation is the extension of municipal services to the lake area. Currently, residents rely on individual septic systems and limited infrastructure. Annexation would allow the city to provide reliable water, sewer, and road maintenance services, improving the quality of life for residents while addressing environmental risks associated with aging infrastructure. Integrated municipal services reduce costs and protect natural resources, such as the lake itself, from potential contamination.

An Item of Concern – Septic Systems, Water Wells and the Lake

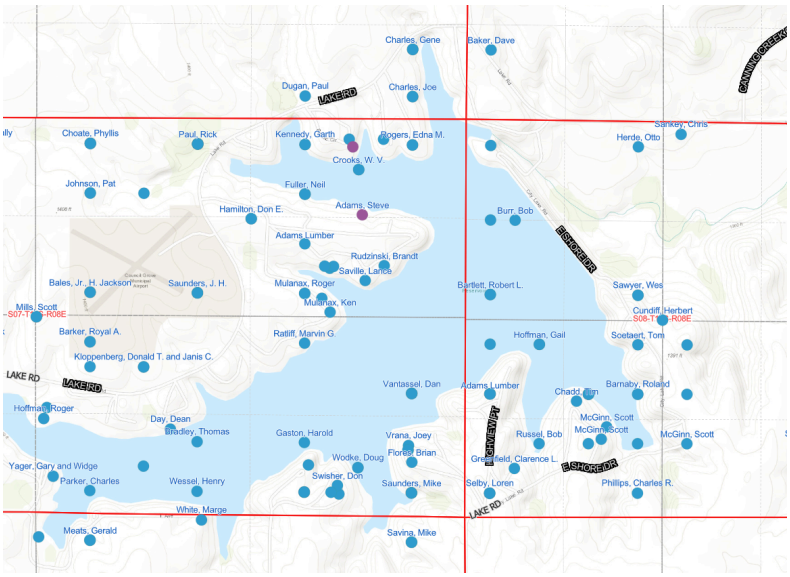
*The **Kansas Geological Survey – Water Wells (WWC5)** data indicates that there are **over 100 water wells** at Council Grove City Lake, along with **approximately 350 septic systems** operating in proximity. This results in **450 potential points of failure**, as each septic system has the potential to introduce contaminants, and each well serves as a point of vulnerability. The risk is not merely cumulative; contamination from one failing system could spread, leading to broader water quality concerns. Given that the land is owned by the city, addressing a contamination event would require coordinated action and responsibility.*

*A review of **City Lake Parcel records** shows that in many cases, the **distance between septic systems and water wells is below the recommended 100-foot separation** advised by the **Kansas Department of Health and Environment (KDHE)**. Additionally, under **current Kansas law, private water well testing is not mandatory** testing is left to the discretion of the well owner. If contamination occurs, it raises the question of **who is responsible for notification and remediation**. For residents at the lake, it is unclear whether there is an obligation to inform neighboring property owners if a well becomes contaminated.*

*Historically, the risk level was lower when the lake area consisted primarily of **seasonal cabins in the 1950s and 1960s**, as development was significantly less dense than it is today. Recognizing the potential risks, both **CGCLA and the City have implemented measures to address water quality concerns**, including a series of **ordinances (1776,***

***1820, 2067, 2081, 2095, and 2143)**, which are accessible on the **CGCLA website under Clean Water Initiatives**. These ordinances represent an effort to mitigate risk; however, the **current master lease does not require leaseholders to indemnify the City** against potential **septic system failures** that could impact other property owners or the lake itself. As a result, it appears that the **City bears the primary liability**, while the existing ordinances aim to manage and reduce potential contamination risks.*

Here's the current water wells that surround the lake.



Economic Sustainability

The annexation of the City Lake area would significantly expand Council Grove's tax base. Incorporating high-value lakefront properties, some valued at over $800,000, would generate additional revenue to support city-wide projects and initiatives. This broader tax base allows for investments in infrastructure, public spaces, and community programs without overburdening existing residents.

Strengthened Community Cohesion

Annexation fosters a stronger sense of unity between the City Lake area and Council Grove. Residents who currently operate with limited autonomy will gain representation in city governance, ensuring their voices are heard in decisions affecting their community. This inclusivity strengthens civic engagement and encourages collaboration on shared goals.

Future Growth and Planning

Annexation positions Council Grove for strategic growth. By incorporating the lake area into the city's planning framework, the community can pursue cohesive initiatives that align with sustainability goals.

Planning for the lake area alongside the city enables a unified approach to resource allocation and infrastructure development. This integrated planning creates efficiencies and ensures that both city and lake residents benefit from improvements and are taxed fairly.

An Area of Concern – What is the Lease Payment? Rent or a Service Fee?

*In 2018, the **Kansas Board of Tax Appeals (BOTA)** reviewed the valuation of **Council Grove City Lake parcels** and determined that the **annual lease value should be $4,500 per parcel**, far exceeding the historical lease rates. This ruling eventually resulted in a series of legal actions that led land parcels to be appraised at market prices instead of the lease rate ($1,200) being paid annually.*

*This ruling highlights a key issue: the lease payments have been structured to cover only **maintenance costs** for the lake community rather than reflecting the actual **value of the land itself**—a fundamental misalignment in how these leases are calculated.*

*This situation is comparable to **renting a home where all rent payments are restricted to covering day-to-day expenses like lawn care, security, and minor repairs, rather than paying for the actual value of living on the property. Meanwhile, the landlord is left responsible for the long-term maintenance and preservation of the home's structural integrity.** In this analogy, **the City of Council Grove is the landlord**, but instead of collecting fair market rent for the **land itself**, it is only collecting fees to maintain the immediate lake area, leaving it financially unable to reinvest in the lake's long-term health and sustainability.*

*The lease agreement has **conflated two separate financial responsibilities—the value of the land** (which should be the basis for lease payments) and **the cost of maintaining the lake community** (roads, security, common areas, etc.). Because of this, the **false impression has been created that lake residents are paying for the value of their leasehold interest**, when their payments are **only covering services and maintenance costs**. This means that **the city is not receiving fair compensation for the land itself**, which could otherwise be used to fund critical water quality protections, infrastructure improvements, and long-term lake management.*

*Had lease rates historically reflected the **BOTA valuation of $4,500 per year**, the city would have had significantly greater resources to **invest in the lake's sustainability, upgrade aging infrastructure, and protect water quality for the entire community**. Instead, the current lease structure **shields leaseholders from paying for the true value of the land while shifting the burden of lake preservation onto the city and its taxpayers.***

Conclusion: Ensuring Sustainable Management and Equitable Responsibility

Annexation of the Council Grove City Lake area presents an opportunity to establish a structured approach to governance, resource management, and financial responsibility for the lake, which serves as the city's primary water source. By incorporating the area into city planning, the City of Council Grove would have a more direct role in overseeing water quality, land use policies, and long-term sustainability efforts, ensuring that the lake remains a reliable resource for both current and future residents.

A key consideration is the relationship between private septic systems and water wells in the lake area. With over 350 septic systems and more than 100 private wells in close proximity, there is an ongoing need to address potential contamination risks and infrastructure planning. Additionally, the financial structure of lease agreements has historically allocated payments toward maintenance and services within the lake community rather than reflecting the market value of the land itself. As a result, funding for broader lake management and long-term sustainability efforts remains a challenge.

Annexation would provide a framework for clarifying responsibilities, ensuring that all stakeholders contribute appropriately to both the upkeep of the lake community and the long-term preservation of the lake as a public resource. This process is not solely about governance but about creating a balanced and transparent approach to managing the lake in a way that aligns with modern environmental standards, financial equity, and community planning needs.

The Task as it relates to Kansas State Statute

The City of Council Grove, Kansas, contracted with Our City Planning LLC to complete an Economic Impact Study related to the annexation of the Council Grove City Lake. The study focuses on the annexation of city-owned property surrounding the Council Grove City Lake, in accordance with Kansas Statute 12-520c and related statutes.

The contractor's responsibilities in this study is to evaluate the financial, social, and regulatory implications of annexation. The study will also assess the potential benefits and challenges faced by both the city and affected stakeholders. **All economic assumptions and statements are a function of how the taxing systems and economy function today. Given that the City Lake Residential Area has existed since 1942 and has been a part of the community over the last 80 years makes "Economic Impacts" moot. They have already occurred and are occurring.** This work is all done in the context of KSA 12-520c.

KSA 12-520c governs the annexation of noncontiguous land by Kansas cities and establishes a structured process to ensure the annexation benefits both the city and the affected areas. It highlights the roles of the city and county commission in approving and implementing such annexations.

Key Provisions of KSA 12-520c

1. *Purpose and Scope:*

   - The statute applies specifically to cases where a city seeks to annex noncontiguous land (e.g., land not directly adjoining the city's existing boundaries).
   - It aims to ensure a fair and transparent process, balancing the interests of the city, affected residents, service providers, and other stakeholders.

2. *Role of the City:*

   - The **City Governing Body** must adopt a formal **resolution** to initiate the annexation process.
   - The resolution should outline:
     - The description of the land to be annexed.
     - The purpose of the annexation.
     - The benefits anticipated for the city and the annexed land.
   - The city must hold a **public hearing** to present the resolution, allowing affected stakeholders to provide feedback or objections.
   - The city is responsible for preparing and presenting an **Economic Impact Study**, which evaluates:

- Infrastructure costs.
- Tax implications.
- Effects on municipal services and neighboring areas.

- The city must also develop a detailed plan for extending services (e.g., water, sewer, fire, and police) to the annexed land.

3. *Role of the County Commission:*

- After the city submits its resolution, the **Board of County Commissioners** reviews the proposal.

- The county commission holds a hearing to evaluate the evidence provided by the city, including the Economic Impact Study and public input.

- The commission's decision is based on whether the annexation:

  - Is in the public interest.
  - Does not result in undue hardship for residents or service providers.
  - Aligns with statutory requirements for annexation.

- The county commission may **approve, modify, or reject** the annexation request. Approval requires a determination that the annexation meets the statutory conditions.

4. *Economic Impact Study:*

- The study is a critical requirement under the statute, ensuring that all financial and practical consequences are thoroughly analyzed.

- It assesses how the annexation will affect:

  - Municipal services.
  - Tax structures for both the city and annexed area.
  - Surrounding jurisdictions and service providers (e.g., utilities, school districts).

5. *Implementation:*

- If approved by the county commission, the annexation proceeds, and the city implements its service extension plan.

- Annexation becomes official upon compliance with all statutory requirements and proper notification to affected parties.

A Short History of the City Lake Area

The beginning.

In 1934 the Works Progress Administration (WPA) approved $40 million to construct many public projects in and around Morris County and Council Grove. Part of those dollars were dedicated to the City Lake project in effort to help prevent future flooding. **(1)** (https://historic-trails.unm.edu/sites/council-grove-downtown-historic-district.html)

The City Lake was completed in 1942 by damming the Canning Creek River. While the lake was primarily built for flood risk reduction purposes it also provided a water supply to the City of Council Grove and to as a recreation area. **(2)** (https://nid.sec.usace.army.mil/#/dams/system/KS02512/summary).

Shortly after the lake opened in 1942 the area around Council Grove City Lake evolved into a residential and recreational community. Local residents began leasing lots from the city and building waterfront cabins for weekend and recreational use. Over the past several decades, the landscape around the lake has transformed, with modern year-round homes being built alongside historic seasonal cabins, creating a unique and vibrant community. Today the lake has about 350 homes and structures that have a value ranging from as little as $16,000 ranging up to over $800,000. These lot leases have been quite affordable and over time have faced criticism as to how they should be valued in calculating property taxes. This was discussed earlier in the Executive Summary.

Economic Impacts to Uncover in an Annexation Study

A thorough annexation study aims to uncover various economic impacts on the city, the annexed area, and the surrounding community. Below are key economic impacts that such studies typically seek to identify, explained in bullet point form:

Impact on Property Values

Assessing how annexation will affect property values in the annexed area and within the city. Any numeric values rendered would be speculative. But here's it what is likely to happen.

- **Key Considerations**:
  - Increased access to city services (e.g., water, sewer, and fire protection) can raise property values.
  - Changes in zoning regulations or land use restrictions may influence market appeal. It's not clear given the patchwork of enforcement that the city already extends to the lake if there is an impact to values.

Tax Revenue Changes

Analyze how annexation affects the city's property tax base and sales tax revenues. We can demonstrate the positive dollar impact by simply multiplying out the rate and accounting for additional tax dollars through sales tax, franchise fees etc. But if viewed from the lake resident property owners view it would be a negative impact to the lake residents.

- **Key Considerations**:
  - Evaluate the revenue generated from newly annexed properties compared to the costs of extending services.
  - Estimate increased sales tax revenues if the annexed area includes commercial or retail establishments.

Cost of Extending Services

Determine the financial implications of extending city services (e.g., utilities, better roads) to the annexed area.

- **Key Considerations**:
  - Costs of new infrastructure like water lines or sewer connections.
  - Increased staffing needs for police, fire, and emergency services.

There are associated appendices that will cover these items and the various rates to be considered

Job Creation and Economic Development

Evaluate the potential for economic growth and job creation resulting from annexation. Again this is an area that has existed in some form for the last 80 years and these impacts have been captured or are reoccurring. The extension of water/wastewater utilities would generate short-term employment in the area.

- **Key Considerations**:
  - Whether annexation attracts new businesses or industrial developments.
  - Opportunities for increased employment due to expanded city services or construction projects.

Residential Affordability

Analyze the impact of annexation on housing affordability for residents in the annexed area. Many of the newer homes at the lake represent the upper end of values in the Council Grove community. Morris County and Council Grove like many communities in Kansas and the United States are dealing with Affordable Housing issues. The properties at the lake will have minimal impact on creating affordable housing options in the City.

- **Key Considerations**:
  - Potential increases in property taxes or utility fees post-annexation.
  - Availability of affordable housing options within the expanded city limits.

Impact on Local Businesses

- **Objective**: Examine how annexation affects existing businesses within the annexed area.
- **Key Considerations**:
  - Potential for increased customer base due to urban growth.
  - Compliance with city regulations or zoning changes.

Long-Term Community Sustainability

- **Objective**: Assess the long-term economic viability of annexing new areas.
- **Key Considerations**:
  - Whether the annexation supports sustainable growth and equitable development.
  - Opportunities to balance urban sprawl with economic efficiency.

Impact of Annexation on the Value for City Lake Residents

The annexation of the City Lake area can have significant implications for its residents, influencing property values, service accessibility, community engagement, and financial responsibilities. Below is an analysis of how annexation may impact the value for City Lake residents.

Enhanced Property Values

- **Infrastructure and Services**: Annexation often brings city-provided services such as water, sewer, and better road maintenance. These improvements can significantly enhance property values, as homes with access to municipal services are generally more desirable in the market.

Improved Public Services

- **Public Utilities**: The transition from private septic systems to public sewer connections reduces maintenance costs for residents and ensures compliance with environmental regulations. The same would hold true for the introduction of a public water system.
- **Roads:** Streets and road could be improved and maintained in the long run.
- **Recreation and Amenities**: Annexation may lead to better-maintained parks, trails, and recreational facilities, which can directly benefit the lake community and other Council Grove residents.

Financial Implications

- **Property Taxes**: One of the most significant concerns for residents is the potential increase in property taxes post-annexation. The transition to city governance will result in higher tax rates. But the rate would be the same for all Council Grove residents.
- **Utility Fees**: While municipal utility services may be more reliable, they also come with additional monthly charges, potentially increasing household expenses. This especially true when you are building out the wastewater and waters systems at the lake.
- **Cost of Compliance**: Residents may face costs associated with bringing properties into compliance with city codes, such as upgrades to existing structures or septic-to-sewer conversions.

Community and Social Benefits

- **Representation**: Annexation provides residents with voting rights and representation within city governance, enabling them to influence decisions that affect their community.
- **Integration**: Becoming part of the city fosters a sense of inclusion and access to broader social, cultural, and economic opportunities.

- **Networking Opportunities**: Annexation can lead to partnerships with city residents and businesses, encouraging collaboration on community projects or economic development initiatives.

Challenges and Concerns

- **Cultural Shift**: Some residents may feel a loss of autonomy or identity as they transition from an independent community to city governance.
- **Uneven Benefits**: Not all properties may see equal value increases, especially those farther from infrastructure upgrades or municipal facilities.

Long-Term Benefits

- **Sustainability**: Access to city services ensures long-term environmental sustainability, especially regarding wastewater management and water quality.
- **Market Appeal**: Properties within city limits often attract a broader pool of buyers, increasing resale opportunities for residents.

Conclusion

Annexation offers City Lake residents both opportunities and challenges. **While financial implications like increased taxes and fees are a concern, the enhanced services, infrastructure, and community integration would generally provide long-term value to the lake residents.** Balancing these factors is crucial to ensuring a smooth transition and equitable outcomes for all residents.

Impact on Taxes for City Lake Residents and the City of Council Grove

The proposed annexation of the City Lake area poses significant tax implications for both the residents of the lake community and the City of Council Grove. These impacts stem from shifts in revenue sources, increased service obligations, and financial adjustments necessary to balance the city's budget in light of potential revenue losses.

Tax Impacts on City Lake Residents

Increase in Property Taxes:

- Annexation typically subjects residents to city property taxes in addition to county and state taxes. This can result in a substantial increase in annual tax obligations.
- For City Lake residents, the transition from a leasehold arrangement with the city to full municipal governance could lead to tax rates comparable to properties within the existing city limits. For example,

Increase Tax Example on $250K Home	
250,000.00	Market Value
0.115	Assessment Rate
28,750.00	Assessed Value
67.07	Tax Rate
1,928.38	**Additional Property Tax**

Added Utility Fees:

- Residents may see higher utility bills for water, sewer, and other municipal services. While these services provide long-term value and reliability, they increase the financial burden on households. Anticipated rates will vary based on grants, loans and city participation. To estimate any of those anticipate rates would simply be guess work – the grant environment and ultimate interest rate environment could impact rates as much as 50% or more.
- Septic-to-sewer conversions, often mandated post-annexation, carry upfront costs that residents must absorb. These costs could be included in the conversion process with the City contracting on behalf of all the residents at the lake. And likely lead to a lower overall cost.

Offsetting Benefits:

- Enhanced public services, including improved fire protection, road maintenance, and emergency response, could justify higher taxes for some residents – but also understanding that many of these services are already provided.
- The long-term increase in property values due to annexation may offset tax increases when residents choose to sell their properties. In the short-term prices could be impacted but for those with a mortgage the impact(escrow) would be about $161.00 more a month on a monthly mortgage for a home worth $250,000 using today's assessment rate and current mill rate for the City of Council Grove.

Tax Impact on the City of Council Grove – By the numbers

Based on forecasted growth in values, current and anticipated tax rates, and current laws governing municipal budgeting here is what is currently forecasted for the City Lake and City of Council Grove. The key elements in the chart below contain the following;

- City total mill rate was only reduced by **8 mills** (reasoning there is no guarantee that the buyout of lake lots will occur.
- Growth factor used in property values was 50% of the Congressional Budget Offices (CBO) Consumer Price Index (CPI) rate for the forecast period.
- All other fees and revenues anticipated for the area were grown at the full CBO CPI rate for the forecast period.

Net Additions based on 2025 Budget

	2026	2027	2028	2029	2030
General Fund					
Property Tax	447,833	435,800	429,905	423,607	417,119
Franchise Fees	47,731	48,829	50,001	51,151	52,276
TOTAL General Fund	495,564	484,629	479,906	474,758	469,395
Library Fund					
Property Tax	43,268	47,314	47,858	48,385	48,917
Employee Benefit Fund					
Property Tax	146,162	159,830	161,668	163,447	165,245
Economic Development Fund					
Property Tax	9,042	9,888	10,001	10,111	10,223
Employee Ben. - Library Fund					
Property Tax	15,077	16,487	16,676	16,860	17,045
1% Sales Tax Fund					
Sales Tax	15,922	16,288	16,679	17,062	17,438
0.7% Sales Tax Fund					
Sales Tax	11,145	11,402	11,675	11,944	12,206
TOTALS	736,180	745,836	744,463	742,566	740,468

The city can anticipate increase revenues of around $750,000 during the forecasted period.

Offsetting these net additions are losses that the City may experience in the General Fund. Again, the primary assumption her is that lake residents will purchase their lots. Assuming all of them agreed to the $25,000 per lot purchase then the there's a net loss of $475,715 to the City of Council Grove.

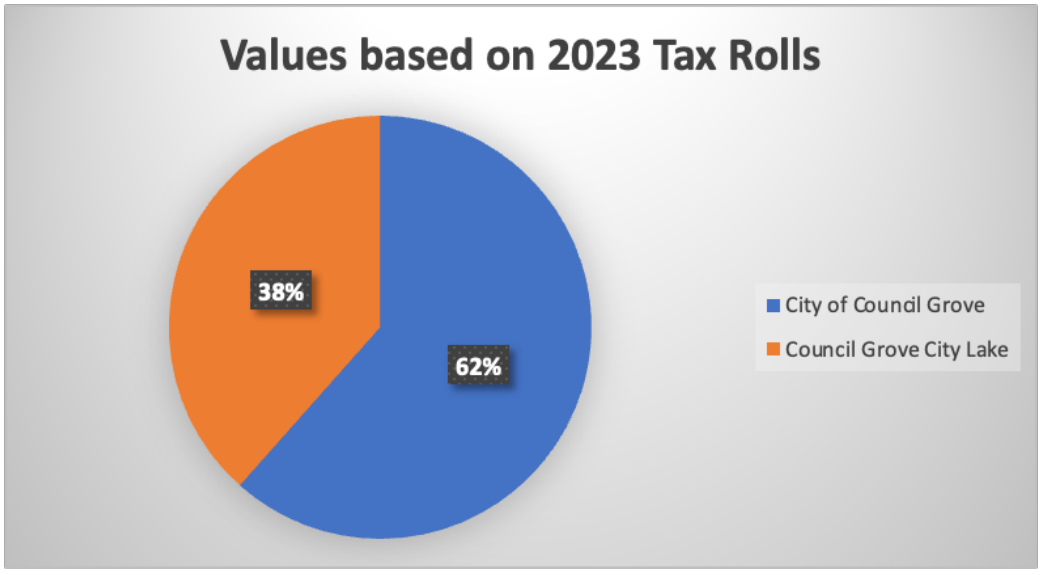
Net Losses based on 2025 Budget (based on 2023 Actuals projected out over the period)					
	2026	2027	2028	2029	2030
General Fund					
Cabin Tansfer Fees	3,000	3,000	3,000	3,000	3,000
Rural Fire Contracts	60,000	60,000	60,000	60,000	60,000
Lake Leases	412,715	412,715	412,715	412,715	412,715
TOTALS	475,715	475,715	475,715	475,715	475,715
NET GENERAL FUND IMPACT	**19,849**	**8,914**	**4,191**	**(957)**	**(6,320)**

The real benefit to the city is not in its main operating fund – General Fund. It's in the other ad-valorem funds that help in delivering infrastructure and city services that many residents at the lake can take advantage of including, ongoing street and road improvements, recreational opportunities, Library services and employee benefits that allows the City to attract and keep workers. At the heart of any discussion on impacts is a clear policy as to how the City would treat the lot purchase revenue (approximately $8.75 million) over time.

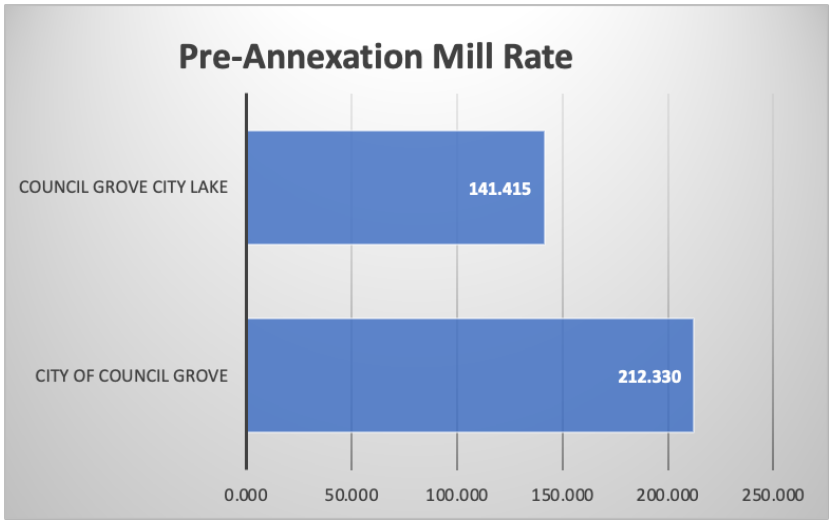
Equity and the reduction in property tax rates

If the annexation of the lake was accomplished there **could be a steep reduction** in property tax rates for current Council Grove businesses and residents. Taking information on the 2023 Tax rolls and applying the current budgeted mill rates here are the impacts to the broader community.

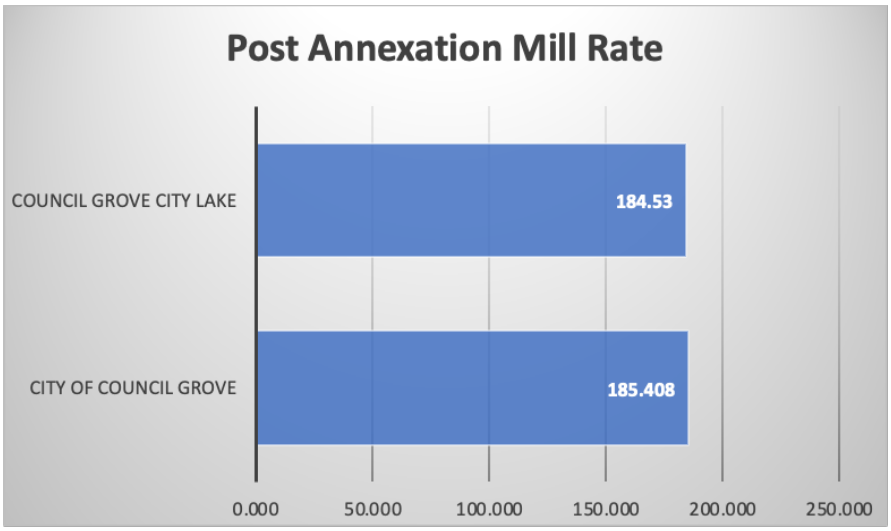
The value of the City of Council Grove **increases to $25,348,775 following annexation or by approximately 62.4%.** Total new value for the City of Council Grove divided by areas.



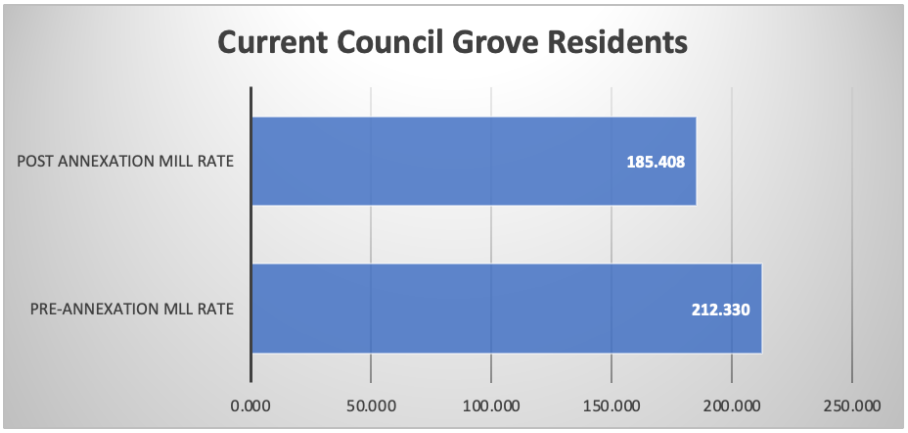
This additional value **if holding the property tax collections constant** creates a change in mill rates for both the City of Council Grove residents and Council Grove City Lake residents. Here's the Pre-Annexation view.



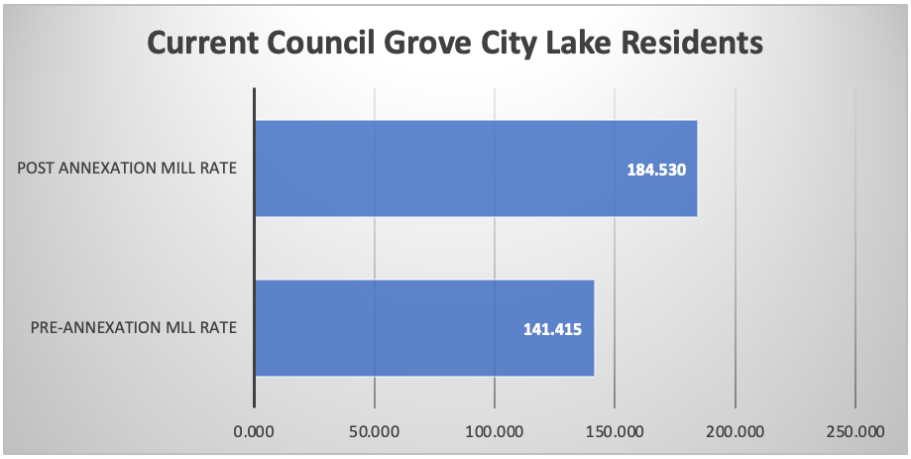
Here's the Post Annexation View.



As the chart below shows overall taxes (mill rates) for current Council Grove businesses and residents is reduced by 13% . For a home with a value of $150,000 that is about a $464.00 a year reduction.



Conversely as the chart below shows overall taxes (mill rates) for the Council Grove City Lake resident increases by more than 30%. For a home with a value of $150,000 that is about a $744.00 a year increase.



Broader Considerations:

Economic Development Opportunities:

- Annexation could spur new development around the lake area, potentially increasing the city's long-term tax base.
- Enhanced infrastructure and services might attract businesses and residents and having a positive impact on overall property tax rates.

Equity and Fairness:

- The perception of fairness will play a critical role in public acceptance. Current city residents may question subsidizing new infrastructure for the annexed area, while lake residents may resist the increased tax burden.

Conclusion

Annexation presents a complex financial challenge for both City Lake residents and the City of Council Grove. While residents face higher taxes and utility fees, they gain access to improved services and increased property values. The city, on the other hand, must navigate significant revenue losses and increased expenditures, requiring careful fiscal planning and community engagement to ensure equitable outcomes. Balancing short-term challenges with long-term benefits will be key to the success of this initiative.

Cost of Extending Services: A Detailed Analysis

The annexation of the City Lake area by the City of Council Grove involves significant investments in extending municipal services, particularly infrastructure related to water distribution and wastewater treatment. Using the detailed estimates from the **Offsite Wastewater Treatment Project Report**, this analysis outlines the key costs associated with extending these services, highlights the challenges involved, and explores their long-term implications.

Water System Improvements

One of the primary infrastructure requirements for annexation is the development of a robust water distribution system. The proposed improvements aim to replace individual well systems with a municipal supply, ensuring better water quality, reliability, and fire protection.

Key Cost Components:

- **Installation of Waterlines**:
  - The project involves the installation of over 70,000 linear feet of PVC waterlines in various sizes (6”, 8”, and 10”).
  - Estimated cost: $7,678,550, excluding contingency.
- **Booster Pump Station**:
  - A booster pump station with a standby generator will maintain water pressure across the system.
  - This addition ensures consistent supply, especially for areas at higher elevations.
- **Water Storage Tank**:
  - Construction of a 150,000-gallon pedestal water storage tank is necessary to meet peak demands and ensure fire safety.
  - Estimated cost: Included within the overall project budget for water improvements.

Fire Protection Enhancements:

- The project includes the installation of 29 fire hydrants throughout the annexed area.
- This upgrade significantly improves fire response capabilities, potentially reducing insurance premiums for residents.

Total Estimated Cost:

- **Water System Improvements**: $8,446,405 (including a 10% contingency).

Sanitary Sewer System for Offsite Treatment

Extending wastewater treatment services is a cornerstone of the annexation project. The shift from individual septic systems to a municipal sewer system addresses public health concerns and ensures compliance with environmental regulations.

Key Cost Components:

- **HDPE Force Mains**:
    - Over 109,000 linear feet of high-density polyethylene (HDPE) force mains will be installed to transport wastewater to an offsite treatment facility.
    - Estimated cost: $8,103,824, excluding contingency.
- **Grinder Pumps**:
    - Approximately 350 grinder pump assemblies will be installed to move wastewater from individual properties into the main system.
    - Grinder pumps ensure efficient operation and reduce the risk of blockages.
- **Lift Stations**:
    - A lift station equipped with a standby generator will handle the elevation changes necessary to transport wastewater over long distances.

Environmental Features:

- Multiple stream, driveway, and road crossings will be completed using directional boring to minimize environmental disruption.
- Estimated cost for crossings: Included within the sewer system budget.

Total Estimated Cost:

- **Sanitary Sewer System**: $8,914,206.40 (including a 10% contingency).

Offsite Wastewater Treatment Facility

The proposed offsite wastewater treatment facility uses a wetland cell and effluent irrigation system, designed for long-term sustainability and minimal environmental impact.

Key Cost Components:

- **Lagoon Construction**:

    - A lined lagoon will serve as the central holding area for treated wastewater.
    - The lagoon will be equipped with a bentonite liner to prevent seepage and riprap erosion protection to ensure durability.

- **Irrigation System**:
    - Effluent from the lagoon will be repurposed for agricultural irrigation, reducing water waste and supporting sustainability goals.

- **Pumping Equipment**:
    - Pumps and associated infrastructure will facilitate the movement of effluent to the irrigation pivot system.

Total Estimated Cost:

- **Offsite Wastewater Treatment Facility**: $1,368,400 (including a 10% contingency).

Overhead and Administrative Costs

In addition to direct construction expenses, the annexation project involves significant overhead costs to cover planning, administration, and legal requirements.

Key Cost Components:

- **Engineering Design and Observation**:
    - Engineering design accounts for 8% of total project costs, while construction observation and administration account for an additional 4%.

- **Legal and Environmental Reviews**:
    - Includes costs for easement acquisitions, environmental assessments, and geotechnical investigations.

- **Relocation of Utilities**:
    - Relocating Evergy transmission lines is necessary to accommodate new infrastructure.
    - Estimated cost: $50,000.

- **Total Overhead Costs**: $3,416,000.

Summary of Total Costs

Service	Cost
Water System Improvements	$8,446,405
Sanitary Sewer System	$8,914,206
Wastewater Treatment Facility	$1,368,400
Overhead and Administrative	$3,416,000
Grand Total	**$22,876,731**

Challenges and Considerations

While the benefits of extending services are significant, the project also poses challenges:

- **Initial Capital Investment**:

  The total project cost of $22.8 million represents a substantial financial commitment, requiring careful budgeting and potential grant funding.

- **Long-Term Maintenance**:

  New infrastructure will require ongoing maintenance, adding to the city's operational budget.

- **Resident Costs**:

  Residents in the annexed area will face additional costs for utility connections and potential property tax increases.

- **Equity Concerns**:

  Current city residents may question the fairness of subsidizing new services for annexed areas.

Long-Term Benefits

Despite the challenges, extending services to the City Lake area offers numerous long-term advantages:

- **Public Health and Safety**:

  Improved water quality and wastewater management reduce environmental and health risks.

- **Increased Property Values**:

  Access to municipal services often leads to higher property values, benefiting both residents and the city's tax base.

- **Economic Development**:

  Enhanced infrastructure can attract businesses and new residents, spurring economic growth.

- **Environmental Sustainability**:

  The use of a sustainable wastewater treatment facility aligns with modern environmental standards.

Conclusion

The cost of extending municipal services to the City Lake area represents a significant financial commitment, but the long-term benefits of annexation could justify the investment. Through strategic planning, sustainable funding approaches, and open engagement with stakeholders, the City of Council Grove can work toward a balanced and financially responsible expansion.

A key consideration is the allocation of proceeds from land sales ($25,000 per parcel) toward essential water and wastewater infrastructure improvements. This raises an important equity question—how should the funds from the sale of lake lots be distributed to ensure both newly annexed and existing residents benefit fairly from the investment? Additionally, annexation has the potential to broaden the tax base, which may lead to a lower property tax rate for current Council Grove residents over time. Determining whether this long-term financial advantage should be factored into annexation-related infrastructure planning is a critical policy decision that requires careful evaluation.

Job Creation and Economic Development: Transforming a Seasonal Recreation Community

The Council Grove City Lake originally developed as a seasonal recreation community, is poised for a significant transformation through annexation and infrastructure development. Enhancing municipal services and integrating the area into the city's jurisdiction not only addresses infrastructure and environmental needs but also sets the stage for economic growth and job creation.

Historical Context: A Seasonal Recreation Community

- The City Lake area was initially designed for seasonal use, offering cabins and recreational opportunities centered around the lake.
- Limited municipal services and infrastructure meant that the area's economic contributions were primarily tied to tourism and seasonal activities.
- Over time, the community has evolved into a more permanent residential area, requiring updated infrastructure and expanded municipal services.

Infrastructure Development as an Economic Catalyst

- **Utility Expansion**: Extending water and sewer services provides a foundation for future growth, enabling more substantial residential and commercial development.
- **Recreational Opportunities**: Improved infrastructure can attract more visitors to the lake area, boosting local tourism revenue.

Job Creation During and After Development

- **Construction Phase**:
  - The annexation project's infrastructure upgrades, such as the installation of water lines, sewer systems, and road improvements, will generate temporary jobs in construction, engineering, and project management.
  - Local contractors and suppliers may benefit from increased demand for materials and services.
- **Post-Development Jobs**:
  - Expanding city services creates opportunities in public works, utilities, and emergency services.

- Businesses catering to the increased population, such as retail stores, restaurants, and service providers, are likely to grow, generating jobs in those sectors. But again, the lake area as it sets today has already been contributing to these sectors.

Long-Term Economic Impact

- **Increased Tax Base**:
  - The transition from a seasonal community to a year-round residential area expands the property and sales tax base, providing the city with additional revenue to invest in economic development initiatives.
- **Population Growth**:
  - Improved living conditions brought about the City's annexation and utility extensions may attract new residents, contributing to sustainable economic growth.
- **Regional Integration**:
  - The City Lake area's integration with Council Grove strengthens its role in the regional economy, enhancing competitiveness and collaboration.

Conclusion

The transformation of Council Grove City Lake from a seasonal recreation community into a fully integrated part of Council Grove presents a unique opportunity to stimulate economic development and job creation. Through annexation and infrastructure investment, the area can transition into a year-round residential and commercial hub, supporting long-term economic sustainability while preserving its recreational and environmental value.

By extending municipal water, sewer, and other essential services can translate in long-term impacts that include a growth in new business opportunities, a growing tax base, and enhanced community services.

Importantly, the lake area has already contributed to the local economy, supporting businesses and services in Council Grove. However, by improving infrastructure and formally integrating it into city planning, the full economic potential of the area can be realized. A stronger connection between the lake community and the city will not only provide needed services but also create an environment where businesses, residents, and visitors can thrive year-round.

With strategic investment, responsible planning, and a commitment to sustainable growth, Council Grove can position the City Lake area as a key driver of regional economic prosperity, ensuring that both current and future residents benefit from the area's transformation.

Residential Affordability: Challenges and Opportunities for the City Lake and Council Grove

Residential affordability is a critical issue for the City Lake area and Council Grove, Kansas, especially as annexation and infrastructure improvements are considered. The City Lake area, historically a seasonal recreational community, now includes a mix of modest homes and high-value properties, with some exceeding $800,000. Balancing affordability across this diverse housing market is essential to ensure equitable outcomes for all residents and sustainable growth for the city.

Affordability Overview: City Lake and Council Grove

The City Lake area was originally developed as a seasonal community and consists of older cabins, modest homes, and high-value lakefront properties. Some properties are valued at over $800,000, making affordability and equity a key challenge as the area transitions into a more permanent residential community. According to the Urban Land Institute, high-value properties in mixed-income communities often create disparities in tax burdens and housing equity. That can be seen when you compare the City Lake properties to many of the residential properties in the City of Council Grove.

Council Grove includes a mix of older, more affordable homes. While the median home price in Council Grove is lower than the national average, demand for housing continues to push prices higher, reflecting regional and national trends. Limited housing supply in rural areas contributes to rising home prices and affordability concerns.

Impacts of Annexation on Residential Affordability

Annexation would introduce city property taxes and utility fees for water and sewer services, raising the cost of living for City Lake residents. Compliance costs for septic system upgrades or other infrastructure requirements may disproportionately impact residents with lower-valued properties. High-value properties, such as those over $800,000, would contribute significant tax revenue, but owners of these homes may resist higher taxes and fees. These are all issues that have to be weighed and considered – but ultimately must be weighed against what the current Lease Payment represents. As shown and stated earlier,

> "Additionally, the financial structure of lease agreements has historically allocated payments toward maintenance and services within the lake community rather than reflecting the market value of the land itself. As a result, funding for broader lake management and long-term sustainability efforts remains a challenge."

Improved municipal services, such as improved road maintenance, and reliable water systems, can enhance quality of life and increase property values across the board.

Long-Term Economic Implications

For City Lake residents, high-value homes contribute significantly to the tax base, but modest homeowners may bear a disproportionate burden if policies do not adequately address affordability, the imbalance Lease payments. Infrastructure improvements, such as water and sewer services, enhance the overall appeal of the area and can offset increased costs through property value appreciation. But the City Lake is likely not a contributor to more affordable community-wide housing. Tied into all of this is population trends that will also have an impact on affordability going forward.

For Council Grove, annexation provides an opportunity to increase the city's tax base by incorporating high-value properties. Ensuring affordable options within the city and lake area will help support balanced growth and avoid market distortions and should be considered. Expanding tax bases through annexation supports long-term fiscal sustainability but must balance affordability concerns. This will be difficult and must be carefully considered.

Conclusion

The City Lake area presents a unique affordability challenge due to its mix of modest homes and luxury properties. Annexation and infrastructure development will inevitably increase costs, particularly for residents of lower-valued homes. However, the potential benefits, including enhanced services and increased property values, provide opportunities to improve the quality of life for all residents. Balancing affordability with the economic contributions of high-value homes will be critical to ensuring equitable outcomes and sustainable growth for both the City Lake area and Council Grove. By implementing targeted strategies, such as zoning reforms city-wide and rehabilitation programs, the community can address disparities and create a more inclusive and resilient housing market.

Impact on Local Businesses: Opportunities and Challenges

The annexation of the City Lake area by the City of Council Grove has limited implications for local businesses that already benefit from the economic activity generated by the lake and its residents. Council Grove has long been the primary hub for shopping, dining, and services for lake residents and visitors.

Council Grove's Existing Relationship with the City Lake Area

The City Lake area has historically contributed to the economic vitality of Council Grove. Lake residents and visitors regularly utilize local businesses, including grocery stores, hardware shops, restaurants, and recreational service providers. Council Grove acts as the commercial center for the lake community, benefiting from tourism and residential spending.

For decades, lake residents have relied on Council Grove for essential services, healthcare, education, and entertainment. This consistent economic relationship has embedded the City Lake area into the local economy, creating a mutually beneficial dynamic that annexation seeks to enhance.

Opportunities for Business Growth

Formal annexation of the City Lake area would likely strengthen this relationship by providing better infrastructure and expanding the population within Council Grove's municipal boundaries. Improved infrastructure—such as roads, water systems, and recreational amenities—could increase access to the lake area, encouraging more visitors and potential residents to engage with local businesses.

In addition, annexation could formalize the city's ability to plan and promote the lake as an integrated part of its economic strategy. Collaborative marketing efforts between the city and business organizations could highlight the City Lake area as a premier housing area and recreation destination, boosting the economics of both the lake and Council Grove.

Challenges of Annexation for Businesses

While there are opportunities, challenges remain, particularly for businesses directly located in or serving the City Lake area. Annexation would introduce new tax obligations for lake residents and in turn reduce the amount of disposable income available to be spent.

These costs, however, may be offset by the long-term benefits of increased infrastructure reliability, expanded customer bases, and higher property values. The formal integration of the City Lake area into Council Grove may also foster an environment of shared investment, ensuring that businesses and residents alike benefit from the improved services and amenities.

Recognizing Pre-Existing Economic Integration

It is important to acknowledge that Council Grove has already benefitted significantly from the proximity of the City Lake area. **Many lake residents have consistently contributed to the city's economy through shopping, dining, and other forms of commerce. Annexation does not create a new relationship between the lake and Council Grove; rather, it formalizes and enhances an economic connection that has existed for decades.**

The integration of the lake area would allow the city to capture additional revenue from property taxes and utility fees, ensuring that the services currently provided to lake residents are funded sustainably. This could support further investments in infrastructure, benefiting businesses and residents throughout the community.

Conclusion

The annexation of the City Lake area offers Council Grove the opportunity to formalize an already strong economic relationship. Local businesses, particularly that support tourism and recreation, stand to benefit from improved infrastructure and expanded marketing opportunities. While challenges such as increased costs and compliance requirements exist, the long-term benefits of integration are likely to outweigh the drawbacks. By acknowledging the pre-existing reliance of lake residents on Council Grove and fostering a collaborative approach to economic growth, the city can ensure a sustainable and equitable outcome for both communities.

Long-Term Community Sustainability through Annexation

The annexation of the City Lake area by the City of Council Grove represents a transformative opportunity to build a sustainable and thriving future for the entire community. By formally integrating the lake area into the city's jurisdiction, Council Grove can unlock numerous long-term benefits that will ensure the economic, social, and environmental sustainability of the region. This annexation is more than a logistical adjustment; it is a forward-looking strategy that strengthens the community's foundation for generations to come.

Enhanced Municipal Services and Environmental Protection

One of the most significant sustainability benefits of annexation is the ability to streamline and enhance municipal services. Currently, the City Lake area operates with limited or inconsistent infrastructure, such as individual septic systems. Annexation allows Council Grove to extend its water and sewer systems to the area, providing reliable services that meet modern health and environmental standards. Access to municipal water and sewer not only improves residents' quality of life but also protects the lake and surrounding ecosystems from contamination risks associated with aging or failing septic systems. Studies show that municipalities with integrated utility systems experience fewer environmental hazards and greater long-term cost savings.

Strengthened Economic Sustainability

Economic sustainability is another key advantage of annexation. By incorporating the lake area, Council Grove can expand its tax base, ensuring a more equitable distribution of financial responsibilities for maintaining and improving public infrastructure. The inclusion of high-value lakefront properties—some exceeding $800,000—provides a substantial source of revenue to fund city-wide improvements and community programs. This increased revenue will support investments in critical areas such as road maintenance, emergency services, and recreational amenities, creating a more resilient and vibrant community. A diversified tax base strengthens municipalities' ability to weather economic fluctuations and plan for long-term growth.

Promoting Social Cohesion and Civic Engagement

Social sustainability is equally important. Annexation fosters a stronger sense of unity and shared identity between the lake area and Council Grove. Residents who previously operated in a semi-independent capacity will now have a formal voice in city governance, ensuring their needs and perspectives are represented. This inclusivity strengthens civic engagement and encourages collaboration on community initiatives.

Additionally, annexation paves the way for improved public spaces and recreational opportunities, such as enhanced trail systems, parks, and lakefront amenities. These improvements not only attract

visitors but also create a higher quality of life for residents, fostering a sense of pride and belonging within the community.

Future Growth and Innovation

Annexation also positions Council Grove for future growth and innovation. By integrating the lake area into the city's planning and development framework, the community can pursue cohesive, strategic initiatives that align with sustainability goals. For example, the city could adopt green building standards, promote renewable energy use, or invest in sustainable tourism programs that highlight the region's natural beauty and historical significance. These efforts not only protect the area's resources but also attract forward-thinking businesses and residents who value sustainability.

Conclusion

In conclusion, annexation of the City Lake area is a bold and necessary step toward long-term community sustainability. By improving infrastructure, expanding the tax base, fostering social cohesion, and embracing innovative growth strategies, Council Grove can ensure a prosperous and resilient future. This vision of sustainability benefits not just today's residents but also future generations, creating a legacy of progress and unity for the entire community.

Chronological Summary of Annexation Proposals

1998: Initial Annexation Discussions

- **Summary**: Early discussions explored incorporating the City Lake area into Council Grove to expand the city's tax base and consolidate governance.
- **Key Points**:
  - Limited public support due to concerns about increased taxes.
  - Lack of detailed financial projections hindered progress.

2005: Mayor Dick Montgomery's Proposal

- **Summary**: Mayor Montgomery formally proposed annexing the City Lake Park and nearby residential properties.
- **Key Points**:
  - Strong opposition from lake residents over fears of higher property taxes and loss of autonomy.
  - Sparked the formation of the Council Grove Lake Association (CGLA) as an advocacy group.

2006: Council Grove Lake Association (CGLA) Counter-Proposal

- **Summary**: The CGLA proposed transitioning the area to private ownership and forming an Improvement District instead of annexation.
- **Key Points**:
  - Suggested purchasing the property from the city for $2.263 million.
  - Emphasized self-governance to address maintenance concerns and property security.
  - Presented financial comparisons showing potential benefits for both the city and residents.

2010: Revisiting Annexation Under Expiring Lease Agreements

- **Summary**: As lease agreements neared expiration in 2011, annexation discussions resurfaced.
- **Key Points**:
  - Proposed extending city services to lake residents in exchange for property taxes.
  - Lake residents cited unresolved maintenance issues as barriers to annexation.
  - Proposal lacked sufficient stakeholder support and was shelved.

2012: Economic Development-Inspired Annexation Proposal

- **Summary**: Focused on using annexation to stimulate economic growth around the lake area.
- **Key Points**:
  - Proposed developing commercial spaces and recreational facilities to boost tourism and property values.
  - Community skepticism and funding challenges prevented progress.

2015: Comprehensive Plan Inclusion

- **Summary**: Annexation was included as a strategic goal in the city's comprehensive plan.
- **Key Points**:
  - Framed as a long-term initiative to integrate the lake area into city planning.
  - Highlighted infrastructure improvements and streamlined governance as potential benefits.
  - Immediate action was delayed as the city prioritized other projects.

2017: Modified Annexation Proposal

- **Summary**: A revised plan proposed partial annexation, targeting specific residential areas to reduce resistance.
- **Key Points**:
  - Gradual implementation was suggested to address resident concerns.
  - Ongoing disagreements over tax impacts and service provisions hindered progress.

Appendices

Project Cost Estimate – Water System Upgrade and Offsite Wastewater Treatment – December, 2024

Annexation Impact Study – May, 2022

Water and Sewer Rate Analysis Report – December, 2019

WATER, SANITARY SEWER, AND WASTEWATER TREATMENT IMPROVEMENTS
CITY OF COUNCIL GROVE, KANSAS
DECEMBER 2024
PRELIMINARY PROJECT ESTIMATE - OFFSITE WASTEWATER TREATMENT OPTION

	Construction Costs	**Quantity**	**Unit**	**Unit Price**	**Amount**
Part A: Water - Council Grove City Lake (Urban Water Distribution System - Enhanced Fire Protection)					
1	Mobilization, Demobilization and Bonding	1	L.S.	$220,000.00	$220,000.00
2	Clearing and Grubbing	1	L.S.	$30,000.00	$30,000.00
3	6" PVC Waterline	17,600	L.F.	$38.00	$668,800.00
4	8" PVC Waterline	42,600	L.F.	$55.00	$2,343,000.00
5	10" PVC Waterline	9,800	L.F.	$75.00	$735,000.00
6	1" SDR 9 HDPE Service Line	29,250	L.F.	$23.00	$672,750.00
7	Booster P.S. w/ Standby Generator (200 gpm)	1	L.S.	$240,000.00	$240,000.00
8	6" Gate Valve	4	EA.	$2,200.00	$8,800.00
9	8" Gate Valve	20	EA.	$3,000.00	$60,000.00
10	10" Gate Valve	4	EA.	$4,000.00	$16,000.00
11	Air Release Valve Assembly	5	EA.	$4,000.00	$20,000.00
12	Tracer Wire	99,250	L.F.	$0.40	$39,700.00
13	Three Way Fire Hydrant Assembly	29	EA.	$5,500.00	$159,500.00
14	Road Crossing	20	EA.	$7,000.00	$140,000.00
15	Driveway Crossing	30	EA.	$700.00	$21,000.00
16	Stream Crossing	18	EA.	$35,000.00	$630,000.00
17	Residential Water Service	350	EA.	$1,400.00	$490,000.00
18	Directional Bore Service Line	3,000	L.F.	$28.00	$84,000.00
19	Water Storage Tank (150,000 Gal. Pedestal Tower)	1	L.S.	$1,100,000.00	$1,100,000.00
				Subtotal Construction Cost (Items 1-19) =	**$7,678,550.00**
				+10% Contingencies =	$767,855.00
				Total Construction Cost =	**$8,446,405.00**
Part B: Sanitary Sewer - Council Grove City Lake (Var. Grade San. Sewer Collection System w/ Offsite Treatment)					
1	Mobilization, Demobilization and Bonding	1	L.S.	$230,000.00	$230,000.00
2	Clearing and Grubbing	1	L.S.	$25,000.00	$25,000.00
3	6" SDR 11 HDPE Force Main	25,800	L.F.	$35.00	$903,000.00
4	4" SDR 11 HDPE Force Main	15,470	L.F.	$30.00	$464,100.00
5	3" SDR 11 HDPE Force Main	16,910	L.F.	$26.00	$439,660.00
6	2.5" SDR 11 HDPE Force Main	1,540	L.F.	$24.00	$36,960.00
7	2" SDR 11 HDPE Force Main	8,780	L.F.	$23.00	$201,940.00
8	1.25" SDR 11 HDPE Service Line	40,860	L.F.	$22.00	$898,920.00
9	Lift Station with Standby Generator	1	EA.	$160,000.00	$160,000.00
10	6" Isolation Valve	5	EA.	$2,200.00	$11,000.00
11	4" Isolation Valve	2	EA.	$1,800.00	$3,600.00
12	3" Isolation Valve	3	EA.	$1,500.00	$4,500.00
13	2" Isolation Valve	6	EA.	$1,200.00	$7,200.00
14	Air Release Valve Assembly	10	EA.	$5,000.00	$50,000.00
15	Tracer Wire	109,360	L.F.	$0.40	$43,744.00
16	3" Cleanout Assembly	6	EA.	$1,700.00	$10,200.00
17	4" Cleanout Assembly	6	EA.	$2,000.00	$12,000.00
18	Terminal End Cleanout Assembly	6	EA.	$1,500.00	$9,000.00
19	Road Crossing	12	EA.	$4,000.00	$48,000.00
20	Driveway Crossing	330	EA.	$600.00	$198,000.00
21	Stream Crossing	12	EA.	$20,000.00	$240,000.00
22	Grinder Pump Assembly	350	EA.	$10,500.00	$3,675,000.00
23	Directional Bore Service Line	2,000	L.F.	$35.00	$70,000.00
24	Directional Bore Force Main	2,600	L.F.	$45.00	$117,000.00
25	Demolish Existing Holding Tank	350	EA.	$700.00	$245,000.00
				Subtotal Construction Cost (Items 1-25) =	**$8,103,824.00**
				+10% Contingencies =	$810,382.40
				Total Construction Cost =	**$8,914,206.40**

Part C: Sanitary Sewer - City of Council Grove (CIPP Sewer Rehabilitation)

1	Mobilization and Demobilization	1	L.S.	$30,000.00	$30,000.00
2	Clearing and Grubbing	1	L.S.	$5,000.00	$5,000.00
3	Existing Manhole Rehabilitation	54	EA.	$3,200.00	$172,800.00
4	8" CIPP Sanitary Sewer Rehabilitation	9,500	L.F.	$38.00	$361,000.00
5	10" CIPP Sanitary Sewer Rehabilitation	400	L.F.	$46.00	$18,400.00
6	12" CIPP Sanitary Sewer Rehabilitation	1,200	L.F.	$65.00	$78,000.00
	Subtotal Construction Cost (Items 1-6) =				**$665,200.00**
	+10% Contingencies =				$66,520.00
	Total Construction Cost =				**$731,720.00**

*Note: Point repairs and service lateral reinstatement costs subsidiary to the CIPP line items.

Wastewater Treatment - City of Council Grove (Wetland Cell with Irrigation)

1	Mobilization and Demobilization	1	L.S.	$40,000.00	$40,000.00
2	Wetland Cell Clearing and Grubbing	1	L.S.	$25,000.00	$25,000.00
3	Wetland/Effluent Holding Lagoon Cell Earthwork	1	L.S.	$300,000.00	$300,000.00
4	Lagoon Cell Bentonite Liner	29,500	SY	$8.00	$236,000.00
5	Remove and Reinstall Discharge Weir	1	L.S.	$5,000.00	$5,000.00
6	Riprap Erosion Protection	1,800	TON	$60.00	$108,000.00
7	Install New Transfer Structure	1	EA.	$15,000.00	$15,000.00
8	Install New Dicharge/Irrigation Structure	1	EA.	$30,000.00	$30,000.00
9	Install Irrigation Pivot Equipment	1	L.S.	$150,000.00	$150,000.00
10	Irrigation Pumping Equipment	1	L.S.	$90,000.00	$90,000.00
11	8" PVC Transfer Piping	1,900	L.F.	$55.00	$104,500.00
12	4' Dia. Transfer Manhole	4	EA.	$6,000.00	$24,000.00
13	Crushed Rock Lagoon Top Surfacing	600	TON	$40.00	$24,000.00
14	Lagoon Seeding	5	AC.	$4,500.00	$22,500.00
15	Lagoon Fencing	2,800	L.F.	$25.00	$70,000.00
	Subtotal Construction Cost (Items 1-15) =				$1,244,000.00
	+10% Contingencies =				$124,400.00
	Total Construction Cost =				**$1,368,400.00**

	Grand Total Construction Cost =	**$19,460,731.40**

Overhead Costs

1	Engineering Design (8%)	LS	$1,556,000.00
2	Construction Observation / Contract Admin. (4%)	Hourly	$1,037,000.00
3	Geotechnical Investigations	LS	$18,000.00
4	Loan Administration	LS	$35,000.00
5	Interim Financing	LS	$550,000.00
6	Environmental Review/Cultural Review	LS	$60,000.00
7	Easement Acquisition	Hourly	$50,000.00
8	Legal	Hourly	$60,000.00
9	Relocate Evergy Transmission Line	L.S.	$50,000.00
	Total Overhead Cost (Items 1-9) =		**$3,416,000.00**

*Note: Overhead costs proportionally allocated to "Water" and "Sewer" projects in Debt Service Analysis worksheet.

	Total Estimated Project Cost =	**$22,876,731.40**

CITYOF COUNCIL GROVE

ANNEXATION IMPACT STUDY

May 16, 2022

Completed by:

Municipal Consulting, LLC
R. Steven Robb, Sole Owner
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INTRODUCTION

PURPOSE: This document is prepared at the request of the City of Council Grove ("city") for the purpose of examining the financial effects of a proposed annexation. The property to be annexed is owned by the city as it includes the lake that provides the city's water supply. Property surrounding the lake has been platted and the individual lots leased from the city to private owners that have built improvements on the lots. Currently, the lots are served by individual wells and septic tanks.

The city is considering annexing the property into the city limits and extending water and sewer service to the entire area. There are 348 individual properties that would be affected. Engineering estimate reports have been obtained for the projected cost of the utility extensions and estimates of the special assessment amounts and monthly service charges have been obtained.

The city desires to have the potential financial effects of the proposed annexation determined on the costs of ownership, the city general fund and the utility department. The city currently provides police and fire protection to the area and this report does not include those costs.

EXECUTIVE SUMMARY

The Approach: This study considers two options for the annexation. Option A is for the property to be annexed and the city would continue the leasehold agreements with the residents. Option B would have the leasehold agreements terminated and the properties sold to the residents at a price yet to be determined. The county appraiser has been most cooperative in providing the assessed valuations of the land and improvements separately to aid in this analysis.

Financial Impact on Lake Property Tenants: The financial impact of each option is presented in detail in Table A of the section "Impact of Annexation on Ownership Costs." A property with an average improvement value of $147,500 and an average lot value of $9,000 would have an annual increase of $1,863 under Option A and $1,289 under Option B.

Financial Impact on City General Budget: This section describes how the mill levy would be affected by the increased valuation and loss of current lease revenues. We have determined that an increase of 26% in the general fund budget would be required under Option A and an increase of 51% would be required under Option B. The corresponding city mill levy amounts would be 58.177 and 59.179 respectively.

Impact on Utility Operations: The utility operation would be significantly affected by the increase of 348 connections (33%). The current utility operation has a profit margin of just 1.3%. The increase in volume should result in economy of scale. Applying a marginal cost rate of 30% to the new volume would produce approximately $217,000 more in utility profits to cover additional staff and materials. It is obvious that additional utility O & M staff would be needed. The city will need to closely analyze utility operations after the annexation to determine when staff additions would be required.

FINANCIAL IMPACT ON THE GENERAL FUND

The current calculation from the state budget form shows that the maximum permissible amount of ad valorem taxes would be approximately $1,290,000 after the annexation under Option "A." as shown in Table 1 below, we used an increase of 26% over the existing levels in the general and employee benefits accounts to get a total of $1,152,000, or about 89% of the maximum. The 26% increase would provide approximately $217,000 of new revenue to offset the loss of lease payments. The new city mill levy would become about 58.177.

TABLE 1 – General Fund Levy with Option A

	Current Mill Levy	Current Valuation	Current Revenue	Increase By	New Revenue	New Valuation	New Levy
General Account	35.087	13,669,277	$479,614	26.000%	$604,314	19,802,001	30.518
Employee Benefits	25.393		$347,104	26.000%	$437,351		22.086
Economic Development	1.001		$13,683	2.200%	$13,984		0.706
Library	5.147		$70,356	2.200%	$71,904		3.631
Library Emp. Benefits	1.752		$23,949	2.200%	$24,475		1.236
Existing Levy:	68.3800		$934,705		$1,152,028	**New City Levy**	**58.177**
			Total New Revenues		$217,322	Total Tax Levy	200.363
			Maximum Tax Allowed:		$1,290,089		

The proposed annexation would have effects on the general fund in addition to the ad valorem tax amounts. Other amounts in the current general fund include:

- Vehicle and Watercraft Taxes: These would likely increase when renewals take place as the owners would be within the city jurisdiction.
- Local Liquor Tax: There would be little change in this as the sales likely have been taking place in the city anyway.
- Sales and use tax-County: Would likely be unchanged as the sales are already in the county.
- Franchise Tax: This item will increase due to more electrical and gas connections move to the city.
- Licenses and permits: These would increase gradually as they are needed by the lake property owners.
- Court fees: These would likely remain the same or slightly increase.
- Rural Fire Contracts: This line item was estimated at $48,000 and was probably to service the lake properties. That would be eliminated as the fire service would be covered in the annexation.
- Swimming pool receipts: This would probably not change.
- Farmland Lease and CFAP: No change
- Lake Leases: $420,000 would be reduced to $210,000 in Option A but would become zero in Option B. As mentioned above, the 26% increase in the general fund will generate about $217,000 of new revenue, which cancels out the Option A decrease in lease payments. With

Option B, there would be another $210,000 decrease in lease payments, leaving a shortfall in the general account of about $210,000. See below for further discussion on this matter.

- Recreation Receipts: Probably little change.

City ordinance prohibits transfer from utility funds to the general fund. If option B is the final choice, further adjustment in the general fund levy would be required to offset the loss of the remaining $210,000 of lake lease payments. Table 2 below shows the change in the general fund levy needed to generate the additional funds to offset the loss of lease payment revenue.

TABLE 2 – General Fund Levy with Option B

	Current Mill Levy	Current Valuation	Current Revenue	Increase By	New Revenue	New Valuation	New Levy
General Account	35.087	13,669,277	$479,614	51.000%	$724,217	22,959,331	31.543
Employee Benefits	25.393		$347,104	51.000%	$524,127		22.828
Economic Development	1.001		$13,683	2.200%	$13,984		0.609
Library	5.147		$70,356	2.200%	$71,904		3.132
Library Emp. Benefits	1.752		$23,949	2.200%	$24,475		1.066
Existing Levy	68.380		$934,705		$1,358,707	**New City Levy**	**59.179**
				Net Revenue Increase:	$424,002	Total Levy	201.365
				Maximum tax allowed:	$1,477,909		

An increase in the general fund of 51% would provide about $424,000 of new revenue, which would result in a city mill levy of 59.179. The new mill levy if all other taxing units remained the same would be 201.365. The total ad valorem tax amount of $1,358,707 would be 92% of the allowed amount.

We have provided an Excel workbook that permits city staff to make “what if?” comparisons of adjustments in the mill levy for each of the options. It also makes automatic changes in the comparative worksheet with various property values to enable lake residents to determine the approximate changes in their annual ownership costs with each of the options.

IMPACT ON UTILITY OPERATIONS AND MAINTENANCE

The city utility department will be the most impacted by the proposed annexation. Council Grove has 1,038 households according to the 2020 Census information. The proposed annexation would add 348 households to the sewer and water connections, an increase of 33%. This is likely to require additional personnel, especially in the maintenance area. Initially, the maintenance issues with the new connections would not be much but will increase over time. If we analyze the existing O & M levels and apply that to the increase in connections, we can estimate the additional revenues that could be available for personnel costs. This is summarized in Table 3.

This table introduces the marginal cost concept. Some costs in delivering utility services are fixed regardless of the number of customers (office personnel). Other costs vary with the number of customers (installation and repair personnel, equipment, expendable supplies). The current staff might be adequate to support the addition of 20, 30 or 50 new customers, but eventually new staff positions would be needed.

Table 3: Financial Impact on the Utility Department

Description	Before Annexation	After Annexation	% Increase	Actual Increase
No. of Households	1,038	1,386	33.53%	348
Water Gross Revenue from HsHlds*	$542,500	$737,519	35.95%	$195,019
Sewer Gross Revenue from HsHlds*	$162,400	$243,289	49.81%	$80,889
Solid Waste Gross Revenue from HsHlds	$106,400	$142,072	33.53%	$35,672
Total Utility Gross Revenue	**$811,300**	**$1,122,880**	**38.41%**	**$311,580**
Using a marginal cost percentage of:		**30.00%**		
Water Net Expenses**	$575,791	$634,296	10.16%	$58,506
Sewer Net Expenses**	$118,624	$142,891	20.46%	$24,267
Solid Waste Net Expenses**	$106,400	$117,102	10.06%	$10,702
Total Utility Net Expenses	**$800,815**	**$894,289**	**11.67%**	**$93,474**
All Utilities Net Income	**$10,485**	**$228,591**	**2080.11%**	**$218,106**
PerCent Utility Profits	**1.29%**	**20.36%**		
Using a marginal cost percentage of:		**50.00%**		
Water Net Expenses**	$575,791	$673,300	16.93%	$97,510
Sewer Net Expenses**	$118,624	$159,069	34.09%	$40,445
Solid Waste Net Expenses**	$106,400	$124,236	16.76%	$17,836
Total Utility Net Expenses	**$800,815**	**$956,605**	**19.45%**	**$155,790**
All Utilities Net Income	**$10,485**	**$166,275**	**1485.79%**	**$155,790**
PerCent Utility Profits	**1.29%**	**14.81%**		

* Assumes 70% of gross revenues & expenses from Households

** Net of transfers

Determining the marginal cost percentage is somewhat of a subjective process. In cost-benefit analysis projects, we typically use 30% as the marginal cost rate. For example, in Table 3, the line for “Total Utility Net Expenses“ before the annexation is $10,485 or 1.29%. Thus, expenses were 98.71% of revenues. If we applied that rate to the expected revenues of $1,122,880, the projected expenses would be $1,108,732, or $110,072 more than the existing expenses.

The marginal cost principle means that the actual increase would only be 30% of the projected increase, or $90,003 needed to maintain the existing level of service. Thus, the “All Utilities Net Income,” shown in the Table as $20,266, would increase by $210,006 ($300,009 minus $90,003), with that many dollars to fund the increased variable expenses. Table 3 shows the 30% and 50% marginal cost rates. The greater the marginal cost, the less amount would be available to cover additional staff.

IMPACT OF ANNEXATION ON OWNERSHIP COSTS

It is important to consider the financial impact on property owners from an annexation. In this case, property owners in the city would see their taxes decrease somewhat from the increased valuation. The lake property residents would have some significant increase in ownership costs. The lake properties all have wells and septic tanks. The annual operating costs of those facilities might be significantly less than city utilities. However, the costs of replacing pumps and cleaning septic tanks can be significant and complete replacement, if necessary, can easily be $5,000 - $10,000.

We don't have information available on the current operating costs. In preparing a comparative value spreadsheet, we have assumed a current operating cost of $600 per year to cover electrical and other maintenance cost for the well/septic tank situation.

We have submitted a separate Excel workbook that shows a comparison of before and after each of the annexation options for improvement values from $100,000 to $200,000, including the average value of $147,500. We also included lot values of a similar amount in relationship to the average lot value of $9,000. The full worksheet is attached as Table A.

In summary, the existing taxes and operating costs for the average property in the city lake taxing unit are approximately $5,561 per year. With Option A, the annual costs would increase by $1,863, or just over $150 per month. With Option B, the same property would have an annual increase of only $1,289, or just over $100 per month.

By comparison, a property with an improvement value of $100,000 and a corresponding lot value would have an annual increase of $1,398 with Option A and just $815 with Option B. Other values in Table A are $120,00 through $200,000 in $20,000 increments.

Another factor for Option B is the price to be established for the city transferring the lot by deed to the owner of the improvements. We have not been tasked with any aspect of that process at this time.

FREQUENTLY ASKED QUESTIONS:

Lake property residents could be expected to have several questions about the annexation process. The next page contains a list of some of those questions and answers.

FREQUENTLY ASKED QUESTIONS REGARDING THE PROPOSED ANNEXATION:

HOW MUCH WILL MY TAXES GO UP?

It depends on your appraised and assessed valuation. You can get an idea of the change and how it affects your overall costs by looking at the chart that goes with this document. Find the column that is closest to your home value and follow down to see the effect of each option.

HOW MUCH WILL IT COST TO HAVE THE SEWER AND WATER SYSTEM INSTALLED?

The engineering firm has calculated that the special assessment for the sewer and water systems would be a total of $825 per year for the 40-year length of the loan. That amount could be lowered depending upon how much the USDA would provide as a grant, but the amount, if any, would not be known until the project is finished.

HOW MUCH WILL THE SEWER AND WATER COST PER MONTH?

The calculation for an average user that uses 5,000 gallons of water per month estimates that it would cost $66.00 per month or $793 per year. That amount would change according to how much water you use. The monthly minimum charge for water service is $17.15 plus $5.41 per each 1,000 gallons used. The monthly minimum for sewer service is $8.46 plus $1.92 for each 1,000 gallons.

WILL MY PROPERTY VALUE GO UP IF IT IS ANNEXED AND ADDED TO THE UTILITY SYSTEM?

Typically, the answer would be yes. How much is dependent upon sales that would occur after the annexation so that comparable values for the area can be available to the county appraiser.

HOW LONG WILL THE WHOLE PROCESS TAKE?

The annexation could take place later in 2022 or 2023. The bidding process and construction time for the water/sewer system could take two years or more depending on weather and other factors.

HOW WILL THE SYSTEM BE FINANCED?

The city will obtain a loan from the Kansas Department of Health and Environment (KDHE) and KDHE will then sell the loan to the U.S. Department of Agriculture (USDA) Rural Development. The loan will be repaid by the special assessments each year on the properties. The loan term will be 40 years at an interest rate to be determined by KDHE.

DETERMINING HOW YOUR PROPERTY WOULD BE AFFECTED BY THE PROPOSEDF ANNEXATION OF THE LAKE PROPERTIES

Find the column closest to your property appraised value and follow down that column to see how your property ownership costs would change.

Improvements Appraised Value	**$100,000**		**$120,000**		**$140,000**		**$147,500**		**$160,000**		**$180,000**		**$200,000**	
Assessed Value (11.5%)	$11,500		$13,800		$16,100		$16,963		$18,400		$20,700		$23,000	
Current Mill Levy Total and Tax Amount	144.740	$1,665	144.740	$1,997	144.740	$2,330	144.740	$2,455	144.740	$2,663	144.740	$2,996	144.740	$3,329
Current Lease Payment		$1,200		$1,200		$1,200		$1,200		$1,200		$1,200		$1,200
Average Lot Value and Tax Amount	$6,115	$885	$7,337	$1,062	$8,560	$1,239	$9,019	$1,305	$9,783	$1,416	$11,006	$1,593	$12,229	$1,770
Current Total Taxes & Lease		**$3,750**		**$4,259**		**$4,769**		**$4,961**		**$5,279**		**$5,789**		**$6,299**
Current cost of wells and septic tanks**		$600		$600		$600		$600		$600		$600		$600
Total Estimated Annual Costs		$4,350		$4,859		$5,369		$5,561		$5,879		$6,389		$6,899
Proposed Annexation Option A														
New Mill Levy Total and Tax Amount	200.363	$2,304	200.363	$2,765	200.363	$3,226	200.363	$3,399	200.363	$3,687	200.363	$4,148	200.363	$4,608
Annual Lease Payment		$600		$600		$600		$600		$600		$600		$600
Average lot value and tax amount	$6,115	$1,225	$7,337	$1,470	$8,560	$1,715	$9,019	$1,807	$9,783	$1,960	$11,006	$2,205	$12,229	$2,450
Special assessments for water & sewer		$825		$825		$825		$825		$825		$825		$825
Average water/sewer annual cost		$793		$793		$793		$793		$793		$793		$793
Total Taxes, Specials & Utilities		**$5,747**		**$6,453**		**$7,159**		**$7,424**		**$7,865**		**$8,571**		**$9,277**
Difference between now and Option A		**$1,398**		**$1,594**		**$1,790**		**$1,863**		**$1,986**		**$2,182**		**$2,378**
Proposed Annexation Option B														
New Mill Levy Total and Tax Amount	201.365	$2,316	201.365	$2,779	201.365	$3,242	201.365	$3,416	201.365	$3,705	201.365	$4,168	201.365	$4,631
Average lot value and tax amount*	$6,115	$1,231	$7,337	$1,478	$8,560	$1,724	$9,019	$1,816	$9,783	$1,970	$11,006	$2,216	$12,229	$2,463
Special assessments for water & sewer		$825		$825		$825		$825		$825		$825		$825
Average water/sewer annual cost		$793		$793		$793		$793		$793		$793		$793
Total Taxes, Specials & Utilities		**$5,165**		**$5,874**		**$6,584**		**$6,850**		**$7,293**		**$8,003**		**$8,712**
Difference between now and Option B		**$815**		**$1,015**		**$1,214**		**$1,289**		**$1,414**		**$1,613**		**$1,813**

* Lot value estimated based on the improvements value compared to the average value.

** Actual amount varies by property. This is an estimate only.

December 11, 2019

Debi Schwerdtfeger, Mayor
City of Council Grove
205 Union
Council Grove, KS 66846

Subject: Water and Sewer User Charge Rate Analysis Report

Dear Ms. Schwerdtfeger:

Attached is the rate analysis report for the City's water and sewer utilities. The report is self-explanatory but long, so I want to highlight a couple of important points here.

Mr. Craige has been very helpful. He has gathered data and information and filled in some information gaps for me. One issue he brought up is staffing. The utilities have had a hard time getting and staying fully staffed. Thus, recent expense statements understate the full cost of staffing. Therefore, in the models I increased staffing costs up to the point that should represent costs at full staffing.

A big picture issue is the possibility that the City and the City Lake area property owners are considering extending City water and sewer service to that area. That would be a very big move for both, it holds out the prospect of solving water and sewer problems for the Lake area property owners and it holds out the prospect of lower rates for the current City utility customers. There could be large benefits for both parties but of course, there are risks and big hurdles to clear before making such a move happen. My analyses answer questions you should consider early-on:

- What rates would current customers need to pay if the City did NOT extend service?
- What rates would all customers need to pay if the City DID extend service?

The analyses indicate current customers would enjoy lower future rates if the City DID extend service to the Lake area. To be clear, future rates would not lower than the current rates. They would be lower than they otherwise would need to be to fully fund the utilities. This is a classic "economy of scale" situation. Those extra customers would improve your economy of scale markedly.

My analyses indicate extending service is worth looking into further. Looking into other issues goes beyond the scope of this project. But having the models in hand, I could help you quantify incomes, costs and rates for whatever scenarios you might come across related to extending service. That would help you and the Lake area property owners make well-informed decisions.

For now, I will let the report speak for itself, but do not be concerned if you do not understand everything. The City has engaged me to present to the Council and answer questions. Covering issues face to face always seems to clarify things, so I look forward to doing that for you, the Council and the public very soon.

Finally, I am sure you and the Council members know of other cities and districts that also need rate setting help. As you run into these folks at rural water association meetings and other venues, I hope you will tell them about my services. I get much of my business by referrals from past clients and I hope to be able to trace several future clients back to my work with Council Grove.

Best regards,
GettingGreatRates.com

Carl E. Brown
President

Enclosure

Water and Sewer Rate Analysis Report

Council Grove, Kansas

Prepared December 11, 2019

Carl Brown, President
GettingGreatRates.com, LLC

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Council Grove, Kansas

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Executive Summary

The City's current rates are not in a cost-to-serve structure. The analyses calculate cost-to-serve water and sewer rates for the City, modified slightly to make the rate structures simpler, more practical and more like the current rate structures. The initial rate adjustments for the four scenarios will result in revenue increases or decreases that range as follows:

- *Water Model, 23.4 percent overall increase,*
- *Add City Lake Water Model, 9.0 percent overall increase,*
- *Sewer Model, 15.3 percent overall increase, and*
- *Add City Lake Sewer Model, 2.7 percent overall decrease.*

As the bullet points above show, the wildcard in this modeling is the possibility of having City Lake area properties connect to the City's water and sewer systems. Those scenarios are called, "Add City Lake…" above and are covered by Model 1B for water and Model 2B for sewer. Rates when City Lake area properties are also served are lower than those needed to serve only the current customer base because the City Lake area properties would share in paying the unavoidable costs of the utilities. This outcome requires two key assumptions:

1. *Those properties would pay the costs of building infrastructure for them, and*
2. *They would annex into the City and pay the in-City rates.*

***

The Meaning of This Report, in a Nutshell

The City of Council Grove, later called "the City" or "you," hired GettingGreatRates.com, later called "me," "we" or "I," to perform rate analysis of its water and sewer utilities, produce a report of my findings and recommendations and provide guidance on rate setting.

This report is detailed. The math behind the report is complex. These things make interpreting the models difficult. Following is the "Cliff's Notes" version of what the calculated rates will do and what they mean to customers.

The idea the rate calculations in this report are primarily based on is called, "cost-of-service" or "cost-to-serve" rates. This is the prime industry standard for utility rate analysis. Quite simply, if a customer causes the utility to incur a cost, that customer should reimburse the utility for that cost. The recommended rates move the City closer to cost-to-serve rates, but not all the way there. I stopped short of full cost-to-serve rates to keep the rate structures simpler and more practical for a small city that is growing slowly and serves no meters larger than two inches.

Customers will naturally compare the bills that result from the recommended rates with their current bills to see "What will happen to me?" When their bills go up, many will think the recommended rates are not fair. In fact, those customers are currently being subsidized by others who will see their bills go down, or not go up as much. Thus, everyone needs to change their benchmark for deciding what is fair and what is not. The benchmark should not be the current rates. It should be the costs incurred to serve customers.

Introduction

Overall, water and sewer revenues are too low. Both need to go up to fully fund the systems.

"Test year" is the one-year period from which data was used as the starting place for the analysis.

Having adequate rates is rate setting job one. But, having fairly structured rates is very important, too. Cost-to-serve rates are the clearest way to achieve both goals. I recommend clients adopt such rates, or rates that are as close as is practical for each. Therefore, I recommend the City eliminate the usage allowance in the water and sewer rates. In the water rates, I recommend reducing the number of declining rate blocks.

This report focuses on the scenarios that are a "sure thing" – rates needed to pay the costs of the current set of customers. However, it will also cover the possibility that the City will end up serving the "City Lake" area through new lines, connections and perhaps some upgrading of existing infrastructure as needed to extend service to such a large group of properties outside of what is the current City limit.

This report is the culmination of a process where I submitted information and data requests to City staff. They replied. We went through this step several times. As I received information and data, I modeled the City's finances and rates and submitted drafts for review and feedback. Staff reviewed those drafts to assure accuracy, and in some instances, made corrections.

With that feedback, I prepared and submitted a draft final report. Again, staff reviewed and gave me feedback, from which I revised the full report to arrive at this, hopefully, the final report.

The report is in two parts, this narrative report and a set of four rate analysis models. Each situation will be discussed in separate sections of the report.

As you read this report, please keep this in mind. The report does not *direct* the City to do anything. Actions you take or do not take are strictly up to you. The report is meant to inform and educate so you can then make well-informed decisions about actions to take. And the report and models are not legal recommendations. For legal issues consult your attorney.

Model Names and What They Depict

This report includes printouts of four models. They are:

1. "Council Grove, KS; Water Rates, Model 2019-1," later called the "Water Model." This model covers rates and fees for the current set of customers, primarily in-City customers.
2. "Council Grove, KS; Water Rates, Model 2019-1B," later called the "Add City Lake Water Model." This model covers rates and fees for the current set of water customers plus properties in the City Lake area. This model assumes those properties would pay the costs of building infrastructure for them, and they would annex into the City and pay the in-City rates.
3. "Council Grove, KS, Sewer Rates, Model 2019-2," later called the "Sewer Model." This model covers rates and fees for the current set of customers, primarily in-City customers. It is the same as the Water Model in bullet point number 1 above, except that it is for sewer, and
4. "Council Grove, KS, Sewer Rates, Model 2019-2B," later called the "Add City Lake Sewer Model." This model covers rates and fees for the current set of water customers plus properties in the City Lake area. It is the same as the Sewer Model in bullet point number 2 above, except that it is for sewer.

The "Water Model" and the "Sewer Model" depict rates for the same set of customers, respectively. The "Add City Lake Water Model" and the "Add City Lake Sewer Model" depict rates for a larger set of customers.

The "Add City Lake" models depend upon many things lining up correctly, so you should only adopt those rates if all goes well to bring the City Lake area onto the systems. If, in two or three years, that can work out, I suggest you give me a call for model updates to make sure the rate setting will turn out well.

Rate Setting Resources Beyond This Report

Over the years, I have found that several topics are common to many utilities. Others can be important to a utility at certain times in their development. In the past, I wrote about such issues in each rate analysis report. Now, I cover such issues in separate guides, all available for FREE download at https://gettinggreatrates.com/freebies/freebies.shtml. Following is a listing of a few those guides and resources:

1. How to Get Great Rates© (e-book)
2. Rate Setting Issues Guide©
3. Replacement Scheduler©
4. CIP Scheduler©

How to Get Great Rates focuses closely on rate setting for smaller systems. The Rate Setting Issues Guide expands upon the book to cover affordability, sustainability, bill assistance programs, meter size-based system development fees and minimum charges, and more.

The last two items in the list above are spreadsheet applications that enable users to build their own equipment repair and replacement and capital improvement schedules, calculate their costs and calculate revenues needed to pay those costs. In fact, these spreadsheets were extracted from my model template and made a bit more user-friendly for do-it-yourselfers. I encourage the City to use these two sheets so you can make repair and replacement and capital improvement plans more formal, more forward-looking and less reactive.

There are other guides and resources on this site. All are FREE, so check them out.

Cost-based Rate Calculations

To give you a synopsis of rate analysis, as I do it, and to make it easier for you to read and understand my findings and recommendations, a tutorial on my methodology is in order. Your situation is simple enough that I did not need to use all the methods I normally employ for calculating fair and adequate rates. Thus, I will tell you about cost-to-serve rate calculations in this subsection. But later in the report I will make a few recommendations that are different because your situation calls for a few variations to arrive at more practical rates.

Now I will describe the methodology I use.

When I analyze rates for a government-owned water-based utility, and other utilities that are empowered to assess cost-of-service rates, I use the cost-needs approach. The approach is exhaustively described in the American Water Works Association's "M1 Manual, Principles of Water Rates, Fees and Charges," Seventh Edition. This manual, in use since the 1960s and periodically updated, is considered by many to be the "Bible" of water rate setting best practices. The cost-needs approach is a static (one year) rate calculation. I enhance that approach by projecting costs and revenues into the future.

The cost-needs approach results in rates that are called, "cost-to-serve" or "cost-of-service" rates. Simply stated, the costs for a targeted time period, usually in the near future, are classified as "fixed," "variable," "capacity-to-serve," or some combination of the three. Fixed costs are converted to a minimum charge. Variable costs are converted to a unit charge. Capacity costs are converted to some combination of system development fees and surcharges to the minimum charge.

The first step is to classify operating costs, which is done in Table 8. The "Average Fixed Cost/User/Month" from Table 8 is used for calculating the base minimum charge. Also, from Table 8, the "Average Variable Cost to Produce/1,000 gallons (or other units)" is the basis for calculating unit charges.

The second step is to arrive at capacity costs. (In your case, capacity costs meter size-based rates are only modestly important, but I will cover that special situation later.) The peak flow proportion of those costs should be recovered, as much as possible, by meter size-based system development fees (new connection fees) and surcharges to the minimum charge. That was done. The remainder of those costs not recovered by system development fees and surcharge is then recovered through regular user charge fees in the proportions classified in Table 8.

The third step is to project costs ten years into the future. Generally, this is done by applying an expected inflationary factor to each cost. Some expenses, like postage, treatment chemicals and electricity, rise with inflation plus growth in the customer base or use. Those were increased in future years by both factors.

The fourth step is to set reserve goals through the tenth year. Those goals will only be met if (primarily) rates are set high enough and/or (secondarily) grants and subsidized loans are large enough to enable the utility to generate net revenues.

The fifth step is to arrive at the full suite of rates needed to fully fund the utility. This is a dynamic set of calculations, too complex to completely explain here. I will leave out some details. The "Cliff's Notes" version is this:

- The calculated bases for fixed costs and variable costs (Table 8) establish a ratio of the revenues that each rate component would generate in a cost-to-serve structure.
- To increase overall revenues to a target, each revenue stream is increased by the same percentage. Thus, the revenue streams remain in the same ratio to each other. That means they retain their cost-to-serve proportions.
- Once the overall revenue increase need is established, the base minimum charge is "back calculated" from the adjusted minimum charge revenue amount. The unit charge is "back calculated" from the adjusted unit charge revenue amount. The resulting rates are the starting rates, what you will (hopefully) adopt initially. In later years, you will increase these starter rates and fees across-the-board by an inflationary factor, to keep them tracking with rising costs.
- Of course, system development fees, minimum charge surcharges, investment earnings, penalties collected, and other income sources generate smaller revenues, which are added to rate revenues. And, I assumed future inflationary rate increases, so those revenues are added over the years, as well. Without explaining the details, you should have a sense that, while the math is complex, the rates are calculated to be proportionate to the costs each customer causes and the revenues will be adequate to cover all costs for the next ten years.

Cost-to-serve rates are considered by many, including me, to be the most mathematically fair and defensible rate structure. However, there are often good reasons to adopt rates that are at least somewhat different from true cost-to-serve rates.

Medium to large utilities almost always should have meter size-based minimum charges composed of two parts:

1. The basic cost to make any level of service available to any customer. These are the so-called, "fixed costs" that come from the classification exercise. Billing, general administration and similar costs that are the same for all customers, regardless of "size," make up the base minimum charge. To make it easier to understand this concept, and related concepts, I use catch phrases. For this type of cost, the phrase is: ***Fixed costs are related to the fact that you have customers.*** For every customer, you incur one increment of this type of cost. **In your case, since only 5.2 percent of your customers are served by meters over one inch in size, all fixed costs were calculated to be shared equally by all customers.**

2. A surcharge intended to recover all or part of peak flow or unusual capacity costs. These are almost always based upon water meter size because the larger a meter is, the greater is its capacity to sustainably pass peak flows (as determined by American Water Works Association studies). This peak flow capacity relates well to the cost of building infrastructure "big enough" to handle peak flows. ***Capacity costs are related to the fact that a particular customer has a certain capacity to demand flow or service, regardless of how much flow or service they actually use.*** The surcharges are added to the base minimum charge to arrive at the surcharged, or full minimum charge for each meter size. **Again, with few customers being served by meters over one inch in size, there is little to be gained by assessing meter size-based rates.**

Rate Analysis, in a Nutshell

At its simplest, rate analysis helps a utility arrive at rates and fees that are adequate – they will pay all the utility's costs. The next level of complexity is to arrive at rates that, on an average cost basis, will enable the utility to recover fixed and variable costs "fairly." Most small water and sewer utilities need analysis only to this level of complexity – doing more than that results in rates that are impractical for small systems.

Another level of complexity includes calculation of meter size-based minimum surcharges and system development (connection) fees. Another includes calculation of rates on a "marginal" cost basis, for special groups of customers. Yet another level is marginal cost basis calculation of rates for individual customers, such as a wholesale customer. These facets of analysis result in accurate but complex rate structures; appropriate for the larger utility with diverse customers.

Analysis can and should provide a sound basis for advising the utility to "go or don't go" concerning various actions it might take. Some of these actions are purely financial. Some, like the decision to enter into, or not enter into, a wholesale supply agreement, for example, include "hassle factor" and other non-financial issues. And because such are agreements are made for nearly forever, a mistake made in the beginning can hamstring a utility for years or decades to come. Regardless of system size, thorough analysis should always be done before entering into such agreements.

Unit charges are related to the volume of service received. While unit charges can be structured in various ways, the revenues they generate should be adequate to pay those costs that are related to the flow that customers use.

There are three, unit charge structures that I at least sometimes recommend, depending on each situation:

- Some systems need "conservation rates," or, their administrations simply like the notion of encouraging customers to use less of the utility's services. In this rate structure, the unit charge goes up as volume used goes up. Most of us respond to, or at least we think twice about it, when we are assessed a higher price to buy more of something. Conservation rates are most appropriate in areas with limited water supplies or in a utility that is bumping up against its capacity to produce water.
- Most systems use, and should use, level unit charges – a unit charge that is the same regardless of how much volume a customer uses. With level unit charges, customers are assessed unit charges on an average unit cost basis. Such rates are the easiest to calculate, they are the easiest for a clerk to explain to a complaining customer on the phone and the revenues such rates will produce next year are the easiest to accurately predict. I like to tell most of my clients that if they are going to err either on the side of complex rates that precisely assess costs to each customer or simpler rates that round off some of the accuracy corners but are easier to administer, choose simple rates. Most water, and almost all sewer service is assessed using level unit charges. I would have recommended this structure for you, but the City has had declining rates for years and I suspect most have grown quite comfortable with them. That structure is described next.
- The last major unit charge structure is called, "declining" rates. These are the reverse of conservation rates. I often call them, "use encouragement" rates. It is popular these days for many to belittle those who do not conserve resources at every opportunity. Declining rates are often scorned for that reason. However, if a system has an ample water supply and ample infrastructure to produce and distribute it, doing so will not cause unintended bad (mostly environmental) consequences; and if the governing body wants to encourage high use (which often entails such users hiring more or better paid workers), declining rates make sense. Declining rates are most appropriate in areas that have a high concentration of high-volume water using industry or in an area where folks want to attract such users.

For the techie reader, the analysis model we use – a Microsoft Excel spreadsheet application we call, "CBGreatRates" – is usually 3.8 mega-bites in size. Each rate analysis includes one of these sheets.

For a 1,000-connection utility, for example, we use another spreadsheet, 12.1 mega-bites in size, to sort and calculate customer volume use. We use one of these sheets for each rate class. There are usually five or so for the simplest rates. Each of these sheets is linked to the client's usage data file, usually a few mega-bites in size, for importing usage data. Thus, an analysis for a 1,000 connection utility totals 65 or so mega-bites in size.

For some of our larger client utilities with more rate classes and more customers, total size of all the linked spreadsheets runs over 250 mega-bites. We run computers with lots of RAM and memory but some of the calculations for a larger utility can take around 90 minutes to run. When usage data sheet runtimes get long we usually switch to a database format application to speed up the heavy number crunching.

To complicate the aforesaid just a bit, rate setting is first about recovering costs. Job one of utility rates is to pay the utility's costs. But usually proper rate setting is also about building adequate reserves; funding a capital improvements program (CIP); catching up on needed equipment repair and replacement (R&R); and covering similar needs. Thus, these soon-to-be-experienced costs or likely-to-be-experienced costs need to be factored into rates and fees, as well. Because time marches on and costs usually inflate over time, rate setting should account for the need for future incremental increases to cover inflation. And, you cannot just assume that because the utility needs more revenue that your ratepayers will be glad to pay higher rates. Rate affordability, and the public's perception of affordability, must be addressed, too.

Even the simplest rates situation requires some complex and integrated calculations to account for these factors. For that reason, I build a spreadsheet for each analysis that depicts, in virtual reality, the utility's real-life financial and rates situation.

These models are dynamic. When the initial rate increase is set higher, future inflationary increases can be lower. When minimum charges are set lower, unit or other charges need to be set higher to make up the shortfall. When future expenses need to be higher, or lower, or of a different nature, the models adjust rates and fees accordingly. Such modeling enables me to do dynamic "what-if" scenario calculations. That enables me to arrive quickly at the "best fit" rates for each utility.

Coincidentally, such a dynamic model makes it easy to calculate rate and other changes over the next two or three years, too. If a change does not affect the cost structure drastically, I can do the same for almost any cost or rate change. If, one, two or three years from now, you discover your costs or incomes will be different from what I had assumed, you can call me up, tell me what is different, I will enter the changes into the model(s) and re-run the rates. If the change is small and quick to model, I do that for no charge. If it is more complex and will take some time and usually a written report, I do those projects on an hourly basis. Fees for those usually come in at $500 – $1,000. Some of my clients find that to be a very accurate and cost-effective way to maintain good rates.

Two final thoughts on the rate modeling and adjustment topic:

- Almost always, rate adjustments include bill increases. Thus, time is money, often big money, to the utility. A rate increase delayed is a rate increase that must be even higher to reach the same reserve target. Get to know this report well but do not spend months mulling it over. Time will not make your rate setting task easier. Proceed deliberately but quickly and make the needed changes. If you cannot make all the needed changes at the same time, make those that you can as soon as you can.
- You will get complaints about customers' bills going up. In my experience, most of the time, when the math is laid out for all to see, most people are understanding. Cost-to-serve rate analysis does not arrive at unfair rates. It arrives at fair rates. The degree by which some customers' bills change highlights the fact that rates are unfairly structured right now.

Please keep the above summary of cost-based rate calculations in mind as you read on.

Principles

I use several guiding principles when I help systems set their utility rates, fees and policies. As you read the report and models, keep in mind that my recommendations have been weighed against these principles:

1. Water, sewer and all other utilities are businesses, regardless of who owns them. Businesses must cash flow properly. Otherwise, they go out of business and your customers do not want that.
2. In addition to functioning in a business-like manner, a utility has a responsibility to its customers to strive to guarantee its long-term prosperity for their benefit. The customers expect the service to be there whenever they want to use it. Thus, a utility must err on the conservative side by building and maintaining strong reserves that will enable it to weather financial storms.
3. If a service costs the utility money, the utility should recover that cost from the most logical "person" if that makes good business and community administration sense. For example, generally "growth should pay for growth." Developers should fairly pay for their consumption of utility capacity by paying commensurate system development fees. Likewise, service users should pay for what they use. Each user or class of users should pay their fair share of service costs.
4. Sometimes contradicting point number 3 above, if adjusting a rate, fee or policy will turn currently "good" customers into "bad" customers, or discourage development that the community desires, consider the necessity of the change carefully before making it. For example, while it may be warranted, raising the minimum charge markedly to your residential customers may make it very difficult for fixed, low-income customers to pay their utility bill. That may cause more of them to pay late or not pay at all. That may trigger the utility's attorney to write collection letters to those customers and eventually require shutoff of service. Thus, in the attempt to generate more net revenue by raising rates, net revenues may go down due to non-payment and payment collection costs. Likewise, stifling development with uncompetitive system development fees costs a utility in the form of additional paying customers. That forces existing customers to pay all the costs of the utility rather than sharing them with new customers.
5. While cost-based rates are the most demonstrably fair rate structure, they can be impractical for some utilities. Consider this: a large city with thousands of customers served by a wide range of meter sizes and a wide range of use by its customers, needs rates that are cost-based and, necessarily, those rates are complicated. Such rate complexity is worthwhile because the utility's situation is complicated. But a small town serving only a few meter sizes and few, if any, customers that use high volumes would not be well-served with complicated rates. Simpler is better for them.

Several Issues

Derrick Craig, Utilities Superintendent told me that the water and sewer utilities have been operating at approximately half staff for some time and they have found it difficult to retain staff. Therefore, starting in 2020, I raised the level of salaries and related benefits of staff up to, hopefully, the level that will enable the utilities to come up to and retain full staffing. These changes show up as tan highlighted items in Table 4 of each model.

Concerning construction of the models, they were built to match the systems' financial statements and other data as much as possible. However, the intent of rate modeling is to see to it that the resulting rates are adequate to pay all system expenses for the next ten years, build and maintain responsible reserves and collect fees from customers on a fair basis. Because incomes and expenses in standard financial statements, and other data, are seldom grouped in such a way as to enable the required rate calculation methodology, the models do not always match your statements.

For modeling purposes, it does not matter whether funds are held in the general system account, a debt service sinking fund, repair and replacement fund, etc. Therefore, the models account for funds in a more simplified way than you probably will. When it comes to segregating funds, staff knows best how to do that, so the models do little in this regard and leave the segregating up to staff.

Several line graph charts in the models graphically depict some things which would be difficult to pick out of the tables. In all the charts, the **blue line** represents what would happen under the **recommended** rates and the **red line** under the **current** rates. Financial trends for the red lines are (generally) bad. Those for the blue lines are (generally) good. Review the definitions section of the Water Model, to learn the meaning of terms used in the charts of both analysis models.

I will say it simply, like this. Chart 8 depicts reserve levels under the existing rates (red line) and the modeled rates (blue line). When the blue line goes up, that is a good thing for the utility. When the red line goes down, that is a bad thing, at least, if you decide to keep your current rates. If either line is headed down toward zero, that is a very bad thing that needs to change by reducing costs, if you prudently can, or increasing rates.

In contrast to Chart 8, Charts 3 and 4 in the models depict user rates. When the Chart 3 and 4 blue lines go up, meaning rates are going up, customers don't like that. But the utility will be better funded as a result of those higher rates and that benefits ratepayers because it makes their utility more resilient and able to make improvements that will serve them better.

One thing you will notice in viewing the charts in the models is this. Sometimes, only one of the lines shows up. When that occurs, it means that all the lines are taking the same path (one line is covering up the others). For example, sometimes Chart 5 shows only one line – the working capital goal amount. When that happens both the current rates and the modeled rates' net revenues are adequate to satisfy the goal, so those two lines are hidden by the line for the goal. That is because, in the models, I programmed all funds that exceed what is needed to meet the working capital goal to "spill over" into the CIP and Debt Service fund reserve. When that happens, rest assured, the other two lines are underneath the goal line and that is a good thing.

Charts 6 and 7 can do the same thing, making it seem like the current rates are "just as good as" the modeled rates. But, Chart 8 will spell the difference between the two sets of rates. The modeled rates will generate more revenue and, thus, produce stronger total reserves. Since the working capital reserve gets truncated at a certain level, the differences in the total reserves show up in the CIP and Debt Service fund balances. These balances appear near the bottom of Table 6 of each model, and they are included in the Chart 8 amounts of each model, too.

As you set and later reset rates, I suggest you follow the guidance I give in my book, "How to Get Great Rates." This book is one of the rate setting resources I mentioned earlier.

Meter Size-based Rates, Not Very Useful in Your Case

I almost always recommend meter size-based system development fees (connection fees) and minimum charges for both water and sewer utilities. In your case, I am not, for these reasons.

The City is growing little, if at all during most years, so system development fees are nearly a moot point. Without growth, the level of the connection fee does not matter, or it only scarcely matters. And, having meter size-based system development fees makes the rate structure more complicated.

The City serves only about 60 connections through one inch or larger meters and the largest meter served is only two inches. Capacity costs do not start to mount up until you get up to two inches. That puts minimum charges into the same situation as system development fees above. I suggest you keep it simple and continue with one minimum charge for all meter sizes in the City and a higher, but the same minimum charge for all meter sizes outside of the City.

As to connection fees, I suggest you stick with a level connection fee structure but do try to recover all costs you incur to make new connections at least on an average connection cost basis. Mr. Craige told me that the City makes all new connections for new customers and the cost of making those connections averages $1,500. I assumed that level of fee, plus inflation, in my modeling, too.

If you want to learn more about meter-size based rates, please read Chapter 12 of the "Rate Setting Issues Guide" mentioned near the beginning of this report.

To conclude the meter size-based rates issue, each of the water and sewer models is "missing" several of the numbered tables. That is not an error. My rate analysis template includes several tables that are needed for analyses that call for meter size-based rates. However, your situation is simpler than many, so I did not need several tables that compute meter size-based system development (connection) fees and minimum charges. Therefore, I hid Tables 11 through 16, because they do not apply in your case. And, in the "City Lake Area" models, I hid additional tables because they are duplicates of the tables in the models that precede them. All of this was done to reduce confusion and to reduce report size.

Action Recommendations for Policy and General Issues

Use the following as a checklist of "to-do" tasks. Many if not all these things you are already doing but they bear repeating:

1. Periodically determine how long, on average, it takes to perform the various services you provide in the field, such as after-hours service, meter disconnects and reconnects, special meter readings, etc. Be sure to include all the time you actually pay staff for performing these services. Then determine how much it costs the utility per hour, on average, to have staff perform these services. This includes benefits, taxes, use of utility vehicles, tools and minor equipment, etc. It should also include a fair amount to cover the time that office staff devotes to working on these services to track them, bill for them, etc. This should be the hourly rate or a set fee you will charge for these services. In addition, set a minimum that you will charge for showing up, whether the service takes an hour to perform or 10 minutes. In essence, set your fees in the same way plumbers and similar technicians do – a set fee for showing up, which buys the customer a set amount of time, and an hourly rate if the job takes longer than the show up charge will cover. While accounting for time and other investments in the various functions is important, do not make the process burdensome. For many functions you likely can just estimate your time occasionally and charge fees based upon those estimates.
2. Retain required funds in interest bearing debt service and debt reserve accounts when required by your lender(s).
3. Have me conduct a full rate analysis again when the actual financial performance and my projection of future performance diverge significantly. Conditions should dictate rate analysis frequency.
4. Fully adopt management strategies that are included in what is most commonly called, "advanced asset management." These strategies can yield better service and reduced costs for a utility, especially those looking to build new facilities or replace existing facilities soon. At a basic level, you can use my free spreadsheet tools to do capital improvement and equipment repair and replacement scheduling, costing and annuity calculations – the core of asset management.
5. Track volume usage, incomes and expenses on a regular basis so the data and information you generate will support future rate analyses.

6. As a reminder, check with your attorney for language and legality of all charges and issues discussed.

The remainder of this report directly addresses the analysis findings and my recommendations, first for water and later for sewer. Several issues affect both water and sewer rates. Thus, to keep the report shorter and simpler, I will cover such issues in the water subsection. In the sewer subsection, I will just refer readers back to the water subsection for those issues.

Section 1 – Water Rates for the "Serve Existing Customers Only" Situation

This section, and the related model, assume the City will NOT annex or otherwise serve the properties in the area of the City Lake.

Recommended Rate Structure

Your current water rate structure is simple enough for minimum charges but too complex for unit charges. I recommend changes mainly to simplify rate structure. These include:

- A single new connection fee for in-City new connections and a single, new connection fee for out-of-City new connections that is double the in-City rate. One caveat: if a developer wants to build something that will require a meter larger than four inches, the Council should retain the right to negotiate a higher fee that considers the higher capacity cost of such a connection. Aside from connection fees in such a case, you may also need to consider the use and demand such a customer could exert on the systems to make sure they have adequate capacity to serve.
- Minimum charges that are the same regardless of meter size with the out-of-City rate double the in-City rate. This is your current structure and I find it to be fairly common.
- No usage allowance.
- A unit charge structure, again, double the in-City rate for out-of-City customers. Like the minimum charge, this is also fairly common.
- Unit charges in a declining rates structure, but with fewer rate blocks than you currently have. I almost never recommend declining rates but reducing the number of rate blocks would be a good improvement to make in your case.

Volume Usage

Table 2, page 41, shows the volumes used by each rate class of customers. Note that for some of the rate classes, not all the volume ranges show. That is for two reasons.

1. First, and most consequential, the City's billing programs were quite difficult to get usage data out of. That is plural – programs – because the City changed billing programs during the test year, so Laura Worrell with the City had to get data from two different programs to get data for the full test year. She tried many ways of exporting and extracting data. None enabled her to get data for every month for every customer, which is the level I was seeking. Thus, I had to use total billed volume for each rate class, from which I calculated per customer average monthly use. That is important because the City's rate structure has six unit charge rates that begin at different volumes of use per month. Without the monthly usage, the projected revenues for the test year did not match the booked user charge fee income as closely as I would like. However, I adjusted future rate revenues downward by that same percentage variance, so that will adjust away the income variance to a large degree.
2. There was no usage in some usage ranges, so I hid the unpopulated ranges just to save space in the Model's output. In later tables, you will see that I used this space-saving technique there, too, so do not be disturbed when some ranges of volumes or rates do not show.

Expected Incomes

Table 3, page 46, shows past income and future incomes to expect under the recommended rates and fees, as well as several other things related to revenues.

In Table 3, near the top, on the line called, "Rate Increases Projected for Future Years," note that I show a three-percent annual across-the-board rate increase in future years. That means, in years after the initial rate adjustments, you will need to raise all important rates and fees by three percent each year to enable incomes to keep up with inflation, pay for improvements and build the reserves to the target level.

Expected Operating Costs

Table 4, page 47, shows expected operating costs. A few costs deserve discussion.

With just a few exceptions, all the costs are expected to rise by 3.0 percent each year. However, the yellow highlighted costs are expected to rise by that percentage, plus grow as the customer count or usage grows, too. Though growth is slow, those costs were increased by both factors.

Capital Improvements

Table 5, page 49 covers capital improvements and debt. I was given capital improvements to model by Matthew Anderson, PE, CEM, Senior Project Engineer with CTS Group, the City's consulting engineer. Mr. Craige provided additional project descriptions and estimated costs.

The majority of these improvements are equipment repair and replacement (R&R) in nature. Funding agencies do not fund R&R, therefore, I assumed the City will not be able to fund most of these improvements with grants. It is more likely the City could get agency loans or guarantees from funding agencies but to be conservative, I assumed the City will go to the commercial lending market for municipal loans of leases. Thus, I assumed the City would take a tax-exempt loan or lease from a local bank.

I assumed the City would loan-fund 100 percent of project costs, incur some loan acquisition costs and the loan would be for a 20-year term at 3.5 percent interest.

Some of these improvements should yield operating cost savings in the form of more billable volume being registered through accurate meters and power savings by the variable frequency drives. I did not model such savings but whatever savings do occur will enable the City to accrue reserves faster than I projected. If savings are great enough, you may be able to slow down future rate increases.

Repair and Replacement Costs

Mr. Craige provided a repair and replacement (R&R) schedule which I entered into Table 6, page 51. The annual annuity for that level of cost was calculated in Table 7, page 54, and that amount shows up near the bottom of Table 4 as an annual operating cost. Thus, the estimated cost of that work has been figured into the modeled rates.

I discuss R&R extensively in the "Rate Setting Issues Guide" and the spreadsheet called, "ReplacementScheduler©" can be used to schedule R&R and calculate the annuity (annual savings amount) needed to pay for it. You may want to download that spreadsheet and make your R&R program a little more formal.

Target Reserve Levels

Your current total reserves are a bit stronger than half of what they should be, based on your current operating and other costs. I targeted operating, capital improvement and debt coverage reserves ten-years out to meet the slightly higher reserve goals. The following spells out in more detail reserves I targeted:

1. Unobligated cash and cash equivalent reserves equal to at least 35 percent of the annual operating costs, not including debt service and general administration costs. *Your utility is on the smaller side, so I recommend 50 percent (bottom of Table 4, page 47;*
2. A 20-year repair and replacement (R&R) schedule reserve, in the 20th year equal to at least one average year's cost of R&R. *You do not have such a schedule, so I estimated such R&R costs at 15 percent of operating costs (bottom of Table 7, page 54),* and

3. Capital improvement and debt reserves at the end of the tenth year, after debt is paid, equal to that year's debt payments plus cash-paid capital improvement expenses. *In your case, I recommend the same (bottom of Table 5, page 49.*

The lines on the bottom of Table 17, page 62, and several of the charts at the end of the Model show the reserve balances to expect for the next ten years. The last line of Table 17, the "Sum of All Reserves," is the critical one.

As shown by the blue line in Chart 8, page 75, total reserves will grow gradually over the next ten years. The red line depicts reserves if you were to not increase rates for ten years, but still incur the modeled costs.

Projecting budgets and ending balances for next year is a difficult task. Doing the same five years out, I can usually get close. Ten-years out, there are so many assumptions we must make now that will not pan out years from now that you should not bank on those numbers. But they serve as good planning targets. In most cases, a utility will see big cost, income, growth, debt and other changes looming on the horizon a few years out. When that happens, it is time to do a new rate analysis to get rates back on track to meet those challenges. Thus, target balances give you something to aim for, but the target will move over time. With each new rate analysis, we will bring you back on course.

Rate Affordability

Rate affordability, often measured by the Affordability Index, is an important indicator to which you should pay attention.

In Table 17, near the top, I show the estimated Affordability Index. The Affordability Index is also shown graphically in Chart 4, page 73.

In the table, the Affordability Index calculation for the test year was at 1.07 percent. That means, such a customer paid 1.07 percent of their monthly household income to pay their monthly water bill. The national average is around 1.0 percent and that is consider affordable, so your current rates are close to average.

Affordability Index: The monthly charge for (typically) 5,000 gallons of residential service divided by the median monthly household income for the area served by the system. An index of 1.0, meaning a household pays one percent of its income to pay its bill for 5,000 gallons of service, is generally considered affordable. The Affordability index is a primary factor in determining grant and loan eligibility and grant amount.

Under the recommended rates, this customer's bill would go up, with an Affordability Index of 1.29 percent after the initial rate adjustments. That is important because most grant programs that have an Affordability Index eligibility criterion try to keep rates, after a capital improvement is completed and debt is in place, below 1.5 to 2.0 percent. Your rates will grow only slightly in future years, so you may never become grant eligible. However, do not dismiss grants entirely for future projects. You might get a grant based other reasons.

The Affordability Index is useful, but it does not depict how new rates will affect customer types or those using different volumes. Table 18, page 63, shows how customers' bills at different volumes of use will be affected by the recommended rates. Table 18 gives ratepayers useful information. It is one of the few tables from the Model that I recommend you copy and bring to the council meeting where we will discuss rates. Because most customers are concerned about what will happen to their bills, you should give this table to everyone who wants a copy.

What everyone should get from Table 18 is, bills for most residential and lower volume commercial customers will be little affected by the recommended rate adjustments. Higher volume customers' bills will go up more.

Recommendations for Adjusting Water Rates for the "Serve Existing Customers Only" Situation

The Model is complex, components of the rates and fees are calculated and shown in different tables and the Model does not spell out policy issues. Therefore, I summarize my recommendations as follows:

1. Table A that follows this list states the rates and fees to adopt.
2. The calculations assumed you would have made these adjustments early enough to enable you to collect at these rates for the March 1, 2020, billing. I recommend you try to adjust rates sooner, so you can start building reserves sooner.
3. You would need to satisfy all Statutory requirements for making rate adjustments in advance of the adjustment date.
4. Approximately one full year after the initial rate adjustments, examine the costs and incomes the utility experienced during that year, plus the balances that have accrued. Compare those items to the same items in Tables 3, 4, 5 and 17, of the Model.
    a) If all accrued close to the values in the Model, raise all rates by 3.0 percent, as shown near the top of Table 3, page 46.
    b) If balances did not accrue as shown at the bottom of Table 17, but they are not egregiously too low, follow the instructions in Chapter 9 of the book, "How to Get Great Rates" for how to make inflationary increases correctly.
    c) If balances were too low by an amount that is troubling to you, call me to discuss the situation. It is likely I will be able to "talk you through" how to make appropriate rate adjustments to correct the situation.
5. Repeat recommendation Number 4 each following year until you have raised rates and fees by a cumulative 20 percent, which should occur in about seven years from now. At that time, have me or another rate analyst of your choice perform a new rate analysis, so rate structure and adequacy can be adjusted again. If you need capital improvements or repair and replacements that are quite different from those assumed, you will need a new rate analysis sooner than that.

Table A: Recommended Water Rates for the "Serve Existing Customers Only" Situation

Table A: Council Grove, Kansas Water Modeled System Development Fees; Minimum Charge; Usage Allowance and Unit Charges

			Rates per 1,000 Gallons in These Volume Ranges			
	System Development Fee	Monthly Minimum Charge	0 - 10,000	10,001 - 20,000	20,001 - 200,000	200,001 and Greater
In-City	$1,500	$17.41	$5.33	$4.80	$4.32	$3.89
Out-of-City	$3,000	$34.82	$10.66	$9.59	$8.63	$7.77

Closing

I recommend you adopt the rates calculated in the Model and discussed in several subsections above. The recommended rates are shown in Table A immediately above. These rates were calculated using cost-to-serve principles, but they were set in a structure much like your current structure. These rates will fully fund the utility over the long term. It is important that you examine accumulation of balances each year to assure the rates are bringing in adequate revenue. If they do not, increase rates across the board by a percentage that will bring the balances up to where I calculated they need to be each year.

This combination of adjustments will result in a significant overall increase in water rate revenues. For the average residential customer and lower volume commercial customers, elimination of the usage allowance is the main drive of bill increases. Future inflationary increases will raise all bills by 3.0 percent per year.

Section 2 – Water Rates for the "Add City Lake Area Properties" Situation

This section, and the related model, assume the City will annex or otherwise serve the properties in the area of the City Lake. That would require line construction and perhaps other system improvements. I assumed those costs would be paid by City Lake area property owners. There are several ways that could be accomplished but the important point is, existing customers would not be required to pay for improvements that would only benefit City Lake area property owners. I also assumed that the City Lake area properties would annex into the City and, therefore, be assessed the lower In-City rates. Based on these critical assumptions, having more customers share unavoidable costs would enable rates to stay lower than those in Section 1.

Most of the modeling is unaffected by this scenario, so the Model tables that are not affected, or are only slightly affected, have been left out of the report.

Expected Incomes

Table 3, page 78, shows past income and future incomes to expect under the recommended rates and fees, as well as several other things related to revenues.

In Table 3, near the top, in the gold highlighted cells you can see that 350 customers in the City Lake area have been added to the customer base. I assumed several things regarding adding the City Lake area properties to the system:

- There would be 350 more customers on the system,
- City Lake area property owners would pay a one-time special assessment, or otherwise pay the cost of building facilities needed to serve them,
- City Lake area property owners would not be required to pay connection fees if the City did not actually do the work to make those connections or the City did not pay a contractor to make those connections. If the City did shoulder those costs, City Lake area property owners would pay connection fees. Either way, the cost of making those new connections would be a "wash" for the City, and
- City Lake area property owners, once connected, would pay the City's regular in-City user charge rates, assuming they annexed into the City.

Expected Operating Costs

Table 4, page 79, shows expected operating costs. Most costs would not rise due to acquisition of the City Lake area properties but a few, highlighted in yellow, would. While increasing the customer base by nearly 25 percent would surely reduce some costs on a per customer and per 1,000 gallons basis, I assumed no such savings. At this level of analysis and with acquisition of customers in this area being so speculative at this time, the current modeling should be sufficient for the parties to make an initial "go" or "no-go" decision. If the decision is to go, analysis can be further refined.

Capital Improvements

As in Section 1, I assumed all improvement costs that do not relate to extending service to the City Lake area will be funded 100 percent by borrowing.

To serve the City Lake area properties, major facilities must be designed, funded and built. There are various ways that might be accomplished. In whatever way you accomplish that, I assumed the City would not pay those costs or if it did, the City Lake area property owners would reimburse the City for those costs. Thus, the City would experience no net cost for these improvements. Table 5, page 81 reflects that outcome by showing the cash-paid expense of the improvements but also special assessments to match that cost.

Repair and Replacement Costs

Except for the fact that more customers would share in the cost of equipment repair and replacement, these costs would be little affected.

Target Reserve Levels

Target reserves for the two scenarios are nearly the same.

Rate Affordability

Rate affordability would be affected by having 350 additional customers – they would be lower than those in Section 1. In Table 17, near the top, I show the estimated Affordability Index. The Affordability Index is also shown graphically in Chart 4, page 98.

Rates without adding the City Lake area properties (Section 1) would have an Affordability Index of 1.29 percent. If the City Lake area properties are added, the Affordability Index would be 1.14 percent. That is a significant bill savings compared to the situation where service is not extended to the City Lake area.

Table 18, page 91, spells out bill changes in more detail. Readers should find it useful to compare this Table 18 with Table 18 from the Water Model on page 63.

Recommendations for Adjusting Water Rates for the "Add City Lake Area Properties" Situation

I summarize my recommendations for rates to cover this situation as follows:

1. Table B that follows this list states the rates and fees to adopt. These rates and fees assume the City would have received a solid commitment from City Lake area property owners to build the needed facilities and be able to connect to the City water system by early 2023.
2. The calculations assumed you would have made these adjustments early enough to enable you to collect at these rates for the March 1, 2020, billing. I recommend you try to adjust rates sooner, so you can start building reserves sooner. The calculations also assumed City Lake area properties would be connected and begin to pay water rates in early 2023 and those would be the rates in effect at that time.
3. You would need to satisfy all Statutory requirements for making rate adjustments in advance of the adjustment date.
4. Approximately one full year after the initial rate adjustments, examine the costs and incomes the utility experienced during that year, plus the balances that have accrued. Compare those items to the same items in Tables 3, 4, 5 and 17, of the Model.
    a) If all accrued close to the values in the Model, raise all rates by 3.0 percent, as shown near the top of Table 3, page 78.
    b) If balances did not accrue as shown at the bottom of Table 17, but they are not egregiously too low, follow the instructions in Chapter 9 of the book, "How to Get Great Rates" for how to make inflationary increases correctly.
    c) If balances were too low by an amount that is troubling to you, call me to discuss the situation. It is likely I will be able to "talk you through" how to make appropriate rate adjustments to correct the situation.
5. Repeat recommendation Number 4 each following year until you have raised rates and fees by a cumulative 20 percent, which should occur in about seven years from now. At that time, have me or another rate analyst of your choice perform a new rate analysis, so rate structure and adequacy can be adjusted again. If you need capital improvements or repair and replacements that are quite different from those assumed, you will need a new rate analysis sooner than that.

Table B: Recommended Water Rates for the "Add City Lake Area Properties" Situation

Table B: Council Grove, Kansas Water Modeled System Development Fees; Minimum Charge; Usage Allowance (None) and Unit Charges						
			Rates per 1,000 Gallons in These Volume Ranges			
	System Development Fee	Monthly Minimum Charge	0 - 10,000	10,001 - 20,000	20,001 - 200,000	200,001 and Greater
In-City	$1,500	$15.18	$4.74	$4.27	$3.84	$3.46
Out-of-City	$3,000	$30.37	$9.48	$8.53	$7.68	$6.91

Closing

If all parties commit to adding City Lake area properties as new customers of the City's system by early 2023, I recommend you adopt the rates calculated in the Add City Lake Model and discussed in several subsections above. The recommended rates are shown in Table B immediately above. These rates were otherwise calculated in the same way as the Water Model rates and require the same follow up measures as for those rates.

Section 3 – Sewer Rates for the "Serve Existing Customers Only" Situation

This section, and the related model, assume the City will NOT annex or otherwise serve the properties in the area of the City Lake. Except that the data and resulting rates are different, this section is nearly the same as Section 1 that covers water rates.

Recommended Rate Structure

These rates mirror the recommended water rates but with level unit charges. Note: This structure is a big change from the current sewer rate structure which includes consideration of the types of residential or business entity for each customer and the customer's "size." That structure is quite detailed and rather subjective. The rates I recommend do not include those considerations.

Expected Incomes

Table 3, page 114, shows past income and future incomes to expect under the recommended rates and fees, as well as several other things related to revenues.

In Table 3, near the top, on the line called, "Rate Increases Projected for Future Years," note that I show a three-percent annual across-the-board rate increase in future years. That means, in years after the initial rate adjustments, you will need to raise all important rates and fees by three percent each year to enable incomes to keep up with inflation, pay for improvements and build the reserves to the target level.

Expected Operating Costs

Table 4, page 115, shows expected operating costs. A few costs deserve discussion.

With just a few exceptions, all the costs are expected to rise by 3.0 percent each year. However, the yellow highlighted costs are expected to rise by that percentage, plus grow as the customer count or usage grows, too. Though growth is slow, those costs were increased by both factors.

Capital Improvements

Table 5, page 117 covers capital improvements and debt. I was given capital improvements to model by Matthew Anderson, PE, CEM, Senior Project Engineer with CTS Group, the City's consulting engineer. Mr. Craige provided additional project descriptions and estimated costs.

I assumed the City would loan-fund 100 percent of project costs, incur some loan acquisition costs and the loan would be for a 20-year term at 3.5 percent interest.

Some of these improvements should yield operating cost savings in the form of more billable volume. I did not model such savings but whatever savings do occur will enable the City to accrue reserves faster than I projected. If savings are great enough, you may be able to slow down future rate increases.

Repair and Replacement Costs

Mr. Craige provided a repair and replacement (R&R) schedule which I entered into Table 6, page 119. The annual annuity for that level of cost was calculated in Table 7, page 122, and that amount shows up near the bottom of Table 4 as an annual operating cost. Thus, the estimated cost of that work has been figured into the modeled rates.

Target Reserve Levels

Lines on the bottom of Table 17, page 135, and several of the charts at the end of the Model show the reserve balances to expect for the next ten years. The last line of Table 17, the "Sum of All Reserves," is the critical one.

As shown by the blue line in Chart 8, page 155, total reserves will grow gradually over the next ten years. The red line depicts reserves if you were to not increase rates for ten years, but still incur the modeled costs.

Rate Affordability

In Table 17, page 135, the Affordability Index calculation for the test year was at 0.48 percent. As compared to the national average of approximately 1.0 percent, one could reasonably call your sewer rates "cheap."

Under the recommended rates, this customer's bill would go up, with an Affordability Index of 0.52 percent after the initial rate adjustments – nearly as cheap as the current rates.

Table 18, page 136, gives bill comparisons, information that many ratepayers like to see. I recommend you copy and bring this table to the council meeting where we will discuss rates.

What everyone should get from Table 18 is, bills for most residential and lower volume commercial customers will be little affected by the recommended rate adjustments. Higher volume customers' bills will go up more.

Recommendations for Adjusting Sewer Rates for the "Serve Existing Customers Only" Situation

The Model is complex, components of the rates and fees are calculated and shown in different tables and the Model does not spell out policy issues. Therefore, I summarize my recommendations as follows:

1. Table C that follows this list states the rates and fees to adopt. Note that these rates have no usage allowance and they do not include consideration of "units" of service for various types of customers.
2. The calculations assumed you would have made these adjustments early enough to enable you to collect at these rates for the March 1, 2020, billing. I recommend you try to adjust rates sooner, so you can start building reserves sooner.
3. You would need to satisfy all Statutory requirements for making rate adjustments in advance of the adjustment date.

4. Approximately one full year after the initial rate adjustments, examine the costs and incomes the utility experienced during that year, plus the balances that have accrued. Compare those items to the same items in Tables 3, 4, 5 and 17, of the Model.
    a) If all accrued close to the values in the Model, raise all rates by 3.0 percent, as shown near the top of Table 3, page 114.
    b) If balances did not accrue as shown at the bottom of Table 17, but they are not egregiously too low, follow the instructions in Chapter 9 of the book, "How to Get Great Rates" for how to make inflationary increases correctly.
    c) If balances were too low by an amount that is troubling to you, call me to discuss the situation. It is likely I will be able to "talk you through" how to make appropriate rate adjustments to correct the situation.
5. Repeat recommendation Number 4 each following year until you have raised rates and fees by a cumulative 20 percent, which should occur in about seven years from now. At that time, have me or another rate analyst of your choice perform a new rate analysis, so rate structure and adequacy can be adjusted again. If you need capital improvements or repair and replacements that are quite different from those assumed, you will need a new rate analysis sooner than that.

Table C: Recommended Sewer Rates for the "Serve Existing Customers Only" Situation

Table C: Council Grove, Kansas Sewer Modeled System Development Fees; Minimum Charge; Usage Allowance (None) and Unit Charges

	System Development Fee	Monthly Minimum Charge	Rates per 1,000 Gallons
In-City	$1,500	$8.46	$1.86
Out-of-City	$3,000	$16.91	$3.72

Closing

I recommend you adopt the rates calculated in the Model and discussed in several subsections above. The recommended rates are shown in Table C immediately above. These rates were calculated using cost-to-serve principles. These rates will fully fund the utility over the long term. It is important that you examine accumulation of balances each year to assure the rates are bringing in adequate revenue. If they do not, increase rates across the board by a percentage that will bring the balances up to where I calculated they need to be each year.

This combination of adjustments will result in a significant overall increase in sewer rate revenues. For the average residential customer and lower volume commercial customers, elimination of the usage allowance is the main driver of their bill amount. Future inflationary increases will raise all bills by 3.0 percent per year.

Section 4 – Sewer Rates for the "Add City Lake Area Properties" Situation

This section is like Section 3, except it covers sewer rates in the situation where City Lake properties would be added to the sewer system. As in Section 3, I assumed costs incurred to build infrastructure to serve the City Lake area would be paid by City Lake area property owners. I also assumed that the City Lake area properties would annex into the City and, therefore, be assessed the lower In-City rates. Based on these critical assumptions, having more customers share unavoidable costs would enable rates to stay lower than those in Section 3.

Expected Incomes

Table 3, page 158, shows past income and future incomes to expect under the recommended rates and fees, as well as several other things related to revenues. In Table 3, near the top, in the gold highlighted cells you can see that 350 customers in the City Lake area have been added to the customer base. The incomes for this situation depend on the same assumptions as those for expected incomes in Section 2, page 23, of the report.

Expected Operating Costs

Table 4, page 159, shows expected operating costs. Most costs would not rise due to acquisition of the City Lake area properties but a few, highlighted in yellow, would.

Capital Improvements

As in Section 3, I assumed all improvement costs that do not relate to extending service to the City Lake area will be funded 100 percent by borrowing. Those that are related to extending service to the City Lake area would be funded in whatever way chosen but be reimbursed to the City by special assessments on properties in the City Lake area. Table 5, page 161 reflects cash-paid expense of the improvements but also special assessments to match that cost.

Repair and Replacement Costs

Except for the fact that more customers would share in the cost of equipment repair and replacement, these costs would be little affected.

Target Reserve Levels

Target reserves for the two scenarios are nearly the same.

Rate Affordability

As with the water rates, rate affordability would be affected by having 350 additional customers would be lower than those in Section 3. In Table 17, near the top, I show the estimated Affordability Index. The Affordability Index is also shown graphically in Chart 4, page 185.

Rates without adding the City Lake area properties (Section 3) would have an Affordability Index of 0.52 percent. If the City Lake area properties are added, the Affordability Index would be 0.44 percent. That is a notable bill savings compared to the situation where service is not

extended to the City Lake area but either way, bills for such customers would be quite affordable.

Table 18, page 176, spells out bill changes in more detail. Readers should find it useful to compare this Table 18 with Table 18 from the Sewer Model on page 136.

Recommendations for Adjusting Sewer Rates for the "Add City Lake Area Properties" Situation

I summarize my recommendations for rates to cover this situation as follows:

1. Table D that follows this list states the rates and fees to adopt. Note that these rates have no usage allowance and they do not include consideration of "units" of service for various types of customers. Also note that these rates and fees assume the City would have received a solid commitment from City Lake area property owners to build the needed facilities and be able to connect to the City water system by early 2023.
2. The calculations assumed you would have made these adjustments early enough to enable you to collect at these rates for the March 1, 2020, billing. I recommend you try to adjust rates sooner, so you can start building reserves sooner. The calculations also assumed City Lake area properties would be connected and begin to pay water rates in early 2023 and those would be the rates in effect at that time.
3. You would need to satisfy all Statutory requirements for making rate adjustments in advance of the adjustment date.
4. Approximately one full year after the initial rate adjustments, examine the costs and incomes the utility experienced during that year, plus the balances that have accrued. Compare those items to the same items in Tables 3, 4, 5 and 17, of the Model.
    a) If all accrued close to the values in the Model, raise all rates by 3.0 percent, as shown near the top of Table 3, page 158.
    b) If balances did not accrue as shown at the bottom of Table 17, but they are not egregiously too low, follow the instructions in Chapter 9 of the book, "How to Get Great Rates" for how to make inflationary increases correctly.
    c) If balances were too low by an amount that is troubling to you, call me to discuss the situation. It is likely I will be able to "talk you through" how to make appropriate rate adjustments to correct the situation.
5. Repeat recommendation Number 4 each following year until you have raised rates and fees by a cumulative 20 percent, which should occur in about seven years from now. At that time, have me or another rate analyst of your choice perform a new rate analysis, so rate structure and adequacy can be adjusted again. If you need capital improvements or repair and replacements that are quite different from those assumed, you will need a new rate analysis sooner than that.

Table D: Recommended Sewer Rates for the "Add City Lake Area Properties" Situation

Table D: Council Grove, Kansas Sewer Modeled System Development Fees; Minimum Charge; Usage Allowance (None) and Unit Charges

	System Development Fee	Monthly Minimum Charge	Rates per 1,000 Gallons
In-City	$1,500	$7.08	$1.58
Out-of-City	$3,000	$14.15	$3.16

Closing

If all parties commit to adding City Lake area properties as new customers of the City's system by early 2023, I recommend you adopt the rates calculated in the Add City Lake Model and discussed in several subsections above. The recommended rates are shown in Table D immediately above. These rates were otherwise calculated in the same way as the Water Model rates and require the same follow up measures as for those rates.

Conclusion

"Conclusion" is a misnomer here. This report provides information upon which the City can make decisions. Thus, it begins the process by which you will initially adjust rates and fees and take other actions. I will continue to help you as you do that, so always feel free to call me to discuss any concerns you have as the years pass. Having the Model available to track your progress and determine the effect of condition changes later, I should be able to test changes easily and advise you quickly.

As time passes you will need to adjust rates incrementally as recommended in this report and as described in more detail in my book. Eventually, you will start this cycle over.

As you take on the initial adjustments, keep the following in mind.

- Everyone impacted by the City's water and sewer rates should at least be made aware of the results of this report.
- My default recommendation is to give any customer as much information as they want. If they want a copy of the full report, give them that.
- Give the media a copy of the full report so they can quote the report directly and accurately rather than be forced to "figure things out." Much of this is very complex. Few people know how to, or have the time to, calculate utility rates. Make it easy for everyone to get the facts right.
- For most customers, what would happen to their bills is as much as they will care to know about these analyses. To satisfy those information needs, the City can publicize the current and recommended rates and/or the bill comparisons.
- A few customers will want to know more, especially high-volume customers. Give them the full report, if that is what they want.
- A good way to accomplish these things is to post the report on the City's Web site, Facebook page or other media, so everyone can see for themselves what the report says. That way, no one would have to print out a long document, unless they wanted to. Publicize the posting widely and publicly. Information is a good thing. ***Being seen*** as trying hard to get information out to folks is also a good thing.

You have engaged me pay one visit to the council to discuss my findings and recommendations. I look forward to meeting with the council, answering everyone's questions and helping you get on your way to the next generation of great rates.

Council Grove, Kansas; Water Rates, Model 2019-1

(This model used cost-of-service rate calculation principles but then the resulting rates were modified and simplified to fit the City's needs.)

December 11, 2019

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Note: This document is a print out of the spreadsheet model used to calculate new user charge and other rates and fees for the next 10 years. These calculations are complex and are based upon many conditions and assumtions. These issues, and others, are described in a narrative report that accompanies this model.

Table and Chart Descriptions

Note: When a numbered table or chart listed below is not in the package, that was not a mistake. It simply means that table or chart from our master program was not needed in this situation so it was left out to prevent confusion.

Name	What Each is or Does
Definitions (List)	The meaning of terms used in this report and in rate setting generally
Return on Investment (Calculation)	A summary of financial outcomes enabled by the proposed rates
Table 1 - Rates	User rates in effect at the end of the test year. Unless rates were recently changed, these are the current rates.
Table 2 - Test Year Usage	Compilation of actual volume of service used by customers during the test year
Table 3 - Basic User Data and Operating Incomes	Basic user statistics and operating revenues, projected for 10 years, based on the assumption the modeled rates and future inflationary increases will ber adopted
Table 4 - Operating Costs and Net Income	Operating costs projected for 10 years
Table 5 - Capital Improvements Program (CIP)	Capital improvements and how they will be paid over next 10 years, including debt service
Table 6 - Equipment Replacement Schedule - Detailed	Detailed schedule of equipment replacements for next 20 years, if applicable
Table 7 - Equipment Replacement Annuity Calculation	Calculation of the annual annuity (yearly savings amount) needed to pay for all equipment replacements as they come due and ending with the desired balance
Table 8 - Average Cost Classification	Sumation of a target year's costs and calculation of the "cost of service" rate structure basis for recovery of fixed costs and variable costs
Table 9 - Marginal Cost Classification	Calculation of costs incurred to serve a specified type of customer, if applicable
Table 10 - Initial Rate Adjustments and Resulting Revenues	These are the modeled user rates and the resulting "blended" revenues they, and the current rates, will generate during the rate adjustment year
Table 11 - Capacity Costs	Calculation of the various costs to build base and peak flow capacity to serve customers, when such fees will be based on water meter size
Table 12 - AWWA Safe Operating Capacities by Meter Size	This table calculates the meter equivalent ratio, which is used for calculating peak flow capacity-based system development fees, surcharges and revenues in Tables 13 through 16.
Table 13 - System Development Fees	Calculation of meter size-based system development fees needed to recover costs calculated in Table 11, when such fees will be based on water meter size
Table 14 - Revenues From System Development Fees	Calculation of total fee revenues that would be generated during one full year at the fees in Table 13.
Table 15 - Minimum Charge Fees, Including Capacity Surcharges	Calculation of meter size-based capacity surcharges and minimum charges to recover costs calculated in Table 11, when such fees will be based on water meter size
Table 16 - Revenues From Minimum Surcharges	Calculation of total fee revenues that would be generated during one full year at the fees in Table 15.
Table 17 - Financial Capacity Indicators and Reserves	Shows the financial effects of the modeled rates, costs, etc. on the utility and on the benchmark 5,000 gallon per month residential water or sewer customer, as appropriate
Table 18 - Bills Before and After Rate Adjustments	Bills at the modeled rates are compared to those under the current rates. Note: the modeled bills do not include capacity surcharges to the minimum charges unless they are included in the minimum charges column of Table 10.
Table 19 - User Statistics	For volume ranges within each rate class, this table shows volumes and percentages of use, revenue generated and other statistics
Chart 1 - Operating Ratio	*Graph of operating ratio for 10 years as a result of the modeled rates and the current rates*
Chart 2 - Coverage Ratio	*Graph of coverage ratios for 10 years of the modeled rates and the current rates*
Chart 3 - 5,000 Gallon Residential User's Bill	*Graph of the bill for the benchmark 5,000 gallon per month residential user, with smallest available meter size (used in grant and loan eligibility determinations) as a result of the modeled rates, and the current rates*
Chart 4 - Affordability Index	*Graph of the affordability index for 10 years of the benchmark residential user's bill (used in grant and loan eligibility determinations)*
Chart 5 - Working Capital vs Goal	*Graph for 10 years of total (unobligated) cash assets at modeled rates compared to the goal for total cash assets*
Chart 6 - Value of Cash Assets Before Inflation	*Graph for 10 years of unobligated cash assets NOT adjusted for inflation at modeled rates and current rates*
Chart 7 - Value of Cash Assets After Inflation	*Graph for 10 years of unobligated cash assets adjusted for inflation at modeled rates and current rates. This is the real buying power of cash reserves.*
Chart 8 - Sum of All Reserves	*Graph of all reserves of all kinds at the modeled rates and at the current rates*

Definitions

Affordability Index	The monthly charge for (typically) 5,000 gallons of residential service divided by the median monthly household income for the area served by the system. An index of 1.0, meaning a household pays one percent of its income to pay its bill for 5,000 gallons of service, is generally considered affordable. Affordability index is often a factor in determining grant and loan eligibility and grant amount.
Analysis Year	The year following the "test year." Generally, rate analysis is done during the year following the "test year" and intial rate adjustments are done later still during the analysis year or sometime during the following year once the analysis shows how rates should be adjusted. See related "test year."
Capital Improvement Plan or Program (CIP)	A schedule of anticipated capital improvements. These are the more expensive items such as treatment plants, lines and other expensive infrastructure that generally requires bond or grant funding.
Capital Improvement Reserves	Cash reserves dedicated to funding the CIP
Comprehensive Rate Analysis	A thorough examination of a system's operating, capital improvement, equipment replacement and other costs, revenues, current rates, number of users and their use of the system, growth rates and all other key issues surrounding the system. This examination will determine how rates and fees should be set in the future to cash-flow the system properly, to build appropriate reserves and to be fair to ratepayers. It also will determine how policies should be adjusted to enable the system to operate well now, operate well in the medium-range future (about 10 years) and prepare for expected and expectable events such as capital improvements and equipment replacement.
Connection Charge	See system development fee
Conservation (Inclining) Rates	Unit charges that go up as the volume used goes up
Cost to Produce	There are several ways to define and calculate cost to produce. Each is acceptable for different purposes. Generally, cost to produce is the total of all variable costs required to get service to a utility's customers during one year divided by the total units of service delivered during that year. This calculation will yield the average cost to produce. In a proportional to use rate structure, this is the unit charge. See "Cost Calculations" at the bottom of Chart 19.
Cost to Serve Rates	Rates where fixed and variable costs generated by each user class are paid by that class with minimum and unit charges, respectively. Similar to and sometimes the same as "proportional to use" rates.
Cost Types; Fixed and Variable	The two main types of costs are fixed - those that are related to the fact that someone is a customer; and variable - those that are related to the volume of the commodity delivered to customers. Generally, fixed costs should be recovered with minimum charges and variable costs with unit charges.
Coverage Ratio (CR)	Incomes available to pay debt divided by the amount of the debt for that year. Most systems should have a CR of 1.25 or higher.
Current Position	For purposes of this report, for one year, the sum of all incomes and undedicated reserves minus all current financial obligations for that year. Future obligations (next year's loan payments) and depreciation are not included. Current position is a good measure of overall financial health.
Declining Rates	Rates where unit charges go down as the volume used goes up
Flat Rates	Rates where all users pay exactly the same fee regardless of the volume of service they use
Equivalent Dwelling Unit (EDU) or Equivalent Residential Unit (ERU)	Based upon number of water using fixtures, average flow, potential flow or similar criteria; the consumption rate of the average single family home is rated at one EDU. All other types of customers are then compared on this measuring basis and the EDUs are calculated. Generally the purpose of this exercise is to calculate fees that each EDU must pay.
Incremental Rate Increases (Inflationary Increases)	Rate increases done, generally annually, following the initial rate adjustment. The usual goal of such increases is to keep the system's incomes on track to meet reserve targets. Rate structure fairness is a small issue, if it is an issue at all. Such increases are usually small, in the two to five percent per year range.
Initial Rate Adjustments	Rate adjustments done in follow up to the comprehensive rate analysis. Generally, the goal of such adjustments is to establish rates that cover the system's short-term expected costs and do it with a structure that is fair to ratepayers. Initial adjustments should be followed in subsequent years with incremental rate increases.
Inflow & Infiltration (I&I)	In a sewer system, water that gets into the collection system by way of illicit connections (inflow) such as gutter downspouts, plus leaks in manholes and sewer lines (infiltration)
Infrastructure	Most commonly thought of as the hard assets, such as buildings, treatment plants and lines needed to provide service to customers connected to the system. In reality, staff, software and other "soft" assets should be thought of as infrastructure, as well.

Definitions

Life-cycle Cost	The total cost to design, build, operate, maintain and eventually dispose of an asset. One asset may cost less to build but it may be more expensive to operate and maintain, yielding a higher total life-cycle cost.
Marginal Costs	The parts of a utility's costs that are unavoidable in the course of serving a particular customer, a group of customers, more volume to all customers or some other marginal use of the system. Such customer(s) or extra use could be added at a discounted but still profitable fee, if desired. Generally marginal costs are less than the average costs but when extra use requires a system upsizing, they can be greater. These costs are especially useful when considering selling service at wholesale or charging "snow birds" while they are away.
Operating Costs	Definitions and calculations vary. For rate setting purposes operating costs are costs incurred because a system is operated. Such costs are usually recovered primarily through unit charges.
Operating Reserves or Working Capital	Analogous to current position, this is the net revenues retained to fund operating costs during times when costs exceed incomes.
Operating Revenues	Revenues collected in the form of user fees and similar operating cost-related fees
Operating Ratio (OR)	Current incomes divided by current expenses, not including debt. An OR of 1.0 is "break even." Most systems should have an OR of 1.25 or higher.
Payback Period	In this case, time required for the investment made to get this analysis to return that investment through increased user and other fees
Potential Demand	The volume of service that a user could demand for a short period of time at full volume use. The potential demand limiting factor is usually the size of the customer's meter or service line.
Proportional to Use Rates	Rates where the minimum charge recovers all fixed costs, the unit charge recovers all variable costs, the unit charge is the same for all volume sold, and there is no usage allowance in the minimum charge. This rate structure is similar to and often the same as cost to serve rates.
Replacement Schedule	A timetable that describes equipment replacement and important repairs that are too infrequent and/or too expensive to cover as annual operating costs but not so expensive that they need to be covered as capital improvements.
Replacement Reserves	Cash reserves used to fund the Replacement Schedule
Return on Investment	In this case, the dollar amount or percentage of revenue gain enabled by this rate analysis. Related to payback period.
Snow Bird	A customer, usually residential, that goes away during part of the year. Most commonly, people of "means" who live in the north who "fly south" for the winter. But, this category includes everyone who is absent for a significant part of the year but returns to their permanent residence.
System Development Charge, or Fee	Fee assessed to pay for at least part of the cost to build system capacity. For purposes of this model, all charges related to connecting new customers will be "rolled together" into a system development charge, usually including a charge that buys a new customer system capacity. This combined charge may be a few hundred dollars for a residential customer, if little or no capacity costs are included, to many thousands of dollars for a large industrial customer with capacity costs included. Similar terms in common use include "tap-on fee," "connection fee or charge," "hook-up fee," "impact fee," "availability charge," and "capacity charge."
Test Year	The one year period from which data was gathered to be the basis of the rate analysis, which is usually the last completed fiscal year. See related "analysis year."
Usage Allowance	The volume, if any, that is "given away" with the minimum charge. Most systems give away no volume. Those that give away an unlimited volume have what are called "flat rates" - a minimum charge only.
User Fee, User Charge, User Rates	Fees assessed to customers for use of the system. Does not system development charges, late payment penalties or other types of charges.
Water Loss	Measured by volume or percent, the part of a water system's net water production that does not reach customers or is not billed to customers. This loss also includes billable volume lost due to under-registering customer meters.
Working Capital, Net Income	The amount left in the operating fund after paying all costs due during that month, year or other time period. Working capital of $0 is "break even." Related to "current position."
Working Capital Goal or Operating Reserves Goal	The desired operating fund reserve, in dollars or percent, at a stated point in time. Small systems (1,000 connections) generally should target 35 percent or greater. Larger systems can target a lower percentage. The goal for each system should be based upon the needs of that system and the risk the customers are willing to take.

Table 1 - Rates

Council Grove, Kansas; Water Rates, Model 2019-1

Unless rates were recently changed, these are the current rates. At the least, these rates were in effect at the end of the test year. If a volume range was left out of the table, in order to make it shorter, the unit charge that shows for the next lowest volume range also applies to the hidden volume range.

Rates in Effect at End of Test Year

Customer Type, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Billing Cycle Minimum Charge	Usage Allowance in 1,000 Gallons	Unit Charge per 1,000 Gallons
Inside Residential WT1	0	$18.56	1.000	$4.28
	10,001	$18.56	1.000	$4.16
	25,001	$18.56	1.000	$3.63
	50,001	$18.56	1.000	$3.24
	200,001	$18.56	1.000	$2.83
	1,000,001	$18.56	1.000	$2.43
Outside Residential WT2	0	$37.13	1.000	$8.56
	10,001	$37.13	1.000	$8.09
	25,001	$37.13	1.000	$7.30
	50,001	$37.13	1.000	$6.48
	200,001	$37.13	1.000	$5.72
	1,000,001	$37.13	1.000	$4.89

Table 1 - Rates

Rates in Effect at End of Test Year

Customer Type, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Billing Cycle Minimum Charge	Usage Allowance in 1,000 Gallons	Unit Charge per 1,000 Gallons
Inside Commercial WT28	0	$18.56	1.000	$4.28
	10,001	$18.56	1.000	$4.16
	25,001	$18.56	1.000	$3.63
	50,001	$18.56	1.000	$3.24
	200,001	$18.56	1.000	$2.83
	1,000,001	$18.56	1.000	$2.43
Outside Commercial WT29	0	$37.13	1.000	$7.49
	10,001	$37.13	1.000	$6.11
	25,001	$37.13	1.000	$4.88
	50,001	$37.13	1.000	$4.48
	200,001	$37.13	1.000	$4.05
	1,000,001	$37.13	1.000	$3.89
Rural Water #1 WT5	0	$300.00	1.000	$4.63
	1,000,001	$300.00	1.000	$4.63
WT6	0	$0.00	1.000	$0.00
	1,000,001	$0.00	1.000	$0.00
Raw Water	0	$13.65	1.000	$2.12
	1,000,001	$13.65	1.000	$2.12

Table 2 - Test Year Usage
Council Grove, Kansas; Water Rates, Model 2019-1

This table shows usage by all customers during the test year.

Residential meter readings per year: 12
Test year = the one-year period being analyzed starts: 1/1/2018
Other customer readings per year: 12
Date this scenario created: 8/22/2019
Bills per year: 12

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
Inside Residential WT1	0	1,000	12,144	12,156,144	0	0	0	0.0%	0.0%
	1,001	2,000	12,144	12,144,000	0	0	0	0.0%	0.0%
	2,001	3,000	12,144	12,144,000	0	0	0	0.0%	0.0%
	3,001	4,000	12,144	12,144,000	0	0	0	0.0%	0.0%
	4,001	5,000	12,144	1,151,856	12,144	49,740,000	1,012	75.4%	36.7%
	5,001	6,000	0	0	0	0	0	0.0%	0.0%
	6,001	7,000	0	0	0	0	0	0.0%	0.0%
	7,001	8,000	0	0	0	0	0	0.0%	0.0%
	8,001	9,000	0	0	0	0	0	0.0%	0.0%
	9,001	10,000	0	0	0	0	0	0.0%	0.0%
	10,001	11,000	0	0	0	0	0	0.0%	0.0%
	11,001	12,000	0	0	0	0	0	0.0%	0.0%
	12,001	13,000	0	0	0	0	0	0.0%	0.0%
	13,001	14,000	0	0	0	0	0	0.0%	0.0%
	14,001	15,000	0	0	0	0	0	0.0%	0.0%
	15,001	16,000	0	0	0	0	0	0.0%	0.0%
	16,001	17,000	0	0	0	0	0	0.0%	0.0%
	17,001	18,000	0	0	0	0	0	0.0%	0.0%
	18,001	19,000	0	0	0	0	0	0.0%	0.0%
	19,001	20,000	0	0	0	0	0	0.0%	0.0%
	20,001	21,000	0	0	0	0	0	0.0%	0.0%
	21,001	25,000	0	0	0	0	0	0.0%	0.0%
	25,001	50,000	0	0	0	0	0	0.0%	0.0%
	50,001	200,000	0	0	0	0	0	0.0%	0.0%
	200,001	900,000	0	0	0	0	0	0.0%	0.0%
	900,001	1,000,000	0	0	0	0	0	0.0%	0.0%
	1,000,001	5,000,000	0	0	0	0	0	0.0%	0.0%
			60,720	49,740,000	12,144	49,740,000	1,012	75.4%	36.7%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
Outside Residential WT2	0	1,000	1,380	1,381,380	0	0	0	0.0%	0.0%
	1,001	2,000	1,380	1,380,000	0	0	0	0.0%	0.0%
	2,001	3,000	1,380	1,380,000	0	0	0	0.0%	0.0%
	3,001	4,000	1,380	1,380,000	0	0	0	0.0%	0.0%
	4,001	5,000	1,380	1,265,620	1,380	6,787,000	115	8.6%	5.0%
			6,900	6,787,000	1,380	6,787,000	115	8.6%	5.0%
Inside Commercial WT28	0	1,000	2,244	2,246,244	0	0	0	0.0%	0.0%
	1,001	2,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	2,001	3,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	3,001	4,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	4,001	5,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	5,001	6,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	6,001	7,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	7,001	8,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	8,001	9,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	9,001	10,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	10,001	11,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	11,001	12,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	12,001	13,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	13,001	14,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	14,001	15,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	15,001	16,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	16,001	17,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	17,001	18,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	18,001	19,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	19,001	20,000	2,244	2,244,000	0	0	0	0.0%	0.0%
	20,001	21,000	2,244	264,792	2,244	45,147,036	187	13.9%	33.3%
			47,124	45,147,036	2,244	45,147,036	187	13.9%	33.3%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
Outside Commercial WT29	0	1,000	204	204,204	0	0	0	0.0%	0.0%
	1,001	2,000	204	204,000	0	0	0	0.0%	0.0%
	2,001	3,000	204	204,000	0	0	0	0.0%	0.0%
	3,001	4,000	204	204,000	0	0	0	0.0%	0.0%
	4,001	5,000	204	204,000	0	0	0	0.0%	0.0%
	5,001	6,000	204	204,000	0	0	0	0.0%	0.0%
	6,001	7,000	204	204,000	0	0	0	0.0%	0.0%
	7,001	8,000	204	204,000	0	0	0	0.0%	0.0%
	8,001	9,000	204	204,000	0	0	0	0.0%	0.0%
	9,001	10,000	204	204,000	0	0	0	0.0%	0.0%
	10,001	11,000	204	204,000	0	0	0	0.0%	0.0%
	11,001	12,000	204	204,000	0	0	0	0.0%	0.0%
	12,001	13,000	204	204,000	0	0	0	0.0%	0.0%
	13,001	14,000	204	204,000	0	0	0	0.0%	0.0%
	14,001	15,000	204	204,000	0	0	0	0.0%	0.0%
	15,001	16,000	204	204,000	0	0	0	0.0%	0.0%
	16,001	17,000	204	204,000	0	0	0	0.0%	0.0%
	17,001	18,000	204	204,000	0	0	0	0.0%	0.0%
	18,001	19,000	204	204,000	0	0	0	0.0%	0.0%
	19,001	20,000	204	204,000	0	0	0	0.0%	0.0%
	20,001	21,000	204	177,888	204	4,258,092	17	1.3%	3.1%
			4,284	4,258,092	204	4,258,092	17	1.3%	3.1%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
Rural Water #1 WT5	0	1,000	12	12,012	0	0	0	0.0%	0.0%
	1,001	2,000	12	12,000	0	0	0	0.0%	0.0%
	2,001	3,000	12	12,000	0	0	0	0.0%	0.0%
	3,001	4,000	12	12,000	0	0	0	0.0%	0.0%
	4,001	5,000	12	12,000	0	0	0	0.0%	0.0%
	5,001	6,000	12	12,000	0	0	0	0.0%	0.0%
	6,001	7,000	12	12,000	0	0	0	0.0%	0.0%
	7,001	8,000	12	12,000	0	0	0	0.0%	0.0%
	8,001	9,000	12	12,000	0	0	0	0.0%	0.0%
	9,001	10,000	12	12,000	0	0	0	0.0%	0.0%
	10,001	11,000	12	12,000	0	0	0	0.0%	0.0%
	11,001	12,000	12	12,000	0	0	0	0.0%	0.0%
	12,001	13,000	12	12,000	0	0	0	0.0%	0.0%
	13,001	14,000	12	12,000	0	0	0	0.0%	0.0%
	14,001	15,000	12	12,000	0	0	0	0.0%	0.0%
	15,001	16,000	12	12,000	0	0	0	0.0%	0.0%
	16,001	17,000	12	12,000	0	0	0	0.0%	0.0%
	17,001	18,000	12	12,000	0	0	0	0.0%	0.0%
	18,001	19,000	12	12,000	0	0	0	0.0%	0.0%
	19,001	20,000	12	12,000	0	0	0	0.0%	0.0%
	20,001	21,000	12	12,000	0	0	0	0.0%	0.0%
	21,001	25,000	12	48,000	0	0	0	0.0%	0.0%
	25,001	50,000	12	300,000	0	0	0	0.0%	0.0%
	50,001	200,000	12	1,800,000	0	0	0	0.0%	0.0%
	200,001	900,000	12	8,400,000	0	0	0	0.0%	0.0%
	900,001	1,000,000	12	1,200,000	0	0	0	0.0%	0.0%
	1,000,001	5,000,000	12	1,307,988	12	13,308,000	1	0.1%	9.8%
			324	13,308,000	12	13,308,000	1	0.1%	9.8%
WT6	0	1,000	12	4,000	12	4,000	1	0.1%	0.0%
	1,000,001	5,000,000	0	0	0	0	0	0.0%	0.0%
			12	4,000	12	4,000	1	0.1%	0.0%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
	0	1,000	108	108,108	0	0	0	0.0%	0.0%
	1,001	2,000	108	108,000	0	0	0	0.0%	0.0%
	2,001	3,000	108	108,000	0	0	0	0.0%	0.0%
	3,001	4,000	108	108,000	0	0	0	0.0%	0.0%
	4,001	5,000	108	108,000	0	0	0	0.0%	0.0%
	5,001	6,000	108	108,000	0	0	0	0.0%	0.0%
	6,001	7,000	108	108,000	0	0	0	0.0%	0.0%
	7,001	8,000	108	108,000	0	0	0	0.0%	0.0%
	8,001	9,000	108	108,000	0	0	0	0.0%	0.0%
	9,001	10,000	108	108,000	0	0	0	0.0%	0.0%
	10,001	11,000	108	108,000	0	0	0	0.0%	0.0%
	11,001	12,000	108	108,000	0	0	0	0.0%	0.0%
City MM WT99	12,001	13,000	108	108,000	0	0	0	0.0%	0.0%
	13,001	14,000	108	108,000	0	0	0	0.0%	0.0%
	14,001	15,000	108	108,000	0	0	0	0.0%	0.0%
	15,001	16,000	108	108,000	0	0	0	0.0%	0.0%
	16,001	17,000	108	108,000	0	0	0	0.0%	0.0%
	17,001	18,000	108	108,000	0	0	0	0.0%	0.0%
	18,001	19,000	108	108,000	0	0	0	0.0%	0.0%
	19,001	20,000	108	108,000	0	0	0	0.0%	0.0%
	20,001	21,000	108	108,000	0	0	0	0.0%	0.0%
	21,001	25,000	108	432,000	0	0	0	0.0%	0.0%
	25,001	50,000	108	2,700,000	0	0	0	0.0%	0.0%
	50,001	200,000	108	11,059,892	108	16,460,000	9	0.7%	12.1%
			2,592	16,460,000	108	16,460,000	9	0.7%	12.1%
	0	1,000	0	0	0	0	0	0.0%	0.0%
Raw Water	1,000,001	5,000,000	0	0	0	0	0	0.0%	0.0%
			0	0	0	0	0	0.0%	0.0%
		Grand Totals:	121,956	135,704,128	16,104	135,704,128	1,342	100%	100%

Table 3 - Operating Incomes and Basic User Data

Council Grove, Kansas; Water Rates, Model 2019-1

This table depicts user statistics, customer growth, and system incomes and across the board "inflationary" style rate increases through the 10th year.

Annual Median Household Income (AMHI)

$38,455	Census Bureau estimate of AMHI for the year	2016
$28,949	Census Bureau estimate of AMHI for the year	2000
$9,506	AMHI growth during this time period	
2.05%	Simple annual income growth rate during this time period (used to project incomes into the future)	

Test Year Growth of Customer Base and Average Tap Fee Paid per Connection

2	Number of new connections made during the test year
$1,466	Average tap or installation fee assessed during the test year

This model is programmed for rates to be reset in the "Analysis Year," also called the "0 Year" column below (heading highlighted blue). Revenues will be collected at the now-current rates for the first part of the analysis year and the modeled rates for the last part of the analysis year. Thus, the revenues shown in the last column of that table are "blended" revenues; part collected at the old rates and part collected at the new rates. It was then assumed that all rate adjustments made after the initial (major) adjustment will be done annually on approximately the anniversary of the first adjustment. If rates will not be adjusted during the "0 Year," an adjustment (normally a revenue reduction) was calculated below to account for the late start in making the first adjustments.

Basic User (Customer) Data

(First year balances and incomes are actual, subsequent years are projected.)	Inflation/ Deflation (–) Factor	Test Year	Analysis Year	Years Following the Analysis Year (for Which Results Have Been Projected)									
		Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
		1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Rate Increases Projected for Future Years	N.A.	N.A.	N.A.	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
				The row above shows the rate at which user charge fees should be increased for each year beyond the initial rate adjustment year. Unless stated otherwise, these should be across-the-board increases to all rates and fees and that should continue until a new rate analysis is done.									
Average Number of Customers for the Year	N.A.	1,342	1,344	1,346	1,348	1,350	1,352	1,354	1,356	1,358	1,360	1,362	1,364
Customers Added or Lost (-) During the Year	N.A.	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Customer Growth or Loss (-) Rate	N.A.	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
Actual (Test Year) and Projected Volumes, in Gallons	N.A.	135,704,128	135,906,370	136,108,611	136,310,853	136,513,094	136,715,336	136,917,578	137,119,819	137,322,061	137,524,303	137,726,544	137,928,786
How User Charge Fees Were Calculated, Accounting for New Customers and Future Rate Increases													
Actual or Calculated Sales Revenues		$806,415	$806,931	$1,024,573	$1,056,878	$1,090,202	$1,124,571	$1,160,022	$1,196,587	$1,234,303	$1,273,204	$1,313,329	$1,354,715
Additional Sales Revenues From New Customers			$3	$1,522	$1,570	$1,615	$1,664	$1,713	$1,765	$1,818	$1,872	$1,929	$1,986
Total Calculated Revenues (User Charge Fees)		$806,415	$806,935	$1,026,095	$1,058,448	$1,091,817	$1,126,235	$1,161,735	$1,198,352	$1,236,121	$1,275,077	$1,315,257	$1,356,702
Operating Incomes													
User Charge Fees, Not Including Taxes	N.A.	$749,690	$750,173	$953,917	$983,995	$1,015,016	$1,047,013	$1,080,017	$1,114,058	$1,149,169	$1,185,385	$1,222,740	$1,261,268
Late Payment Charge	N.A.	$8,711	$8,724	$8,737	$8,750	$8,763	$8,776	$8,789	$8,801	$8,814	$8,827	$8,840	$8,853
New Taps or Connections (Current Rate Structure)	% Above	$2,933	$2,924	$0	$0	$0	$0	$0	$0	$0	$0	$1	$2
New Taps or Connections (New Rate Structure)	% Above	$0	$0	$3,000	$3,090	$3,183	$3,278	$3,377	$3,478	$3,582	$3,690	$3,800	$3,914
Interest Income	N.A.	$0	-$14	$2,488	$3,442	$4,531	$4,690	$4,791	$4,928	$5,102	$5,212	$5,361	$5,552
BACKHOE/TRENCHER	N.A.	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564
BULK WATER	N.A.	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314
GENERAL SALES TAX-OTHER	N.A.	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578
WATER SALES TAX	N.A.	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609
LABOR	N.A.	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205
MATERIAL	N.A.	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882
MISCELLANEOUS REVENUE	N.A.	$541	$541	$541	$541	$541	$541	$541	$541	$541	$541	$541	$541
REIMBURSED EXPENSE	N.A.	$224	$224	$224	$224	$224	$224	$224	$224	$224	$224	$224	$224
SECURITY DEPOSIT	N.A.	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303
UNAPPLIED CASH	N.A.	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028
UNRESERVED REVENUE	N.A.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
W0 PENALTY	N.A.	$24	$24	$24	$24	$24	$24	$24	$24	$24	$24	$24	$24
WATER PROTECTION FEE	N.A.	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275
New Connection Allowance for City Lake Properties	N.A.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Revenue Loss Because Rate Adjustments Made This Number of Months Late	3.0	$0	$0	-$47,079	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Incomes		**$802,823**	**$803,297**	**$962,553**	**$1,040,766**	**$1,072,982**	**$1,105,247**	**$1,138,462**	**$1,172,754**	**$1,208,157**	**$1,244,604**	**$1,282,232**	**$1,321,080**

Table 4 - Operating Costs and Net Income

Council Grove, Kansas; Water Rates, Model 2019-1

This table depicts expenses during the test year, this year and for the next 10 years. Some future costs will experience inflation. Those costs that go up as use goes up are increased by the cost inflation factor plus the growth rate in users.

(First year costs and net incomes are actual, subsequent years are projected.)

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	Analysis Year 0 Year Starting 1/1/19	Years Following the Analysis Year (for Which Results Have Been Projected) 1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
AMMONIUM SULFATE	3.0%	$5,633	$5,811	$5,994	$6,183	$6,378	$6,579	$6,786	$7,000	$7,221	$7,449	$7,683	$7,925
AUDITING SERVICE	3.0%	$4,005	$4,125	$4,249	$4,376	$4,508	$4,643	$4,782	$4,926	$5,073	$5,226	$5,382	$5,544
BULDING REPAIR	3.0%	$6,966	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CHLORINE	3.0%	$4,440	$4,580	$4,725	$4,874	$5,027	$5,186	$5,349	$5,518	$5,692	$5,871	$6,056	$6,247
CIP TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONTRACTED WATER SUPPLY	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONTRACTUAL SERVICES	3.0%	$18,996	$19,566	$20,152	$20,757	$21,380	$22,021	$22,682	$23,362	$24,063	$24,785	$25,529	$26,294
CQ2100	3.0%	$46,350	$47,741	$49,173	$50,648	$52,167	$53,732	$55,344	$57,005	$58,715	$60,476	$62,291	$64,159
CUSTODIAL SUPPLIES	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT INTEREST	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT SERVICE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DRUG AND ALCOHOL TESTING	3.0%	$172	$177	$354	$365	$376	$387	$399	$411	$423	$436	$449	$462
DUES / MEMBERSHIP / MEETINGS	3.0%	$3,026	$3,116	$6,233	$6,420	$6,612	$6,810	$7,015	$7,225	$7,442	$7,665	$7,895	$8,132
ENGINEERING EXPENSE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT FUND TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FIRE HYDRANTS	3.0%	$0	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6
FOOD & MEDICATION	3.0%	$408	$420	$433	$446	$459	$473	$487	$502	$517	$533	$549	$565
HDROFLUOSILIC ACID	3.0%	$3,843	$3,964	$4,089	$4,218	$4,351	$4,488	$4,630	$4,776	$4,926	$5,081	$5,242	$5,407
HEALTH/DENTAL INSURANCE	3.0%	$58,616	$60,375	$90,562	$93,279	$96,077	$98,960	$101,929	$104,986	$108,136	$111,380	$114,721	$118,163
INSURANCE	3.0%	$18,139	$18,683	$28,025	$28,866	$29,732	$30,624	$31,542	$32,489	$33,463	$34,467	$35,501	$36,566
KANSAS ONE CALL	3.0%	$619	$638	$657	$677	$697	$718	$739	$762	$784	$808	$832	$857
KPERS	3.0%	$16,886	$17,393	$34,785	$35,829	$36,904	$38,011	$39,151	$40,325	$41,535	$42,781	$44,065	$45,387
LIME	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MAPS	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MATERIALS	3.0%	$521	$537	$553	$569	$586	$604	$622	$641	$660	$680	$700	$721
MAYOR AND COUNCIL	3.0%	$280	$288	$297	$306	$315	$325	$334	$344	$355	$365	$376	$388
METERS	3.0%	$5,065	$5,224	$5,389	$5,559	$5,734	$5,915	$6,101	$6,294	$6,492	$6,697	$6,908	$7,125
OFFICE SUPPLIES	3.0%	$2,203	$2,269	$2,337	$2,407	$2,480	$2,554	$2,631	$2,710	$2,791	$2,875	$2,961	$3,050
OTHER CAPITAL OUTLAY	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTHER CHEMICALS	3.0%	$11,215	$11,569	$11,934	$12,310	$12,698	$13,098	$13,511	$13,937	$14,376	$14,829	$15,297	$15,779
OTHER COMMODITIES	3.0%	$7,239	$7,456	$7,679	$7,910	$8,147	$8,391	$8,643	$8,902	$9,170	$9,445	$9,728	$10,020
OVERTIME	3.0%	$9,221	$9,498	$18,996	$19,566	$20,153	$20,757	$21,380	$22,021	$22,682	$23,362	$24,063	$24,785
PETROLEUM PRODUCTS	3.0%	$6,720	$6,922	$7,130	$7,344	$7,564	$7,791	$8,025	$8,265	$8,513	$8,769	$9,032	$9,303
POSTAGE	3.0%	$4,672	$4,819	$4,971	$5,128	$5,290	$5,456	$5,628	$5,806	$5,989	$6,178	$6,372	$6,573
PRINTING & PUBLICATIONS	3.0%	$941	$969	$998	$1,028	$1,059	$1,090	$1,123	$1,157	$1,192	$1,227	$1,264	$1,302
REFUNDS-UTILITIES DEPOSIT	3.0%	$4,113	$4,236	$4,363	$4,494	$4,629	$4,768	$4,911	$5,058	$5,210	$5,366	$5,527	$5,693
SALARIES/FULL-TIME	3.0%	$171,736	$176,888	$353,777	$364,390	$375,322	$386,581	$398,179	$410,124	$422,428	$435,101	$448,154	$461,598
SALARIES/PART-TIME	3.0%	$859	$885	$1,770	$1,823	$1,878	$1,935	$1,993	$2,052	$2,114	$2,177	$2,243	$2,310
SALES TAX PAYMENTS	3.0%	$15,051	$15,503	$15,968	$16,447	$16,940	$17,449	$17,972	$18,511	$19,067	$19,639	$20,228	$20,835
SOCIAL SECURITY	3.0%	$13,468	$13,872	$27,745	$28,577	$29,434	$30,317	$31,227	$32,164	$33,128	$34,122	$35,146	$36,200
SODIUM HYPOCHLORITE	3.0%	$2,898	$2,989	$3,083	$3,181	$3,281	$3,384	$3,491	$3,601	$3,715	$3,832	$3,952	$4,077

Table 4 - Operating Costs and Net Income

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
TELEPHONE	3.0%	$1,126	$1,160	$1,195	$1,231	$1,267	$1,305	$1,345	$1,385	$1,426	$1,469	$1,513	$1,559
TESTING AND PERMIT FEES	3.0%	$5,991	$6,171	$6,356	$6,547	$6,743	$6,945	$7,154	$7,368	$7,589	$7,817	$8,051	$8,293
TRANSFER IN-WATER WORKS OP	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSFER OUT-WATER WORKS OP	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSPORTATION	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
UTILITIES	3.0%	$57,245	$59,050	$60,912	$62,832	$64,813	$66,856	$68,964	$71,137	$73,379	$75,692	$78,077	$80,537
VEHICLE/EQUIP MAINT & REPAIR	3.0%	$11,700	$12,051	$12,413	$12,785	$13,169	$13,564	$13,970	$14,390	$14,821	$15,266	$15,724	$16,196
VEHICLE/EQUIP PARTS & SUPPLIES	3.0%	$4,948	$5,096	$5,249	$5,407	$5,569	$5,736	$5,908	$6,085	$6,268	$6,456	$6,649	$6,849
W/W DEP/MAINT RSV TRSFR	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WATER LINE CONST	3.0%	$39,234	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6
WATER PROTECTION FEE PAYM	3.0%	$5,701	$5,881	$6,066	$6,257	$6,455	$6,658	$6,868	$7,084	$7,308	$7,538	$7,776	$8,021
WELDING & CONSTRUCTION SUPPLIE	3.0%	$338	$348	$358	$369	$380	$392	$403	$416	$428	$441	$454	$468
WORKERS COMP	3.0%	$7,638	$7,867	$15,734	$16,206	$16,692	$17,193	$17,708	$18,240	$18,787	$19,350	$19,931	$20,529
One-time Reduction of R&R Annuity	0.0%	-$56,597	-$56,597	-$14,149	$0	$0	$0	$0	$0	$0	$0	$0	$0
One-time Transfer to R&R Reserve	0.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Annual Payment to R&R Reserve (Table 7)	0.0%	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597
User Charge Analysis Services	5.0%	$0	$5,612	$0	$0	$6,187	$0	$0	$6,821	$0	$0	$7,521	$0
Total CIP-related Payouts	N.A.	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5
Total Operating Costs		**$578,222**	**$553,749**	**$867,150**	**$906,204**	**$938,049**	**$958,293**	**$985,523**	**$1,020,396**	**$1,042,474**	**$1,072,246**	**$1,110,438**	**$1,134,514**
Net Income (or Loss)		$224,602	$249,548	$95,403	$134,562	$134,933	$146,954	$152,940	$152,358	$165,683	$172,358	$171,794	$186,566
Working Capital Goal: 50% In Dollars, That is:		$289,111	$276,874	$433,575	$453,102	$469,024	$479,147	$492,761	$510,198	$521,237	$536,123	$555,219	$567,257

Notes: The yellow highlighted cost items above will rise due to inflation and due to the additional cost of serving (a few) new customers. Tan highlighted items represent staffing costs at near-full staffing levels.

Table 5 - Capital Improvement Program (CIP)

Council Grove, Kansas; Water Rates, Model 2019-1

This table depicts capital improvements and their funding. Costs reflect inflation.

	Test Year	Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)									
	Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Planned Spending, Debt-paid Portion of Projects (CIP costs to be funded with loans are shown in this section.)												
SAND BLASTING / PAINTING WATER TOWER (Water)	$0	$0	$0	$212,180	$0	$0	$0	$0	$0	$0	$0	$0
FOOTINGS ON WATER TOWER (Water)	$0	$0	$41,200	$0	$0	$0	$0	$0	$0	$0	$0	$0
ROOF ON CLARIFIER (Water)	$0	$0	$103,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
METER SOFTWARE / HAND HELD/ DRIVE BY SYSTEM (Water & Sewer)	$0	$0	$208,753	$0	$0	$0	$0	$0	$0	$0	$0	$0
REPLACE 14 WINDOWS AT PLANT (Water)	$0	$0	$0	$0	$32,782	$0	$0	$0	$0	$0	$0	$0
HEAT AND AIR AT PLANT (Water)	$0	$0	$0	$0	$21,855	$0	$0	$0	$0	$0	$0	$0
ROOF AND BRICK ON ROUND HOUSE (Water)	$0	$0	$0	$0	$32,782	$0	$0	$0	$0	$0	$0	$0
MANHOLE/RING & LID REHAB (Water)	$29,000	$32,000	$25,750	$26,523	$27,318	$28,138	$28,982	$29,851	$30,747	$31,669	$32,619	$33,598
STAGE 2 1000RD & T AVE WATER MAIN EXTENSION (Water)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STAGE 3 T AVE WATER MAIN UPGRADE TO WASHINGTON ST. (Water)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SEWER VACUUM AND JETTER TRUCK REPLACEMENT (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DIRECTIONAL BORING MACHINE (Water & Sewer)	$0	$0	$0	$132,613	$0	$0	$0	$0	$0	$0	$0	$0
Water Meter Replacement (Water & Sewer)	$0	$0	$309,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Variable Frequency Drives (Water)	$0	$0	$41,200	$0	$0	$0	$0	$0	$0	$0	$0	$0
Oxygen Generation (Water)	$0	$0	$180,817	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Tower Maintenance (Water)	$0	$0	$103,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Closing Costs, Estimated at: 2.5%	$725	$800	$26,078	$9,848	$3,134	$792	$840	$891	$945	$1,003	$1,064	$1,129
Total Debt-paid Portion of Projects	$29,725	$32,800	$1,038,797	$381,163	$117,871	$28,929	$29,822	$30,742	$31,692	$32,672	$33,683	$34,727
Planned Spending, Cash-paid Portion of Projects (CIP costs to be funded from reserves are shown here.)												
WATER DISTRIBUTION AT CITY LAKE (Water)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WASTE WATER DISTRIBUTION / PUMPS AT CITY LAKE (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Cash-paid Portion of Projects	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total CIP Costs	**$29,725**	**$32,800**	**$1,038,797**	**$381,163**	**$117,871**	**$28,929**	**$29,822**	**$30,742**	**$31,692**	**$32,672**	**$33,683**	**$34,727**
Debt Repayment												
New Debt Payments (Following are payments for projects to be paid with new debt. It is assumed these will be loan/lease-financed for a term of: 20 years at a 3.50% interest rate.)												
Loan Originated in Test Year		$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091
Loan Originated in Analysis (This) Year			$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308
Loan Originated in 1st Year				$73,091	$73,091	$73,091	$73,091	$73,091	$73,091	$73,091	$73,091	$73,091
Loan Originated in 2nd Year					$26,819	$26,819	$26,819	$26,819	$26,819	$26,819	$26,819	$26,819
Loan Originated in 3rd Year						$8,294	$8,294	$8,294	$8,294	$8,294	$8,294	$8,294
Loan Originated in 4th Year							$2,036	$2,036	$2,036	$2,036	$2,036	$2,036
Loan Originated in 5th Year								$2,098	$2,098	$2,098	$2,098	$2,098
Loan Originated in 6th Year									$2,163	$2,163	$2,163	$2,163
Loan Originated in 7th Year										$2,230	$2,230	$2,230

Table 5 - Capital Improvement Program (CIP)

This table depicts capital improvements and their funding. Costs reflect inflation.

		Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)									
	Test Year Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Loan Originated in 8th Year											$2,299	$2,299
Loan Originated in 9th Year												$2,370
Total Debt Payments	$0	$2,091	$4,399	$77,490	$104,309	$112,603	$114,638	$116,737	$118,900	$121,130	$123,428	$125,798
Total CIP-related Payouts	**$29,725**	**$34,891**	**$1,043,196**	**$458,653**	**$222,180**	**$141,532**	**$144,460**	**$147,479**	**$150,592**	**$153,802**	**$157,112**	**$160,525**
(This is the total cash required for this CIP and debt payment schedule. These amounts must come from utility income, reserves or outside sources, as shown in the next section.)												
CIP Fund Sources (Following are the sources and amounts of funds expected to pay for the above CIP schedule.)												
Cash Reserves (Internal Funds)												
Debt and CIP Reserves Starting Balance	$0	$0	-$2,091	-$6,533	-$58,452	-$44,919	-$21,588	$2,666	$20,904	$57,067	$94,551	$125,712
Working Capital Transferred in	$0	$0	$0	$25,702	$119,011	$136,831	$139,325	$134,921	$154,644	$157,472	$152,699	$174,528
Debt and CIP Reserves Interest Earned (or Paid)	$0	$0	-$42	-$131	-$1,169	-$898	-$432	$53	$418	$1,141	$1,891	$2,514
Special Assessments on City Lake Properties	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Available Internal Funds	$0	$0	-$2,133	$19,039	$59,391	$91,014	$117,305	$137,641	$175,967	$215,680	$249,141	$302,754
Grant and Loan Proceeds (External Funds)												
Loan Originated in Test Year	$29,725	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in Analysis (This) Year		$32,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 1st Year			$1,038,797	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 2nd Year				$381,163	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 3rd Year					$117,871	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 4th Year						$28,929	$0	$0	$0	$0	$0	$0
Loan Originated in 5th Year							$29,822	$0	$0	$0	$0	$0
Loan Originated in 6th Year								$30,742	$0	$0	$0	$0
Loan Originated in 7th Year									$31,692	$0	$0	$0
Loan Originated in 8th Year										$32,672	$0	$0
Loan Originated in 9th Year											$33,683	$0
Loan Originated in 10th Year												$34,727
Total Available External Funds	$29,725	$32,800	$1,038,797	$381,163	$117,871	$28,929	$29,822	$30,742	$31,692	$32,672	$33,683	$34,727
Total Available Funds	**$29,725**	**$32,800**	**$1,036,663**	**$400,202**	**$177,261**	**$119,944**	**$147,126**	**$168,383**	**$207,659**	**$248,353**	**$282,824**	**$337,481**
Outcomes (This CIP spending and funding plan will result in the following cash needs and ending balances each year.)												
Total Available Funds	**$29,725**	**$32,800**	**$1,036,663**	**$400,202**	**$177,261**	**$119,944**	**$147,126**	**$168,383**	**$207,659**	**$248,353**	**$282,824**	**$337,481**
Total CIP-related Payouts	**$29,725**	**$34,891**	**$1,043,196**	**$458,653**	**$222,180**	**$141,532**	**$144,460**	**$147,479**	**$150,592**	**$153,802**	**$157,112**	**$160,525**
Debt and CIP Reserves Ending Balances	**$0**	**-$2,091**	**-$6,533**	**-$58,452**	**-$44,919**	**-$21,588**	**$2,666**	**$20,904**	**$57,067**	**$94,551**	**$125,712**	**$176,956**

Notes: Source of system improvement project base costs - Mathew Anderson, PE, CTS Group. These projects are primarily repair and replacement items but because they will likely be loan-funded, they are included here so loan payments can be calculated. The City Lake Project was estimated by Derrick Craige with the City.

Table 6 - Equipment Replacement Schedule - Detailed

Year Beginning	REPLACE METERS	MAINTAIN AIR COMPRESSORS	GENERATOR MAINTENANCE	BACKWASH LAGOON MAINTENANCE	OZONE GENERATOR DIELECTRIC RODS	DAILY CPU, SOFTWARE, HARDWARE, DEVICES	WATER CPU, SOFTWARE, HARDWARE, DEVICES	REPLACE SODIUM HYPO FEED PUMP	REPLACE INFLUENT VALVE IN OZONE BUILDING	REPLACE CHEMICAL MIXER MOTOR	REPLACE 2 TRUCKS (ROTATION)	REPLACE WATER TESTING METER EQUIPMENT	REPAIR/ REPLACE MOTOR FOR AIR COMPRESSOR
1/1/19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/20	Table 5	$150	$500	$3,000	$10,000	$2,000	$30,000	$4,000	$8,000	$0	$40,000	$0	$0
1/1/21	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/22	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/23	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$300	$0	$0	$0
1/1/24	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/25	Table 5	$150	$500	$3,000	$10,000	$2,000	$30,000	$4,000	$8,000	$0	$0	$0	$0
1/1/26	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$3,000	$300
1/1/27	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$40,000	$0	$0
1/1/28	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/29	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$300	$0	$0	$0
1/1/30	Table 5	$150	$500	$3,000	$10,000	$2,000	$30,000	$4,000	$8,000	$0	$0	$0	$0
1/1/31	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/32	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/33	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$3,000	$300
1/1/34	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$40,000	$0	$0
1/1/35	Table 5	$150	$500	$3,000	$10,000	$2,000	$30,000	$4,000	$8,000	$300	$0	$0	$0
1/1/36	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/37	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/38	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/39	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/40	Table 5	$150	$500	$3,000	$10,000	$2,000	$30,000	$4,000	$8,000	$0	$0	$3,000	$300
1/1/41	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$300	$40,000	$0	$0
1/1/42	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/43	Table 5	$150	$500	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table 6 - Equipment Replacement Schedule - Detailed

Year Beginning	CLARIFIER MOTORS	0ZONE COMPRESSOR MOTOR	REPLACE CHLORINE ANALYZER	REPLACE 4 NTU ANALYZERS	COMMUNICATION DEVICES	REPLACE SODIUM HYPO TRANSFER PUMP	REPLACE CQ2100 TRANSFER PUMP	REPLACE AIR DRYER	REPLACE CHEMICAL SCALE	CLARIFIER GEAR BOXES
1/1/19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/20	$0	$400	$0	$12,000	$0	$0	$0	$1,000	$400	$4,000
1/1/21	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/23	$0	$0	$0	$0	$0	$5,000	$0	$0	$0	$0
1/1/24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/25	$2,000	$0	$0	$0	$2,500	$0	$500	$0	$0	$0
1/1/26	$0	$0	$4,000	$0	$0	$0	$0	$0	$0	$0
1/1/27	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/28	$0	$400	$0	$0	$0	$0	$0	$0	$0	$0
1/1/29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/30	$0	$0	$0	$12,000	$0	$0	$0	$1,000	$400	$4,000
1/1/31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/32	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/33	$0	$0	$0	$0	$0	$5,000	$0	$0	$0	$0
1/1/34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/35	$0	$0	$0	$0	$2,500	$0	$500	$0	$0	$0
1/1/36	$0	$400	$4,000	$0	$0	$0	$0	$0	$0	$0
1/1/37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/39	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/40	$0	$0	$0	$12,000	$0	$0	$0	$1,000	$400	$4,000
1/1/41	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/42	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/43	$0	$0	$0	$0	$0	$5,000	$0	$0	$0	$0

Table 6 - Equipment Replacement Schedule - Detailed

Year Beginning	REPLACE JOHN DEERE 310SE	REPLACE FILTER MEDIA OR ADD AS NEEDED	REPLACE CHEMICAL FEED PUMP	PURCHASE OZONE COMPRESSORS	INTERIOR AND EXTERIOR WATER TOWER PAINTING	REPLACE #3 HIGH SERVICE PUMP	REPLACE #2 HIGH SERVICE PUMP	REPLACE #1 HIGH SERVICE PUMP	REPLACE BACKWASH PUMP	REPLACE FILTER TO WASTE PUMP	POST CHLORINE FEED SYSTEM	PURCHASE VRC CONTROLLER	Total Annual Replacement Costs
1/1/19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/20	$35,000	$12,000	$0	$2,000	Table 5	$54,000	$0	$0	$0	$0	$0	$2,000	$220,450
1/1/21	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,950
1/1/24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/25	$0	$0	$2,000	$0	$0	$0	$40,000	$0	$0	$0	$0	$0	$104,650
1/1/26	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,950
1/1/27	$0	$0	$0	$0	$0	$0	$0	$0	$25,000	$0	$0	$0	$68,650
1/1/28	$0	$0	$0	$0	$0	$0	$0	$0	$0	$25,000	$0	$0	$29,050
1/1/29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,950
1/1/30	$0	$0	$0	$0	$0	$0	$0	$40,000	$0	$0	$0	$0	$115,050
1/1/31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,650
1/1/33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,950
1/1/34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$43,650
1/1/35	$35,000	$12,000	$0	$2,000	$0	$0	$0	$0	$0	$0	$15,000	$0	$124,950
1/1/36	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,050
1/1/37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,650
1/1/40	$0	$0	$2,000	$0	$150,000	$54,000	$0	$0	$0	$0	$0	$2,000	$286,350
1/1/41	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$43,950
1/1/42	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,650
1/1/43	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,650

Table 7 - Equipment Replacement Annuity Calculation

Council Grove, Kansas; Water Rates, Model 2019-1

This table calculates the annual annuity (savings deposit) needed to build replacement (R&R) reserves. This annuity amount should actually be deposited in a savings account. The annuity amount, called the "Required Annual Deposit (Annuity) to Replacement Account" below, should be included in the utility's general budget as a cost. As a result, all replacement and refurbishment scheduled in Table 6, the detailed replacement schedule, would be paid for out of R&R reserves and not out of the utility's general budget.

In simple terms, the annuity at the bottom of this table should be deposited into an account each year and R&R projects should be paid for out of that account.

3.00%	Average Inflation Rate for the Following Water System Equipment for the Term of This Replacement Schedule
2.00%	Average Interest Rate on Balances Invested for the Term of This Replacement Schedule
2.00%	Average Interest Rate on Amounts Borrowed for the Term of This Replacement Schedule

Year Beginning	Schedule Year	This Year's Costs in Current Dollars	Future Annual Inflated Net Costs	Interest Earned on Prior Balance	End of Year Balance in Future Dollars	Minimum Desired End of Year Balance in Future Dollars
1/1/19	Analysis Year	$0	$0	$0	$0	$38,893
1/1/20	1st Year	$220,450	$227,064	$0	-$170,467	$40,059
1/1/21	2nd Year	$3,650	$3,872	-$3,409	-$121,152	$41,261
1/1/22	3rd Year	$3,650	$3,988	-$2,423	-$70,967	$42,499
1/1/23	4th Year	$8,950	$10,073	-$1,419	-$25,863	$43,774
1/1/24	5th Year	$3,650	$4,231	-$517	$25,985	$45,087
1/1/25	6th Year	$104,650	$124,958	$520	-$41,856	$46,440
1/1/26	7th Year	$10,950	$13,467	-$837	$436	$47,833
1/1/27	8th Year	$68,650	$86,964	$9	-$29,922	$49,268
1/1/28	9th Year	$29,050	$37,904	-$598	-$11,828	$50,746
1/1/29	10th Year	$3,950	$5,308	-$237	$39,224	$52,268
1/1/30	11th Year	$115,050	$159,256	$784	-$62,651	$53,836
1/1/31	12th Year	$3,650	$5,204	-$1,253	-$12,512	$55,451
1/1/32	13th Year	$5,650	$8,297	-$250	$35,538	$57,115
1/1/33	14th Year	$11,950	$18,075	$711	$74,769	$58,828
1/1/34	15th Year	$43,650	$68,005	$1,495	$64,856	$60,593
1/1/35	16th Year	$124,950	$200,508	$1,297	-$77,758	$62,411
1/1/36	17th Year	$8,050	$13,305	-$1,555	-$36,022	$64,283
1/1/37	18th Year	$3,650	$6,214	-$720	$13,640	$66,212
1/1/38	19th Year	$3,650	$6,400	$273	$64,109	$68,198
				Starting Account Balance	$0	$38,893
				Minimum Annual Annuity	$53,790	Minimum Desired Balance in Today's Dollars
				Discretionary Annuity	$2,807	

Notes: There is currently no R&R schedule. Average R&R costs were instead estimated. A Discretionary Annuity amount was added so that at the end of the 20-year modeling period, the balance will equal the average of the annual replacement cost amounts, less interest paid for borrowing during the negative balance years.

Required Annual Deposit (Annuity) to Replacement Account **$56,597**

(This amount is included in Table 4 as an operating cost.)

Table 8 - Average Cost Classification

Council Grove, Kansas; Water Rates, Model 2019-1

This table distributes costs from a representative year (the "average rate structure basis year) to fixed and variable categories (see Definitions) in order to calculate the "cost of service" rate structure for that year.

The average rate structure basis year runs from: 1/1/2023 through 12/31/2023

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
AMMONIUM SULFATE	$6,579	0.0%	100.0%	$0	$6,579
AUDITING SERVICE	$4,643	100.0%	0.0%	$4,643	$0
BULDING REPAIR	$0	100.0%	0.0%	$0	$0
CHLORINE	$5,186	0.0%	100.0%	$0	$5,186
CIP TRANSFER	$0	50.0%	50.0%	$0	$0
CONTRACTED WATER SUPPLY	$0	0.0%	100.0%	$0	$0
CONTRACTUAL SERVICES	$22,021	50.0%	50.0%	$11,011	$11,011
CQ2100	$53,732	0.0%	100.0%	$0	$53,732
CUSTODIAL SUPPLIES	$0	100.0%	0.0%	$0	$0
DEBT INTEREST	$0	50.0%	50.0%	$0	$0
DEBT SERVICE	$0	50.0%	50.0%	$0	$0
DRUG AND ALCOHOL TESTING	$387	33.3%	66.7%	$129	$258
DUES / MEMBERSHIP / MEETINGS	$6,810	33.3%	66.7%	$2,270	$4,540
ENGINEERING EXPENSE	$0	50.0%	50.0%	$0	$0
EQUIPMENT FUND TRANSFER	$0	50.0%	50.0%	$0	$0
FIRE HYDRANTS	Table 6	100.0%	0.0%	$0	$0
FOOD & MEDICATION	$473	100.0%	0.0%	$473	$0
HDROFLUOSILIC ACID	$4,488	0.0%	100.0%	$0	$4,488
HEALTH/DENTAL INSURANCE	$98,960	0.0%	100.0%	$0	$98,960
INSURANCE	$30,624	100.0%	0.0%	$30,624	$0
KANSAS ONE CALL	$718	100.0%	0.0%	$718	$0
KPERS	$38,011	0.0%	100.0%	$0	$38,011
LIME	$0	0.0%	100.0%	$0	$0
MAPS	$0	100.0%	0.0%	$0	$0
MATERIALS	$604	50.0%	50.0%	$302	$302
MAYOR AND COUNCIL	$325	100.0%	0.0%	$325	$0
METERS	$5,915	0.0%	100.0%	$0	$5,915
OFFICE SUPPLIES	$2,554	100.0%	0.0%	$2,554	$0
OTHER CAPITAL OUTLAY	$0	50.0%	50.0%	$0	$0
OTHER CHEMICALS	$13,098	0.0%	100.0%	$0	$13,098
OTHER COMMODITIES	$8,391	0.0%	100.0%	$0	$8,391
OVERTIME	$20,757	0.0%	100.0%	$0	$20,757
PETROLEUM PRODUCTS	$7,791	50.0%	50.0%	$3,895	$3,895
POSTAGE	$5,456	100.0%	0.0%	$5,456	$0
PRINTING & PUBLICATIONS	$1,090	100.0%	0.0%	$1,090	$0
REFUNDS-UTILITIES DEPOSIT	$4,768	27.7%	72.3%	$1,321	$3,447
SALARIES/FULL-TIME	$386,581	33.3%	66.7%	$128,859	$257,722
SALARIES/PART-TIME	$1,935	33.3%	66.7%	$645	$1,290
SALES TAX PAYMENTS	$17,449	27.7%	72.3%	$4,833	$12,615
SOCIAL SECURITY	$30,317	33.3%	66.7%	$10,106	$20,212
SODIUM HYPOCHLORITE	$3,384	0.0%	100.0%	$0	$3,384
TELEPHONE	$1,305	100.0%	0.0%	$1,305	$0

Table 8 - Average Cost Classification

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
TESTING AND PERMIT FEES	$6,945	100.0%	0.0%	$6,945	$0
TRANSFER IN-WATER WORKS OP	$0	27.7%	72.3%	$0	$0
TRANSFER OUT-WATER WORKS OP	$0	27.7%	72.3%	$0	$0
TRANSPORTATION	$0	50.0%	50.0%	$0	$0
UTILITIES	$66,856	0.0%	100.0%	$0	$66,856
VEHICLE/EQUIP MAINT & REPAIR	$13,564	50.0%	50.0%	$6,782	$6,782
VEHICLE/EQUIP PARTS & SUPPLIES	$5,736	50.0%	50.0%	$2,868	$2,868
W/W DEP/MAINT RSV TRSFR	$0	27.7%	72.3%	$0	$0
WATER LINE CONST	Table 6	27.7%	72.3%	$0	$0
WATER PROTECTION FEE PAYM	$6,658	100.0%	0.0%	$6,658	$0
WELDING & CONSTRUCTION SUPPLIE	$392	50.0%	50.0%	$196	$196
WORKERS COMP	$17,193	33.3%	66.7%	$5,731	$11,462
Adjustment to Balance to 2018 Balance Sheet	$0	27.7%	72.3%	$0	$0
Annual Payment to R&R Reserve (Table 7)	$56,597	50.0%	50.0%	$28,298	$28,298
User Charge Analysis Services	$0	27.7%	72.3%	$0	$0
Total CIP-related Payouts, Less Capacity Charges From Tables 14 & 16 (This value can be negative)	$141,532	27.7%	72.3%	$39,204	$102,328
Grand Total Costs, Weighted Avg Percentages	$1,099,825	27.9%	72.1%	$307,242	$792,583

Bases for Cost to Serve Rate Structure					
		100%		$1,099,825	
Number Customers During Year Defined Above	1,352		Unbilled-for Water is Estimated at		16%
Billed Volume, in Gallons, During Year Defined Above	136,715,336		Unbilled-for Water is Estimated at This Percentage of Average Cost		50%
Average Fixed Cost per User per Month During Year Defined Above	$18.94		Resulting Cost of Unbilled-for Water		$471,725
Average Variable Cost to Produce per 1,000 Gallons During Year Defined Above	$5.80		Test Year Customer Metered Volume, in Gallons		135,704,128
Gallons per Billing Cycle Used by Average Residential Customer	4,096	+	Test Year Unbilled-for Water, in Gallons		161,535,000
			Total Test Year Volume, in Gallons, From Master Meter Readings		297,239,128

Table 10 - Initial Rate Adjustments and Resulting Revenues

Council Grove, Kansas; Water Rates, Model 2019-1

This table calculates a new set of user charge rates and the revenues they would generate.

Out of City Multiplier	200%	Declining Rate Block Multiplier	90%	Other Multiplier	100%

12/31/19 Date when fees will first be collected at adjusted rates. Actual adjustment should occur one billing cycle earlier.

If there are no special costs to consider and before capacity costs are added, if appropriate, rates for a 5/8" meter would be in a "cost to serve" structure when: there is no usage allowance,

the base minimum charge is $17.41 Monthly, and unit charge is $5.33 per 1,000 Gallons.

After rate adjustments are made, customers will be billed monthly.

Blended Sales Revenues: Sales at the current (Test Year) rates (gray highlighted column) will apply until rates are adjusted. Sales at the modeled rates (yellow highlighted column) would apply after the modeled rates are adopted. The "blended" sales revenues show in the right-most column.

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Inside Residential WT1	0	1,000	$52	$17.41	0.000	$5.33	$178	$229
	1,001	2,000	$51,834	$17.41	0.000	$5.33	$177	$52,011
	2,001	3,000	$51,834	$17.41	0.000	$5.33	$177	$52,011
	3,001	4,000	$51,834	$17.41	0.000	$5.33	$177	$52,011
	4,001	5,000	$229,692	$17.41	0.000	$5.33	$596	$230,288
	5,001	6,000	$0	$17.41	0.000	$5.33	$0	$0
	6,001	7,000	$0	$17.41	0.000	$5.33	$0	$0
	7,001	8,000	$0	$17.41	0.000	$5.33	$0	$0
	8,001	9,000	$0	$17.41	0.000	$5.33	$0	$0
	9,001	10,000	$0	$17.41	0.000	$5.33	$0	$0
	10,001	11,000	$0	$17.41	0.000	$4.80	$0	$0
	11,001	12,000	$0	$17.41	0.000	$4.80	$0	$0
	12,001	13,000	$0	$17.41	0.000	$4.80	$0	$0
	13,001	14,000	$0	$17.41	0.000	$4.80	$0	$0
	14,001	15,000	$0	$17.41	0.000	$4.80	$0	$0
	15,001	16,000	$0	$17.41	0.000	$4.80	$0	$0
	16,001	17,000	$0	$17.41	0.000	$4.80	$0	$0
	17,001	18,000	$0	$17.41	0.000	$4.80	$0	$0
	18,001	19,000	$0	$17.41	0.000	$4.80	$0	$0
	19,001	20,000	$0	$17.41	0.000	$4.80	$0	$0
	20,001	21,000	$0	$17.41	0.000	$4.32	$0	$0
	21,001	25,000	$0	$17.41	0.000	$4.32	$0	$0
	25,001	50,000	$0	$17.41	0.000	$4.32	$0	$0
	50,001	200,000	$0	$17.41	0.000	$4.32	$0	$0
	200,001	900,000	$0	$17.41	0.000	$3.89	$0	$0
	900,001	1,000,000	$0	$17.41	0.000	$3.89	$0	$0
	1,000,001	5,000,000	$0	$17.41	0.000	$3.89	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Outside Residential WT2	0	1,000	$12	$34.82	0.000	$10.66	$40	$52
	1,001	2,000	$11,780	$34.82	0.000	$10.66	$40	$11,821
	2,001	3,000	$11,780	$34.82	0.000	$10.66	$40	$11,821
	3,001	4,000	$11,780	$34.82	0.000	$10.66	$40	$11,821
	4,001	5,000	$61,903	$34.82	0.000	$10.66	$169	$62,072
	5,001	6,000	$0	$34.82	0.000	$10.66	$0	$0
	6,001	7,000	$0	$34.82	0.000	$10.66	$0	$0
	7,001	8,000	$0	$34.82	0.000	$10.66	$0	$0
	8,001	9,000	$0	$34.82	0.000	$10.66	$0	$0
	9,001	10,000	$0	$34.82	0.000	$10.66	$0	$0
	10,001	11,000	$0	$34.82	0.000	$9.59	$0	$0
	11,001	12,000	$0	$34.82	0.000	$9.59	$0	$0
	12,001	13,000	$0	$34.82	0.000	$9.59	$0	$0
	13,001	14,000	$0	$34.82	0.000	$9.59	$0	$0
	14,001	15,000	$0	$34.82	0.000	$9.59	$0	$0
	15,001	16,000	$0	$34.82	0.000	$9.59	$0	$0
	16,001	17,000	$0	$34.82	0.000	$9.59	$0	$0
	17,001	18,000	$0	$34.82	0.000	$9.59	$0	$0
	18,001	19,000	$0	$34.82	0.000	$9.59	$0	$0
	19,001	20,000	$0	$34.82	0.000	$9.59	$0	$0
	20,001	21,000	$0	$34.82	0.000	$8.63	$0	$0
	21,001	25,000	$0	$34.82	0.000	$8.63	$0	$0
	25,001	50,000	$0	$34.82	0.000	$8.63	$0	$0
	50,001	200,000	$0	$34.82	0.000	$8.63	$0	$0
	200,001	900,000	$0	$34.82	0.000	$7.77	$0	$0
	900,001	1,000,000	$0	$34.82	0.000	$7.77	$0	$0
	1,000,001	5,000,000	$0	$34.82	0.000	$7.77	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Inside Commercial WT28	0	1,000	$10	$17.41	0.000	$5.33	$33	$42
	1,001	2,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	2,001	3,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	3,001	4,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	4,001	5,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	5,001	6,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	6,001	7,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	7,001	8,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	8,001	9,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	9,001	10,000	$9,578	$17.41	0.000	$5.33	$33	$9,611
	10,001	11,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	11,001	12,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	12,001	13,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	13,001	14,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	14,001	15,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	15,001	16,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	16,001	17,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	17,001	18,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	18,001	19,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	19,001	20,000	$9,309	$17.41	0.000	$4.80	$29	$9,339
	20,001	21,000	$42,633	$17.41	0.000	$4.32	$110	$42,743
	21,001	25,000	$0	$17.41	0.000	$4.32	$0	$0
	25,001	50,000	$0	$17.41	0.000	$4.32	$0	$0
	50,001	200,000	$0	$17.41	0.000	$4.32	$0	$0
	200,001	900,000	$0	$17.41	0.000	$3.89	$0	$0
	900,001	1,000,000	$0	$17.41	0.000	$3.89	$0	$0
	1,000,001	5,000,000	$0	$17.41	0.000	$3.89	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Outside Commercial WT29	0	1,000	$2	$34.82	0.000	$10.66	$6	$7
	1,001	2,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	2,001	3,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	3,001	4,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	4,001	5,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	5,001	6,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	6,001	7,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	7,001	8,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	8,001	9,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	9,001	10,000	$1,524	$34.82	0.000	$10.66	$6	$1,530
	10,001	11,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	11,001	12,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	12,001	13,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	13,001	14,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	14,001	15,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	15,001	16,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	16,001	17,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	17,001	18,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	18,001	19,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	19,001	20,000	$1,243	$34.82	0.000	$9.59	$5	$1,248
	20,001	21,000	$8,638	$34.82	0.000	$8.63	$24	$8,661
	21,001	25,000	$0	$34.82	0.000	$8.63	$0	$0
	25,001	50,000	$0	$34.82	0.000	$8.63	$0	$0
	50,001	200,000	$0	$34.82	0.000	$8.63	$0	$0
	200,001	900,000	$0	$34.82	0.000	$7.77	$0	$0
	900,001	1,000,000	$0	$34.82	0.000	$7.77	$0	$0
	1,000,001	5,000,000	$0	$34.82	0.000	$7.77	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Rural Water #1 WT5	0	1,000	$0	$281.43	0.000	$5.77	$0	$0
	1,001	2,000	$55	$281.43	0.000	$5.77	$0	$56
	2,001	3,000	$55	$281.43	0.000	$5.77	$0	$56
	3,001	4,000	$55	$281.43	0.000	$5.77	$0	$56
	4,001	5,000	$55	$281.43	0.000	$5.77	$0	$56
	5,001	6,000	$55	$281.43	0.000	$5.77	$0	$56
	6,001	7,000	$55	$281.43	0.000	$5.77	$0	$56
	7,001	8,000	$55	$281.43	0.000	$5.77	$0	$56
	8,001	9,000	$55	$281.43	0.000	$5.77	$0	$56
	9,001	10,000	$55	$281.43	0.000	$5.77	$0	$56
	10,001	11,000	$55	$281.43	0.000	$5.77	$0	$56
	11,001	12,000	$55	$281.43	0.000	$5.77	$0	$56
	12,001	13,000	$55	$281.43	0.000	$5.77	$0	$56
	13,001	14,000	$55	$281.43	0.000	$5.77	$0	$56
	14,001	15,000	$55	$281.43	0.000	$5.77	$0	$56
	15,001	16,000	$55	$281.43	0.000	$5.77	$0	$56
	16,001	17,000	$55	$281.43	0.000	$5.77	$0	$56
	17,001	18,000	$55	$281.43	0.000	$5.77	$0	$56
	18,001	19,000	$55	$281.43	0.000	$5.77	$0	$56
	19,001	20,000	$55	$281.43	0.000	$5.77	$0	$56
	20,001	21,000	$55	$281.43	0.000	$5.77	$0	$56
	21,001	25,000	$222	$281.43	0.000	$5.77	$1	$222
	25,001	50,000	$1,385	$281.43	0.000	$5.77	$5	$1,390
	50,001	200,000	$8,311	$281.43	0.000	$5.77	$28	$8,340
	200,001	900,000	$38,785	$281.43	0.000	$5.77	$133	$38,918
	900,001	1,000,000	$5,541	$281.43	0.000	$5.77	$19	$5,560
	1,000,001	5,000,000	$9,630	$281.43	0.000	$5.77	$30	$9,659
WT6	0	1,000	$0	$17.41	0.000	$5.33	$1	$1
	1,000,001	5,000,000	$0	$17.41	0.000	$3.89	$0	$0
City MM WT99	0	1,000	$0	$0.00	0.000	$0.00	$0	$0
	1,000,001	5,000,000	$0	$0.00	0.000	$0.00	$0	$0
Raw Water	0	1,000	$0	$12.80	0.000	$2.64	$0	$0
	1,000,001	5,000,000	$0	$12.80	0.000	$2.64	$0	$0
Total Rate Revenue at Current Rates			$804,206	Total Rate Revenue at Modeled Rates			$2,725	
						Total Blended Rate Revenues for the Year		$806,931

Note: New Minimum Charge Base Rates: If meter size-based minimum charges are to be used, and the user classes modeled above include meter or connection sizes, the amounts shown in this column include meter size surcharges as calculated in Table 16. Either way, the narrative report includes the rates and surcharges to assess.

12.0	months at the old user charge rates	and	0.0	months at the new user charge rates.

Table 17 - Financial Capacity Indicators and Reserves

Council Grove, Kansas; Water Rates, Model 2019-1

This table depicts the affordability of future rates, the financial health of the system and the ending balances in various (assumed) accounts for the test year and the next 10 years.

Capacity Indicators	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Customary Affordability Index: Monthly Bill for a 5,000 gal per Month, Small Meter Residential Customer	$35.68	$44.07	$45.39	$46.75	$48.15	$49.60	$51.08	$52.62	$54.20	$55.82	$57.50	$59.22
AMHI Within Service Area	$40,050	$40,872	$41,710	$42,566	$43,440	$44,332	$45,241	$46,170	$47,117	$48,084	$49,071	$50,078
Affordability Index: Current Rates First Column, Modeled Rates After That	1.07%	1.29%	1.31%	1.32%	1.33%	1.34%	1.35%	1.37%	1.38%	1.39%	1.41%	1.42%
Affordability Index (AI) goes to the willingness and ability of customers to pay. AI is the cost of 60,000 gallons of residential service per year (5,000 gallons per month) divided by the Annual Median Household Income (AMHI) in the service area (gleaned from Census data or a survey). Rates near 1.0% are common in the U.S. and are generally considered affordable. Most grant agencies will not consider awarding grants if this indicator is less than 1.5 to 2.0%.												
Low-income, Low-volume Affordability Index: Monthly Bill for a 2,000 gal per Month, Low-income Residential Customer	$22.84	$28.08	$28.92	$29.79	$30.68	$31.60	$32.55	$33.52	$34.53	$35.57	$36.63	$37.73
Income at One-half the AMHI and Rising at One-half the Rate Above	$20,025	$20,230	$20,438	$20,648	$20,860	$21,074	$21,290	$21,508	$21,729	$21,952	$22,177	$22,405
Affordability for Low-income, Low-volume: Current Rates First Column, Modeled Rates After That	1.37%	1.67%	1.70%	1.73%	1.76%	1.80%	1.83%	1.87%	1.91%	1.94%	1.98%	2.02%
This additional indicator of affordability assumes a residential customer with income at one-half of the median household income above, that income is growing at one-half the rate of the median household income and the customer uses 2,000 gallons per month. Such a customer is likely either a minimum wage or near-minimum wage worker, or is retired and living only on Social Security benefits. Such customers are more commonly the "slow pays" and "no pays" compared to others.												
Estimated Operating Ratio: Current Rates First Column, Modeled Rates After That	1.39	1.45	1.11	1.15	1.14	1.15	1.16	1.15	1.16	1.16	1.15	1.16
Operating ratio (OR) is a measure of the utility's ability to pay its operating expenses using only current incomes. A 1.0 OR is break even. Below 1.0 indicates operating in the "red." Generally, the OR should be at least 1.15 for large systems, 1.30 or more for medium-sized systems and perhaps as high as 2.0 for small systems. Note: If the utility has or will have reserves (below,) it has more ability to pay its operating costs than the OR implies.												
Estimated Coverage Ratio: Current Rates First Column, Modeled Rates After That	N.A.	0.00	0.00	0.33	1.14	1.22	1.22	1.16	1.30	1.30	1.24	1.39
Coverage Ratio (CR) goes to the ability of the utility to pay its debt payments out of current incomes. OR applies only to years with debt service. 1.0 is break even. Generally, the CR should be at least 1.25. Note: If the utility has or will have reserves (shown below,) it has more ability to make debt payments than the CR implies.												

Reserves	Balance Ending on 12/31/18	Balance Ending on 12/31/19	Balance Ending on 12/31/20	Balance Ending on 12/31/21	Balance Ending on 12/31/22	Balance Ending on 12/31/23	Balance Ending on 12/31/24	Balance Ending on 12/31/25	Balance Ending on 12/31/26	Balance Ending on 12/31/27	Balance Ending on 12/31/28	Balance Ending on 12/31/29
Cash and Cash Equivalents	-$709	$248,839	$344,242	$453,102	$469,024	$479,147	$492,761	$510,198	$521,237	$536,123	$555,219	$567,257
Other Liquid Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Undedicated Cash Assets	-$709	$248,839	$344,242	$453,102	$469,024	$479,147	$492,761	$510,198	$521,237	$536,123	$555,219	$567,257
Total Cash Assets Discounted for Inflation (Future Unrestricted Purchasing Power)	-$709	$248,839	$333,915	$426,324	$428,066	$424,185	$423,151	$424,981	$421,151	$420,183	$422,095	$431,246
Repair & Replacement	$0	-$170,467	-$121,152	-$70,967	-$25,863	$25,985	-$41,856	$436	-$29,922	-$11,828	$39,224	-$62,651
Debt and CIP Reserves	$0	-$2,091	-$6,533	-$58,452	-$44,919	-$21,588	$2,666	$20,904	$57,067	$94,551	$125,712	$176,956
Sum of All Reserves	-$709	$76,281	$216,558	$323,684	$398,243	$483,543	$453,572	$531,538	$548,382	$618,846	$720,155	$681,561

Table 18 - Bills Before and After Rate Adjustments

Council Grove, Kansas; Water Rates, Model 2019-1

Revenue increase to be generated by the modeled rates 23.4%

If applicable, the revenue increase above includes meter size-based minimum charges calculated in Table 15. If rate classes shown below do not include meter size, the modeled bills below do not include those surcharges.

To reduce confusion, this table shows only example customer bills.

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Inside Residential WT1	0	0	0	$18.56	$17.41	-$1.15
	1,001	0	0	$18.56	$22.75	$4.18
	2,001	0	0	$22.84	$28.08	$5.23
	3,001	0	0	$27.12	$33.41	$6.28
	4,001	1,012	1,012	$31.40	$38.74	$7.33
	5,001	0	1,012	$35.68	$44.07	$8.38
	6,001	0	1,012	$39.96	$49.40	$9.43
	7,001	0	1,012	$44.24	$54.73	$10.48
	8,001	0	1,012	$48.52	$60.06	$11.53
	9,001	0	1,012	$52.80	$65.39	$12.58
	10,001	0	1,012	$56.96	$70.18	$13.22
	11,001	0	1,012	$61.12	$74.98	$13.86
	12,001	0	1,012	$65.28	$79.78	$14.49
	13,001	0	1,012	$69.44	$84.57	$15.13
	14,001	0	1,012	$73.60	$89.37	$15.77
	15,001	0	1,012	$77.76	$94.17	$16.40
	16,001	0	1,012	$81.92	$98.97	$17.04
	17,001	0	1,012	$86.08	$103.76	$17.68
	18,001	0	1,012	$90.24	$108.56	$18.31
	19,001	0	1,012	$94.40	$113.36	$18.95
	20,001	0	1,012	$98.56	$117.67	$19.11

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Outside Residential WT2	0	0	0	$37.13	$34.82	-$2.31
	1,001	0	0	$37.14	$45.49	$8.35
	2,001	0	0	$45.70	$56.15	$10.45
	3,001	0	0	$54.26	$66.81	$12.55
	4,001	115	115	$62.82	$77.47	$14.65
	5,001	0	115	$71.38	$88.13	$16.75
	6,001	0	115	$79.94	$98.79	$18.85
	7,001	0	115	$88.50	$109.45	$20.95
	8,001	0	115	$97.06	$120.11	$23.05
	9,001	0	115	$105.62	$130.77	$25.15
	10,001	0	115	$113.71	$140.37	$26.66
	11,001	0	115	$121.80	$149.96	$28.16
	12,001	0	115	$129.89	$159.55	$29.67
	13,001	0	115	$137.98	$169.15	$31.17
	14,001	0	115	$146.07	$178.74	$32.67
	15,001	0	115	$154.16	$188.34	$34.18
	16,001	0	115	$162.25	$197.93	$35.68
	17,001	0	115	$170.34	$207.52	$37.19
	18,001	0	115	$178.43	$217.12	$38.69
	19,001	0	115	$186.52	$226.71	$40.19
	20,001	0	115	$194.61	$235.35	$40.74

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Inside Commercial WT28	0	0	0	$18.56	$17.41	-$1.15
	1,001	0	0	$18.56	$22.75	$4.18
	2,001	0	0	$22.84	$28.08	$5.23
	3,001	0	0	$27.12	$33.41	$6.28
	4,001	0	0	$31.40	$38.74	$7.33
	5,001	0	0	$35.68	$44.07	$8.38
	6,001	0	0	$39.96	$49.40	$9.43
	7,001	0	0	$44.24	$54.73	$10.48
	8,001	0	0	$48.52	$60.06	$11.53
	9,001	0	0	$52.80	$65.39	$12.58
	10,001	0	0	$56.96	$70.18	$13.22
	11,001	0	0	$61.12	$74.98	$13.86
	12,001	0	0	$65.28	$79.78	$14.49
	13,001	0	0	$69.44	$84.57	$15.13
	14,001	0	0	$73.60	$89.37	$15.77
	15,001	0	0	$77.76	$94.17	$16.40
	16,001	0	0	$81.92	$98.97	$17.04
	17,001	0	0	$86.08	$103.76	$17.68
	18,001	0	0	$90.24	$108.56	$18.31
	19,001	0	0	$94.40	$113.36	$18.95
	20,001	187	187	$98.56	$117.67	$19.11
	21,001	0	187	$102.72	$121.99	$19.27
	25,001	0	187	$117.24	$139.26	$22.02
	50,001	0	187	$198.24	$247.19	$48.95
	200,001	0	187	$622.74	$830.03	$207.28
	900,001	0	187	$2,603.74	$3,549.93	$946.18
	1,000,001	0	187	$2,846.74	$3,938.48	$1,091.74

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Outside Commercial WT29	0	0	0	$37.13	$34.82	-$2.31
	1,001	0	0	$37.14	$45.49	$8.36
	2,001	0	0	$44.63	$56.15	$11.53
	3,001	0	0	$52.12	$66.81	$14.70
	4,001	0	0	$59.61	$77.47	$17.87
	5,001	0	0	$67.10	$88.13	$21.04
	6,001	0	0	$74.59	$98.79	$24.21
	7,001	0	0	$82.08	$109.45	$27.38
	8,001	0	0	$89.57	$120.11	$30.55
	9,001	0	0	$97.06	$130.77	$33.72
	10,001	0	0	$103.17	$140.37	$37.20
	11,001	0	0	$109.28	$149.96	$40.68
	12,001	0	0	$115.39	$159.55	$44.17
	13,001	0	0	$121.50	$169.15	$47.65
	14,001	0	0	$127.61	$178.74	$51.14
	15,001	0	0	$133.72	$188.34	$54.62
	16,001	0	0	$139.83	$197.93	$58.10
	17,001	0	0	$145.94	$207.52	$61.59
	18,001	0	0	$152.05	$217.12	$65.07
	19,001	0	0	$158.16	$226.71	$68.56
	20,001	17	17	$164.27	$235.35	$71.08
	21,001	0	17	$170.38	$243.98	$73.60
	25,001	0	17	$189.90	$278.52	$88.62
	50,001	0	17	$301.90	$494.39	$192.49
	200,001	0	17	$909.40	$1,660.06	$750.66
	900,001	0	17	$3,744.40	$7,099.85	$3,355.46
	1,000,001	0	17	$4,133.40	$7,876.97	$3,743.57

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Rural Water #1 WT5	0	0	0	$300.00	$281.43	-$18.57
	1,001	0	0	$300.00	$287.20	-$12.81
	2,001	0	0	$304.63	$292.96	-$11.67
	3,001	0	0	$309.26	$298.73	-$10.53
	4,001	0	0	$313.89	$304.50	-$9.40
	5,001	0	0	$318.52	$310.26	-$8.26
	6,001	0	0	$323.15	$316.03	-$7.13
	7,001	0	0	$327.78	$321.79	-$5.99
	8,001	0	0	$332.41	$327.56	-$4.86
	9,001	0	0	$337.04	$333.33	-$3.72
	10,001	0	0	$341.67	$339.09	-$2.58
	11,001	0	0	$346.30	$344.86	-$1.45
	12,001	0	0	$350.93	$350.62	-$0.31
	13,001	0	0	$355.56	$356.39	$0.82
	14,001	0	0	$360.19	$362.15	$1.96
	15,001	0	0	$364.82	$367.92	$3.10
	16,001	0	0	$369.45	$373.69	$4.23
	17,001	0	0	$374.08	$379.45	$5.37
	18,001	0	0	$378.71	$385.22	$6.50
	19,001	0	0	$383.34	$390.98	$7.64
	20,001	0	0	$387.97	$396.75	$8.77
	21,001	0	0	$392.60	$402.52	$9.91
	25,001	0	0	$411.12	$425.58	$14.45
	50,001	0	0	$526.87	$569.73	$42.85
	200,001	0	0	$1,221.37	$1,434.61	$213.23
	900,001	0	0	$4,462.37	$5,470.71	$1,008.34
	1,000,001	1	1	$4,925.37	$6,047.30	$1,121.92
WT6	0	1	1	$0.00	$17.41	$17.41
City MM WT99	0	0	0	$0.00	$0.00	$0.00
	1,000,001	0	9	$0.00	$0.00	$0.00

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
	0	0	0	$13.65	$12.80	-$0.85
	1,001	0	0	$13.65	$15.45	$1.80
	2,001	0	0	$15.77	$18.09	$2.32
	3,001	0	0	$17.89	$20.73	$2.84
	4,001	0	0	$20.01	$23.37	$3.36
	5,001	0	0	$22.13	$26.01	$3.88
	6,001	0	0	$24.25	$28.65	$4.40
	7,001	0	0	$26.37	$31.29	$4.92
	8,001	0	0	$28.49	$33.93	$5.44
	9,001	0	0	$30.61	$36.57	$5.96
Raw Water	10,001	0	0	$32.73	$39.21	$6.48
	11,001	0	0	$34.85	$41.85	$7.00
	12,001	0	0	$36.97	$44.49	$7.52
	13,001	0	0	$39.09	$47.13	$8.04
	14,001	0	0	$41.21	$49.77	$8.56
	15,001	0	0	$43.33	$52.41	$9.08
	16,001	0	0	$45.45	$55.05	$9.60
	17,001	0	0	$47.57	$57.69	$10.12
	18,001	0	0	$49.69	$60.33	$10.64
	19,001	0	0	$51.81	$62.97	$11.16
	20,001	0	0	$53.93	$65.61	$11.68

Table 19 - User Statistics
Council Grove, Kansas; Water Rates, Model 2019-1

This table shows measures of equitability, or "fairness," of the rates as modeled in Table 10. If debt, capacity or other surcharges were also calculated but not included in Table 10, this table does not take those fees into account.

If your rates were based only on volume of service, your % of Usage and % of Revenues figures would be the same within all the classes. While rates are not set up that way, it is still useful to make comparisons on that basis. This table does that, among other things.

Normally, the % of usage figure will be lower than the % of revenue for the lower volumes of use. That will switch for the higher volumes of use. Even for declining rate structures, this switch should occur near the volume of the average residential user, typically near 5,000 gallons/month (668 cu ft).

In urban and suburban areas the average monthly use for residential or general customers can be twice that used by their rural and "old town" counterparts. Use is largely dependent upon who lives in a community. Older people living in longer established neighborhoods tend to use less volume than younger people living in more recently developed areas. As you make comparisons between different customers and customer classes, keep that, and the following statistics about your rates in mind:

4,096	Gallons: This is the average residential customer's usage per Monthly billing cycle.

Usage allowance is the volume "given away" with the minimum charge. The higher the allowance, the less volume the utility can sell to generate income.

135,704,128	Gallons: The volume metered through customer meters that was available to be sold during the test year.
16,096,000	Gallons: The volume given away as a usage allowance during the test year.
$74,977	Revenue Loss: At the unit charge rate in effect during the test year, revenue lost due to the usage allowance.
$0	Revenue Loss: At the modeled unit charge rates and usage allowance (if any), revenue lost due to the usage allowance.

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
Inside Residential WT1	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	6.5%
	1,001	2,000	0	0.0	0.0%	100.0%	0.0%	0.0%	6.4%	6.5%
	2,001	3,000	0	0.0	0.0%	100.0%	0.0%	0.0%	6.4%	6.5%
	3,001	4,000	0	0.0	0.0%	100.0%	0.0%	0.0%	6.4%	6.5%
	4,001	5,000	49,740,000	1,012.0	100.0%	100.0%	75.4%	36.7%	28.6%	21.9%
	Totals for Class		49,740,000	1,012.0			75.4%	36.7%	47.9%	47.9%
Outside Residential WT2	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	1.5%
	1,001	2,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.5%	1.5%
	2,001	3,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.5%	1.5%
	3,001	4,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.5%	1.5%
	4,001	5,000	6,787,000	115.0	100.0%	100.0%	8.6%	5.0%	7.7%	6.2%
	Totals for Class		6,787,000	115.0			8.6%	5.0%	12.1%	12.1%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
Inside Commercial WT28	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	1.2%
	1,001	2,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	2,001	3,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	3,001	4,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	4,001	5,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	5,001	6,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	6,001	7,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	7,001	8,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	8,001	9,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	9,001	10,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.2%
	10,001	11,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	11,001	12,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	12,001	13,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	13,001	14,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	14,001	15,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	15,001	16,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	16,001	17,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	17,001	18,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	18,001	19,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	19,001	20,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.2%	1.1%
	20,001	21,000	45,147,036	187.0	100.0%	100.0%	13.9%	33.3%	5.3%	4.0%
	Totals for Class		45,147,036	187.0			13.9%	33.3%	27.6%	26.9%
Outside Commercial WT29	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.2%
	1,001	2,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	2,001	3,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	3,001	4,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	4,001	5,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	5,001	6,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	6,001	7,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	7,001	8,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	8,001	9,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	9,001	10,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	10,001	11,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	11,001	12,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	12,001	13,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	13,001	14,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	14,001	15,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	15,001	16,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	16,001	17,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	17,001	18,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	18,001	19,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	19,001	20,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	20,001	21,000	4,258,092	17.0	100.0%	100.0%	1.3%	3.1%	1.1%	0.9%
	Totals for Class		4,258,092	17.0			1.3%	3.1%	4.3%	5.0%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
Rural Water #1 WT5	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	25,001	50,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.2%
	50,001	200,000	0	0.0	0.0%	100.0%	0.0%	0.0%	1.0%	1.0%
	200,001	900,000	0	0.0	0.0%	100.0%	0.0%	0.0%	4.8%	4.9%
	900,001	1,000,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.7%	0.7%
	1,000,001	5,000,000	13,308,000	1.0	100.0%	100.0%	0.1%	9.8%	1.2%	1.1%
	Totals for Class		13,308,000	1.0			0.1%	9.8%	8.1%	8.1%
WT6	0	1,000	4,000	1.0	100.0%	100.0%	0.1%	0.0%	0.0%	0.0%
	1,000,001	5,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		4,000	1.0			0.1%	0.0%	0.0%	0.0%
City MM WT99	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	50,001	200,000	16,460,000	9.0	100.0%	100.0%	0.7%	12.1%	0.0%	0.0%
	200,001	900,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	900,001	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	1,000,001	5,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		16,460,000	9.0			0.7%	12.1%	0.0%	0.0%
Raw Water	0	1,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000,001	5,000,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		0	0.0			0.0%	0.0%	0.0%	0.0%
	Grand Totals		135,704,128				100.00%	100.00%	100.00%	100.00%

Chart 1 - Operating Ratio

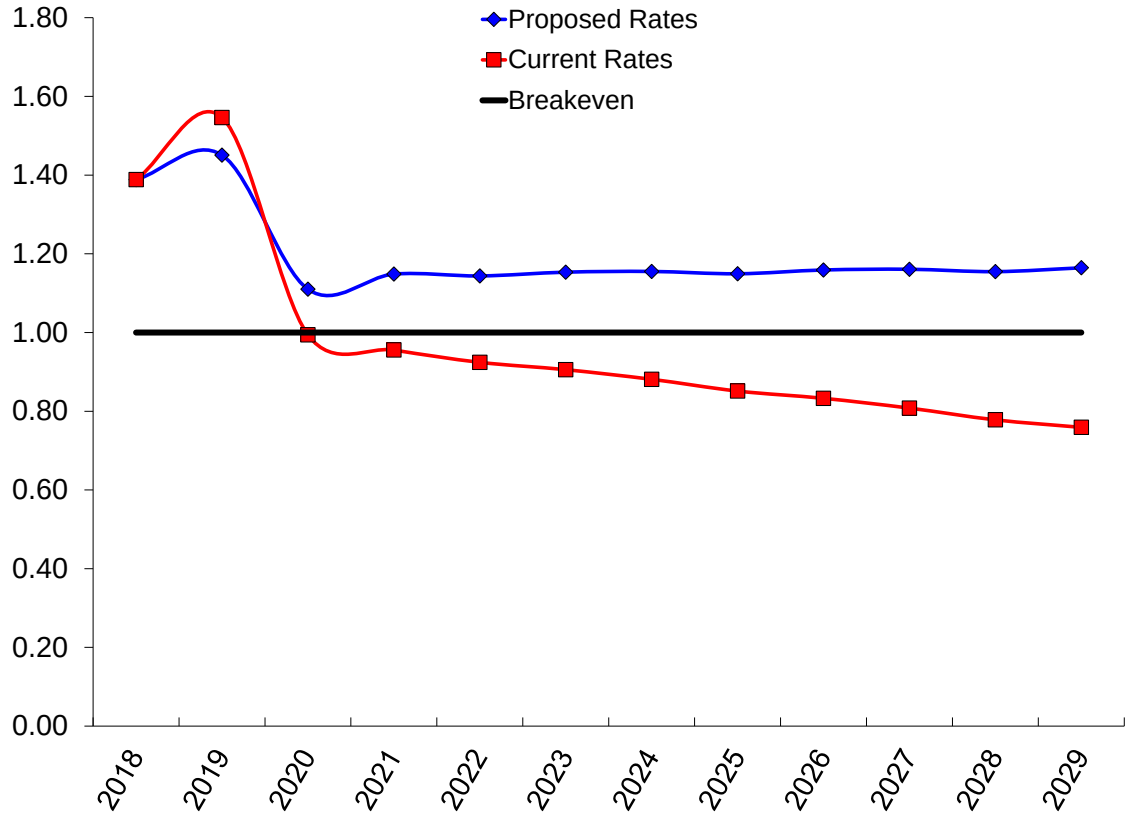


Chart 2 - Coverage Ratio

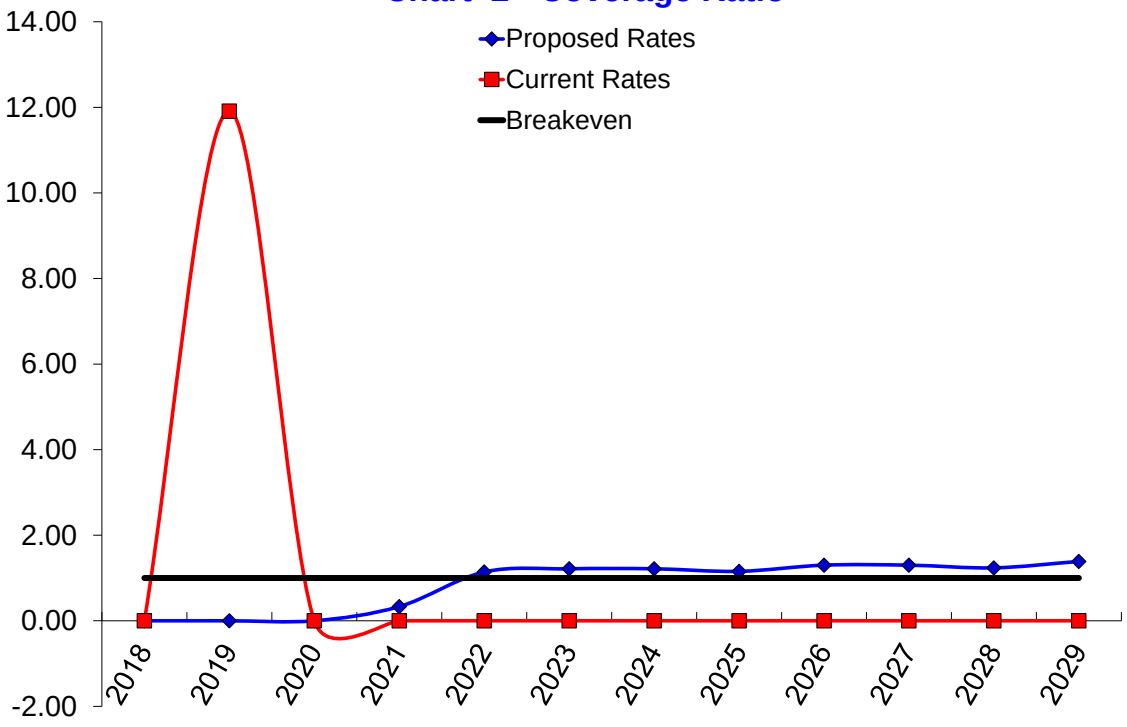


Chart 3 - Residential Users' Bills

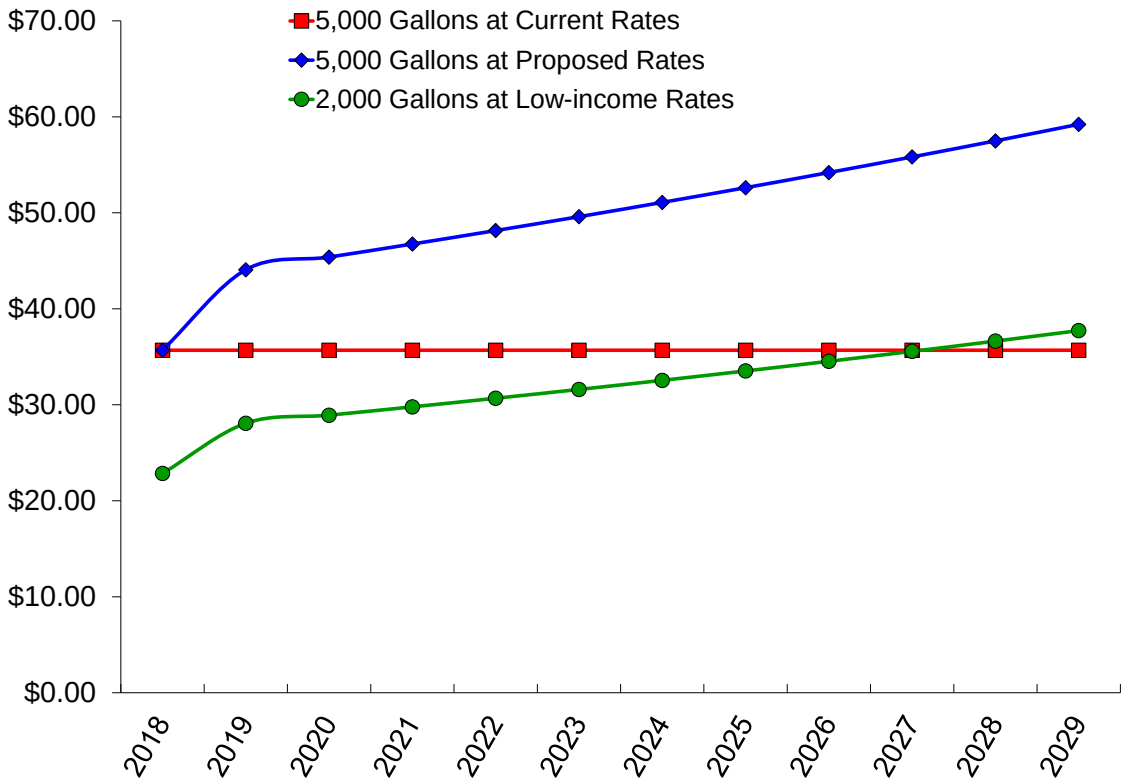


Chart 4 - Affordability

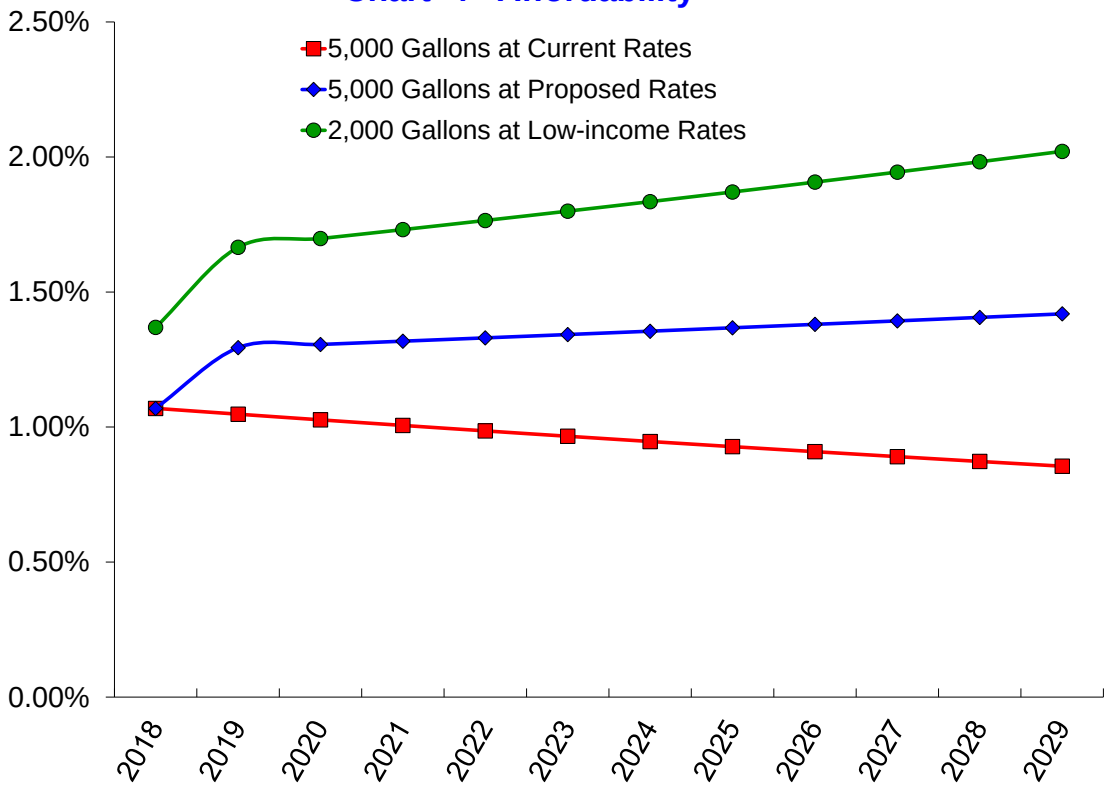


Chart 5 - Working Capital vs Goal

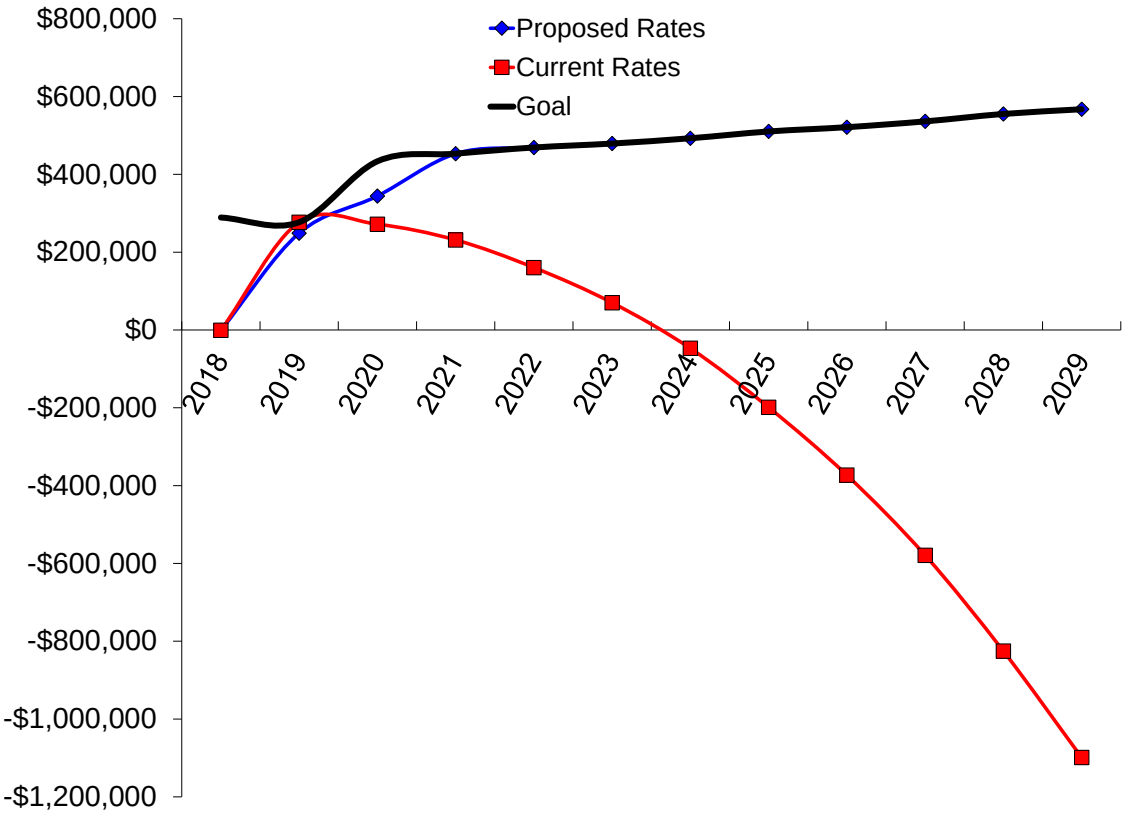


Chart 6 - Value of Cash Assets Before Inflation

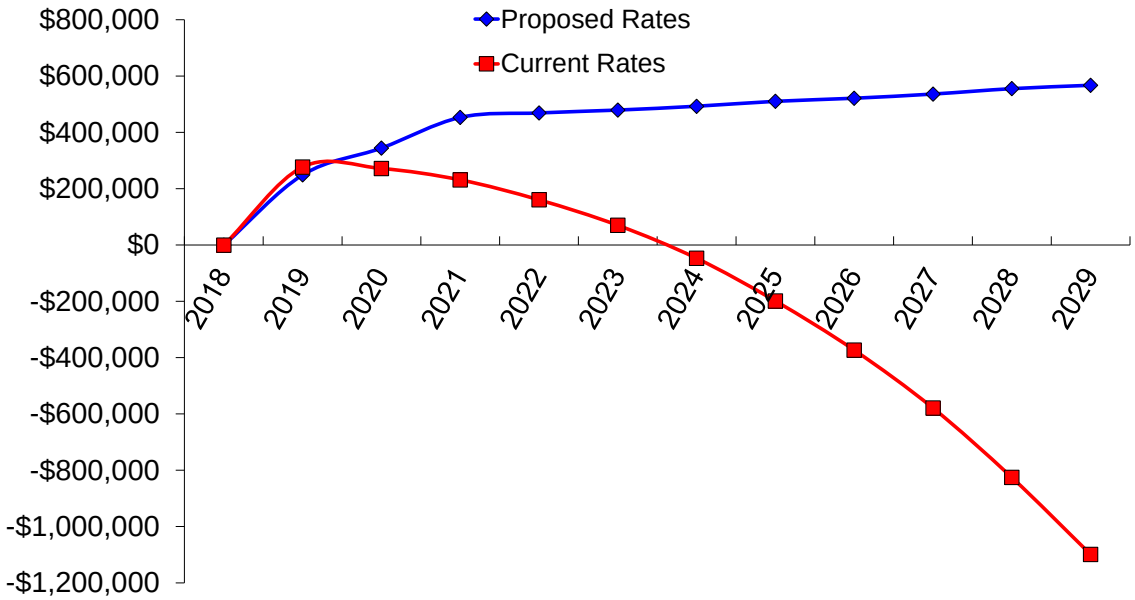


Chart 7 - Value of Cash Assets After Inflation

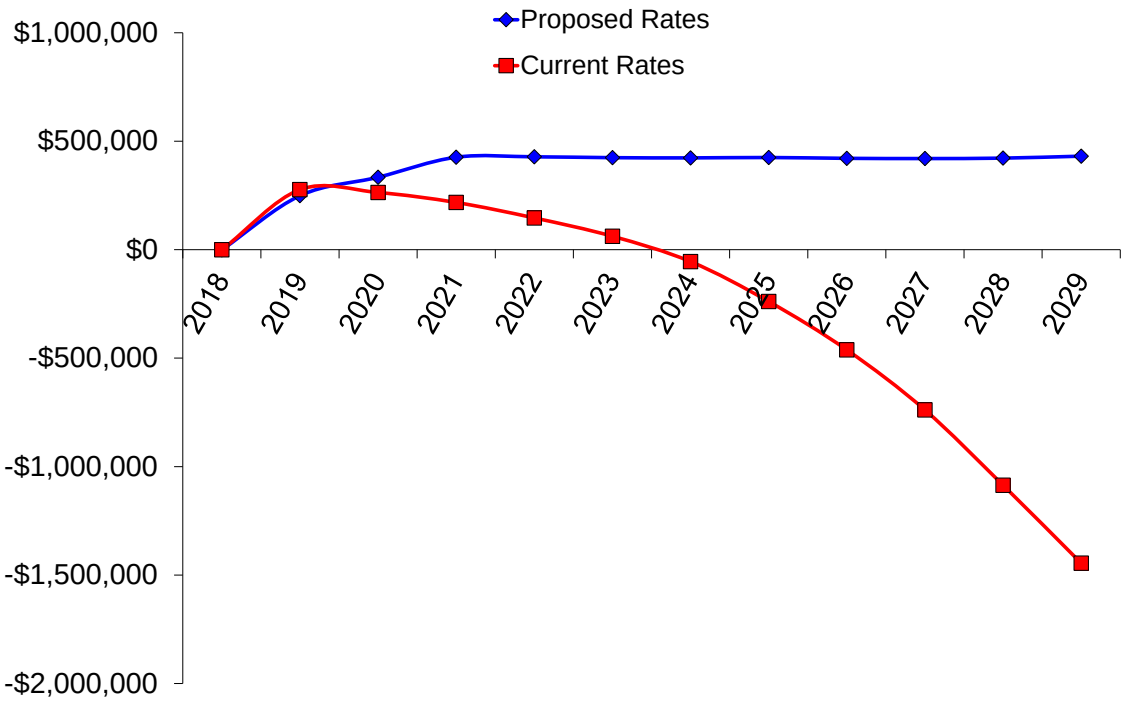
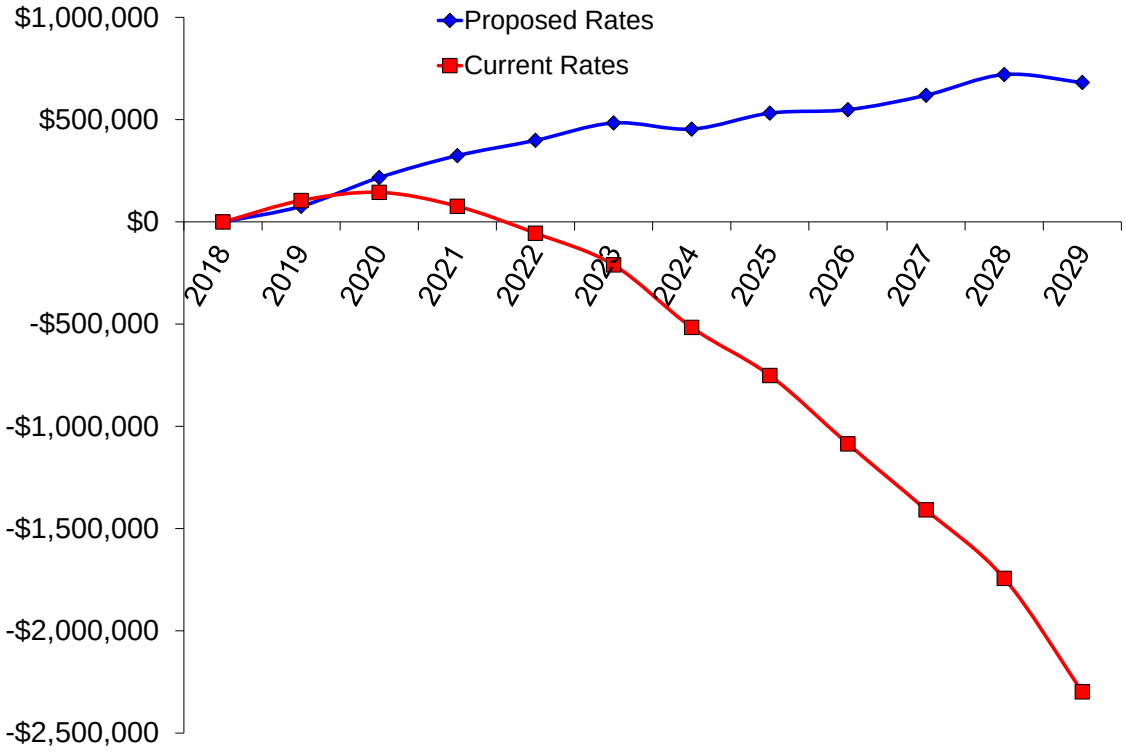


Chart 8 - Sum of All Reserves



Council Grove, Kansas; Water Rates, Model 2019-1B

(This model is like Model 2019-1, except it also assumes extending service to the City Lake area.)

December 11, 2019

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Note: This document is a print out of the spreadsheet model used to calculate new user charge and other rates and fees for the next 10 years. These calculations are complex and are based upon many conditions and assumtions. These issues, and others, are described in a narrative report that accompanies this model.

Table 3 - Operating Incomes and Basic User Data

Council Grove, Kansas; Water Rates, Model 2019-1B

This table depicts user statistics, customer growth, and system incomes and across the board "inflationary" style rate increases through the 10th year.

Annual Median Household Income (AMHI)

$38,455	Census Bureau estimate of AMHI for the year	2016
$28,949	Census Bureau estimate of AMHI for the year	2000
$9,506	AMHI growth during this time period	
2.05%	Simple annual income growth rate during this time period (used to project incomes into the future)	

Test Year Growth of Customer Base and Average Tap Fee Paid per Connection

2	Number of new connections made during the test year
$1,466	Average tap or installation fee assessed during the test year

This model is programmed for rates to be reset in the "Analysis Year," also called the "0 Year" column below (heading highlighted blue). Revenues will be collected at the now-current rates for the first part of the analysis year and the modeled rates for the last part of the analysis year. Thus, the revenues shown in the last column of that table are "blended" revenues; part collected at the old rates and part collected at the new rates. It was then assumed that all rate adjustments made after the initial (major) adjustment will be done annually on approximately the anniversary of the first adjustment. If rates will not be adjusted during the "0 Year," an adjustment (normally a revenue reduction) was calculated below to account for the late start in making the first adjustments.

Basic User (Customer) Data

(First year balances and incomes are actual, subsequent years are projected.)	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	Analysis Year 0 Year Starting 1/1/19	Years Following the Analysis Year (for Which Results Have Been Projected) 1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Rate Increases Projected for Future Years	N.A.	N.A.	N.A.	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
				The row above shows the rate at which user charge fees should be increased for each year beyond the initial rate adjustment year. Unless stated otherwise, these should be across-the-board increases to all rates and fees and that should continue until a new rate analysis is done.									
Average Number of Customers for the Year	N.A.	1,342	1,344	1,346	1,348	1,350	1,702	1,704	1,706	1,708	1,710	1,712	1,714
Customers Added or Lost (-) During the Year	N.A.	2.0	2.0	2.0	2.0	2.0	352.0	2.0	2.0	2.0	2.0	2.0	2.0
Customer Growth or Loss (-) Rate	N.A.	0.15%	0.15%	0.15%	0.15%	0.15%	20.68%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%
Actual (Test Year) and Projected Volumes, in Gallons	N.A.	135,704,128	135,906,370	136,108,611	136,310,853	136,513,094	172,107,620	172,309,861	172,512,103	172,714,345	172,916,586	173,118,828	173,321,070
How User Charge Fees Were Calculated, Accounting for New Customers and Future Rate Increases													
Actual or Calculated Sales Revenues		$806,415	$806,615	$905,659	$934,215	$963,671	$994,051	$1,235,626	$1,274,188	$1,313,953	$1,354,956	$1,397,237	$1,440,835
Additional Sales Revenues From New Customers			$3	$1,346	$1,388	$1,428	$205,585	$1,450	$1,494	$1,539	$1,585	$1,632	$1,681
Total Calculated Revenues (User Charge Fees)		$806,415	$806,618	$907,004	$935,603	$965,098	$1,199,637	$1,237,076	$1,275,682	$1,315,491	$1,356,541	$1,398,869	$1,442,516
Operating Incomes													
User Charge Fees, Not Including Taxes	N.A.	$749,690	$749,879	$843,204	$869,791	$897,211	$1,115,252	$1,150,058	$1,185,948	$1,222,957	$1,261,119	$1,300,470	$1,341,047
Late Payment Charge	N.A.	$8,711	$8,724	$8,737	$8,750	$8,763	$10,575	$10,587	$10,600	$10,612	$10,624	$10,637	$10,649
New Taps or Connections (Current Rate Structure)	% Above	$2,933	$2,924	$0	$0	$0	$0	$0	$0	$0	$0	$1	$2
New Taps or Connections (New Rate Structure)	% Above	$0	$0	$3,000	$3,090	$3,183	$576,960	$3,377	$3,478	$3,582	$3,690	$3,800	$3,914
Interest Income	N.A.	$0	-$14	$2,485	$2,621	$2,816	$2,970	$4,882	$5,052	$5,230	$5,344	$5,497	$5,692
BACKHOE/TRENCHER	N.A.	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564	$2,564
BULK WATER	N.A.	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314	$6,314
GENERAL SALES TAX-OTHER	N.A.	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578	$1,578
WATER SALES TAX	N.A.	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609	$14,609
LABOR	N.A.	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205	$2,205
MATERIAL	N.A.	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882	$6,882
MISCELLANEOUS REVENUE	N.A.	$541	$541	$541	$541	$541	$541	$541	$541	$541	$541	$541	$541
REIMBURSED EXPENSE	N.A.	$224	$224	$224	$224	$224	$224	$224	$224	$224	$224	$224	$224
SECURITY DEPOSIT	N.A.	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303	$4,303
UNAPPLIED CASH	N.A.	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028	-$1,028
UNRESERVED REVENUE	N.A.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
W0 PENALTY	N.A.	$24	$24	$24	$24	$24	$24	$24	$24	$24	$24	$24	$24
WATER PROTECTION FEE	N.A.	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275	$3,275
New Connection Allowance for City Lake Properties	N.A.	$0	$0	$0	$0	$0	-$573,682	$0	$0	$0	$0	$0	$0
Revenue Loss Because Rate Adjustments Made This Number of Months Late	3.0	$0	$0	-$18,216	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Incomes		**$802,823**	**$803,003**	**$880,699**	**$925,741**	**$953,463**	**$1,173,565**	**$1,210,393**	**$1,246,567**	**$1,283,870**	**$1,322,266**	**$1,361,894**	**$1,402,794**

Table 4 - Operating Costs and Net Income

Council Grove, Kansas; Water Rates, Model 2019-1B

This table depicts expenses during the test year, this year and for the next 10 years. Some future costs will experience inflation. Those costs that go up as use goes up are increased by the cost inflation factor plus the growth rate in users.

(First year costs and net incomes are actual, subsequent years are projected.)

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	Analysis Year 0 Year Starting 1/1/19	Years Following the Analysis Year (for Which Results Have Been Projected) 1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
AMMONIUM SULFATE	3.0%	$5,633	$5,811	$5,994	$6,183	$6,378	$7,928	$8,175	$8,430	$8,694	$8,965	$9,245	$9,533
AUDITING SERVICE	3.0%	$4,005	$4,125	$4,249	$4,376	$4,508	$4,643	$4,782	$4,926	$5,073	$5,226	$5,382	$5,544
BULDING REPAIR	3.0%	$6,966	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CHLORINE	3.0%	$4,440	$4,580	$4,725	$4,874	$5,027	$6,249	$6,444	$6,645	$6,852	$7,066	$7,287	$7,514
CIP TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONTRACTED WATER SUPPLY	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONTRACTUAL SERVICES	3.0%	$18,996	$19,566	$20,152	$20,757	$21,380	$22,021	$22,682	$23,362	$24,063	$24,785	$25,529	$26,294
CQ2100	3.0%	$46,350	$47,741	$49,173	$50,648	$52,167	$53,732	$55,344	$57,005	$58,715	$60,476	$62,291	$64,159
CUSTODIAL SUPPLIES	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT INTEREST	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT SERVICE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DRUG AND ALCOHOL TESTING	3.0%	$172	$177	$354	$365	$376	$387	$399	$411	$423	$436	$449	$462
DUES / MEMBERSHIP / MEETINGS	3.0%	$3,026	$3,116	$6,233	$6,420	$6,612	$6,810	$7,015	$7,225	$7,442	$7,665	$7,895	$8,132
ENGINEERING EXPENSE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT FUND TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FIRE HYDRANTS	3.0%	$0	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6
FOOD & MEDICATION	3.0%	$408	$420	$433	$446	$459	$473	$487	$502	$517	$533	$549	$565
HDROFLUOSILIC ACID	3.0%	$3,843	$3,964	$4,089	$4,218	$4,351	$5,408	$5,577	$5,751	$5,931	$6,116	$6,307	$6,503
HEALTH/DENTAL INSURANCE	3.0%	$58,616	$60,375	$90,562	$93,279	$96,077	$98,960	$101,929	$104,986	$108,136	$111,380	$114,721	$118,163
INSURANCE	3.0%	$18,139	$18,683	$28,025	$28,866	$29,732	$30,624	$31,542	$32,489	$33,463	$34,467	$35,501	$36,566
KANSAS ONE CALL	3.0%	$619	$638	$657	$677	$697	$718	$739	$762	$784	$808	$832	$857
KPERS	3.0%	$16,886	$17,393	$34,785	$35,829	$36,904	$38,011	$39,151	$40,325	$41,535	$42,781	$44,065	$45,387
LIME	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MAPS	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MATERIALS	3.0%	$521	$537	$553	$569	$586	$604	$622	$641	$660	$680	$700	$721
MAYOR AND COUNCIL	3.0%	$280	$288	$297	$306	$315	$325	$334	$344	$355	$365	$376	$388
METERS	3.0%	$5,065	$5,224	$5,389	$5,559	$5,734	$7,128	$7,350	$7,580	$7,816	$8,060	$8,312	$8,571
OFFICE SUPPLIES	3.0%	$2,203	$2,269	$2,337	$2,407	$2,480	$2,554	$2,631	$2,710	$2,791	$2,875	$2,961	$3,050
OTHER CAPITAL OUTLAY	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTHER CHEMICALS	3.0%	$11,215	$11,569	$11,934	$12,310	$12,698	$15,784	$16,276	$16,784	$17,308	$17,848	$18,405	$18,979
OTHER COMMODITIES	3.0%	$7,239	$7,456	$7,679	$7,910	$8,147	$8,391	$8,643	$8,902	$9,170	$9,445	$9,728	$10,020
OVERTIME	3.0%	$9,221	$9,498	$18,996	$19,566	$20,153	$20,757	$21,380	$22,021	$22,682	$23,362	$24,063	$24,785
PETROLEUM PRODUCTS	3.0%	$6,720	$6,922	$7,130	$7,344	$7,564	$7,791	$8,025	$8,265	$8,513	$8,769	$9,032	$9,303
POSTAGE	3.0%	$4,672	$4,819	$4,971	$5,128	$5,290	$6,575	$6,780	$6,992	$7,210	$7,435	$7,667	$7,906
PRINTING & PUBLICATIONS	3.0%	$941	$969	$998	$1,028	$1,059	$1,090	$1,123	$1,157	$1,192	$1,227	$1,264	$1,302
REFUNDS-UTILITIES DEPOSIT	3.0%	$4,113	$4,236	$4,363	$4,494	$4,629	$4,768	$4,911	$5,058	$5,210	$5,366	$5,527	$5,693
SALARIES/FULL-TIME	3.0%	$171,736	$176,888	$353,777	$364,390	$375,322	$386,581	$398,179	$410,124	$422,428	$435,101	$448,154	$461,598
SALARIES/PART-TIME	3.0%	$859	$885	$1,770	$1,823	$1,878	$1,935	$1,993	$2,052	$2,114	$2,177	$2,243	$2,310
SALES TAX PAYMENTS	3.0%	$15,051	$15,503	$15,968	$16,447	$16,940	$17,449	$17,972	$18,511	$19,067	$19,639	$20,228	$20,835
SOCIAL SECURITY	3.0%	$13,468	$13,872	$27,745	$28,577	$29,434	$30,317	$31,227	$32,164	$33,128	$34,122	$35,146	$36,200
SODIUM HYPOCHLORITE	3.0%	$2,898	$2,989	$3,083	$3,181	$3,281	$4,078	$4,205	$4,337	$4,472	$4,612	$4,756	$4,904

Table 4 - Operating Costs and Net Income

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
TELEPHONE	3.0%	$1,126	$1,160	$1,195	$1,231	$1,267	$1,305	$1,345	$1,385	$1,426	$1,469	$1,513	$1,559
TESTING AND PERMIT FEES	3.0%	$5,991	$6,171	$6,356	$6,547	$6,743	$6,945	$7,154	$7,368	$7,589	$7,817	$8,051	$8,293
TRANSFER IN-WATER WORKS OP	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSFER OUT-WATER WORKS OP	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSPORTATION	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
UTILITIES	3.0%	$57,245	$59,050	$60,912	$62,832	$64,813	$80,564	$83,078	$85,671	$88,344	$91,101	$93,944	$96,875
VEHICLE/EQUIP MAINT & REPAIR	3.0%	$11,700	$12,051	$12,413	$12,785	$13,169	$13,564	$13,970	$14,390	$14,821	$15,266	$15,724	$16,196
VEHICLE/EQUIP PARTS & SUPPLIES	3.0%	$4,948	$5,096	$5,249	$5,407	$5,569	$5,736	$5,908	$6,085	$6,268	$6,456	$6,649	$6,849
W/W DEP/MAINT RSV TRSFR	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WATER LINE CONST	3.0%	$39,234	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6	Table 6
WATER PROTECTION FEE PAYM	3.0%	$5,701	$5,881	$6,066	$6,257	$6,455	$8,023	$8,274	$8,532	$8,798	$9,073	$9,356	$9,648
WELDING & CONSTRUCTION SUPPLIE	3.0%	$338	$348	$358	$369	$380	$392	$403	$416	$428	$441	$454	$468
WORKERS COMP	3.0%	$7,638	$7,867	$15,734	$16,206	$16,692	$17,193	$17,708	$18,240	$18,787	$19,350	$19,931	$20,529
One-time Reduction of R&R Annuity	0.0%	-$56,597	-$56,597	-$14,149	$0	$0	$0	$0	$0	$0	$0	$0	$0
One-time Transfer to R&R Reserve	0.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Annual Payment to R&R Reserve (Table 7)	0.0%	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597	$56,597
User Charge Analysis Services	5.0%	$0	$5,612	$0	$0	$6,187	$0	$0	$6,821	$0	$0	$7,521	$0
Total CIP-related Payouts	N.A.	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5
Total Operating Costs		**$578,222**	**$553,749**	**$867,150**	**$906,204**	**$938,049**	**$982,409**	**$1,010,355**	**$1,045,966**	**$1,068,802**	**$1,099,356**	**$1,138,352**	**$1,163,257**
Net Income (or Loss)		$224,602	$249,254	$13,549	$19,536	$15,414	$191,155	$200,038	$200,601	$215,068	$222,911	$223,542	$239,537
Working Capital Goal: 50% In Dollars, That is:		$289,111	$276,874	$433,575	$453,102	$469,024	$491,205	$505,177	$522,983	$534,401	$549,678	$569,176	$581,629

Notes: The yellow highlighted cost items above will rise due to inflation and due to the additional cost of serving (a few) new customers. Tan highlighted items represent staffing costs at near-full staffing levels.

Table 5 - Capital Improvement Program (CIP)

Council Grove, Kansas; Water Rates, Model 2019-1B

This table depicts capital improvements and their funding. Costs reflect inflation.

	Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)										
	Test Year Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Planned Spending, Debt-paid Portion of Projects (CIP costs to be funded with loans are shown in this section.)												
SAND BLASTING / PAINTING WATER TOWER (Water)	$0	$0	$0	$212,180	$0	$0	$0	$0	$0	$0	$0	$0
FOOTINGS ON WATER TOWER (Water)	$0	$0	$41,200	$0	$0	$0	$0	$0	$0	$0	$0	$0
ROOF ON CLARIFIER (Water)	$0	$0	$103,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
METER SOFTWARE / HAND HELD/ DRIVE BY SYSTEM (Water & Sewer)	$0	$0	$208,753	$0	$0	$0	$0	$0	$0	$0	$0	$0
REPLACE 14 WINDOWS AT PLANT (Water)	$0	$0	$0	$0	$32,782	$0	$0	$0	$0	$0	$0	$0
HEAT AND AIR AT PLANT (Water)	$0	$0	$0	$0	$21,855	$0	$0	$0	$0	$0	$0	$0
ROOF AND BRICK ON ROUND HOUSE (Water)	$0	$0	$0	$0	$32,782	$0	$0	$0	$0	$0	$0	$0
WATER DISTRIBUTION AT CITY LAKE (Water)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WASTE WATER DISTRIBUTION / PUMPS AT CITY LAKE (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SEWER CIPP LINING (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MANHOLE/RING & LID REHAB (Water)	$29,000	$32,000	$25,750	$26,523	$27,318	$28,138	$28,982	$29,851	$30,747	$31,669	$32,619	$33,598
STAGE 2 1000RD & T AVE WATER MAIN EXTENSION (Water)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STAGE 3 T AVE WATER MAIN UPGRADE TO WASHINGTON ST. (Water)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SEWER VACUUM AND JETTER TRUCK REPLACEMENT (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DIRECTIONAL BORING MACHINE (Water & Sewer)	$0	$0	$0	$132,613	$0	$0	$0	$0	$0	$0	$0	$0
Water Meter Replacement (Water & Sewer)	$0	$0	$309,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Variable Frequency Drives (Water)	$0	$0	$41,200	$0	$0	$0	$0	$0	$0	$0	$0	$0
Oxygen Generation (Water)	$0	$0	$180,817	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Tower Maintenance (Water)	$0	$0	$103,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Closing Costs, Estimated at: 2.5%	$725	$800	$26,078	$9,848	$3,134	$792	$840	$891	$945	$1,003	$1,064	$1,129
Total Debt-paid Portion of Projects	$29,725	$32,800	$1,038,797	$381,163	$117,871	$28,929	$29,822	$30,742	$31,692	$32,672	$33,683	$34,727
Planned Spending, Cash-paid Portion of Projects (CIP costs to be funded from reserves are shown here.)												
WATER DISTRIBUTION AT CITY LAKE (Water)	$0	$0	$0	$0	$8,741,816	$0	$0	$0	$0	$0	$0	$0
WASTE WATER DISTRIBUTION / PUMPS AT CITY LAKE (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Cash-paid Portion of Projects	$0	$0	$0	$0	$8,741,816	$0	$0	$0	$0	$0	$0	$0
Total CIP Costs	**$29,725**	**$32,800**	**$1,038,797**	**$381,163**	**$8,859,687**	**$28,929**	**$29,822**	**$30,742**	**$31,692**	**$32,672**	**$33,683**	**$34,727**
Debt Repayment												
New Debt Payments (Following are payments for projects to be paid with new debt. It is assumed these will be loan/lease-financed for a term of: 20 years at a 3.50% interest rate.)												
Loan Originated in Test Year		$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091	$2,091
Loan Originated in Analysis (This) Year			$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308	$2,308
Loan Originated in 1st Year				$73,091	$73,091	$73,091	$73,091	$73,091	$73,091	$73,091	$73,091	$73,091
Loan Originated in 2nd Year					$26,819	$26,819	$26,819	$26,819	$26,819	$26,819	$26,819	$26,819
Loan Originated in 3rd Year						$8,294	$8,294	$8,294	$8,294	$8,294	$8,294	$8,294
Loan Originated in 4th Year							$2,036	$2,036	$2,036	$2,036	$2,036	$2,036

Table 5 - Capital Improvement Program (CIP)

This table depicts capital improvements and their funding. Costs reflect inflation.

	Test Year Starting	Analysis Year: 0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Loan Originated in 5th Year								$2,098	$2,098	$2,098	$2,098	$2,098
Loan Originated in 6th Year									$2,163	$2,163	$2,163	$2,163
Loan Originated in 7th Year										$2,230	$2,230	$2,230
Loan Originated in 8th Year											$2,299	$2,299
Loan Originated in 9th Year												$2,370
Total Debt Payments	$0	$2,091	$4,399	$77,490	$104,309	$112,603	$114,638	$116,737	$118,900	$121,130	$123,428	$125,798
Total CIP-related Payouts	**$29,725**	**$34,891**	**$1,043,196**	**$458,653**	**$8,963,996**	**$141,532**	**$144,460**	**$147,479**	**$150,592**	**$153,802**	**$157,112**	**$160,525**

(This is the total cash required for this CIP and debt payment schedule. These amounts must come from utility income, reserves or outside sources, as shown in the next section.)

CIP Fund Sources (Following are the sources and amounts of funds expected to pay for the above CIP schedule.)

Cash Reserves (Internal Funds)

Debt and CIP Reserves Starting Balance	$0	$0	-$2,091	-$6,533	-$84,153	-$190,146	-$306,551	-$244,261	-$183,087	-$101,998	-$17,534	$62,731
Working Capital Transferred in	$0	$0	$0	$0	$0	$0	$183,060	$182,796	$203,649	$207,634	$204,044	$227,084
Debt and CIP Reserves Interest Earned (or Paid)	$0	$0	-$42	-$131	-$1,683	-$3,803	-$6,131	-$4,885	-$3,662	-$2,040	-$351	$1,255
Internal Income Source (Name it)	$0	$0	$0	$0	$8,741,816	$0	$0	$0	$0	$0	$0	$0
Total Available Internal Funds	$0	$0	-$2,133	-$6,663	$8,655,979	-$193,949	-$129,622	-$66,350	$16,901	$103,595	$186,159	$291,070

Grant and Loan Proceeds (External Funds)

Loan Originated in Test Year	$29,725	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in Analysis (This) Year		$32,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 1st Year			$1,038,797	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 2nd Year				$381,163	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 3rd Year					$117,871	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 4th Year						$28,929	$0	$0	$0	$0	$0	$0
Loan Originated in 5th Year							$29,822	$0	$0	$0	$0	$0
Loan Originated in 6th Year								$30,742	$0	$0	$0	$0
Loan Originated in 7th Year									$31,692	$0	$0	$0
Loan Originated in 8th Year										$32,672	$0	$0
Loan Originated in 9th Year											$33,683	$0
Loan Originated in 10th Year												$34,727
Total Available External Funds	$29,725	$32,800	$1,038,797	$381,163	$117,871	$28,929	$29,822	$30,742	$31,692	$32,672	$33,683	$34,727
Total Available Funds	**$29,725**	**$32,800**	**$1,036,663**	**$374,500**	**$8,773,850**	**-$165,019**	**-$99,800**	**-$35,608**	**$48,593**	**$136,268**	**$219,843**	**$325,796**

Outcomes

(This CIP spending and funding plan will result in the following cash needs and ending balances each year.)

Total Available Funds	**$29,725**	**$32,800**	**$1,036,663**	**$374,500**	**$8,773,850**	**-$165,019**	**-$99,800**	**-$35,608**	**$48,593**	**$136,268**	**$219,843**	**$325,796**
Total CIP-related Payouts	**$29,725**	**$34,891**	**$1,043,196**	**$458,653**	**$8,963,996**	**$141,532**	**$144,460**	**$147,479**	**$150,592**	**$153,802**	**$157,112**	**$160,525**
Debt and CIP Reserves Ending Balances	**$0**	**-$2,091**	**-$6,533**	**-$84,153**	**-$190,146**	**-$306,551**	**-$244,261**	**-$183,087**	**-$101,998**	**-$17,534**	**$62,731**	**$165,271**

Notes: Source of system improvement project base costs - Mathew Anderson, PE, CTS Group. These projects are primarily repair and replacement items but because they will likely be loan-funded, they are included here so loan payments can be calculated. The City Lake Project was estimated by Derrick Craige with the City.

Table 8 - Average Cost Classification

Council Grove, Kansas; Water Rates, Model 2019-1B

This table distributes costs from a representative year (the "average rate structure basis year) to fixed and variable categories (see Definitions) in order to calculate the "cost of service" rate structure for that year.

The average rate structure basis year runs from: 1/1/2023 through 12/31/2023

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
AMMONIUM SULFATE	$7,928	0.0%	100.0%	$0	$7,928
AUDITING SERVICE	$4,643	100.0%	0.0%	$4,643	$0
BULDING REPAIR	$0	100.0%	0.0%	$0	$0
CHLORINE	$6,249	0.0%	100.0%	$0	$6,249
CIP TRANSFER	$0	50.0%	50.0%	$0	$0
CONTRACTED WATER SUPPLY	$0	0.0%	100.0%	$0	$0
CONTRACTUAL SERVICES	$22,021	50.0%	50.0%	$11,011	$11,011
CQ2100	$53,732	0.0%	100.0%	$0	$53,732
CUSTODIAL SUPPLIES	$0	100.0%	0.0%	$0	$0
DEBT INTEREST	$0	50.0%	50.0%	$0	$0
DEBT SERVICE	$0	50.0%	50.0%	$0	$0
DRUG AND ALCOHOL TESTING	$387	33.3%	66.7%	$129	$258
DUES / MEMBERSHIP / MEETINGS	$6,810	33.3%	66.7%	$2,270	$4,540
ENGINEERING EXPENSE	$0	50.0%	50.0%	$0	$0
EQUIPMENT FUND TRANSFER	$0	50.0%	50.0%	$0	$0
FIRE HYDRANTS	Table 6	100.0%	0.0%	$0	$0
FOOD & MEDICATION	$473	100.0%	0.0%	$473	$0
HDROFLUOSILIC ACID	$5,408	0.0%	100.0%	$0	$5,408
HEALTH/DENTAL INSURANCE	$98,960	0.0%	100.0%	$0	$98,960
INSURANCE	$30,624	100.0%	0.0%	$30,624	$0
KANSAS ONE CALL	$718	100.0%	0.0%	$718	$0
KPERS	$38,011	0.0%	100.0%	$0	$38,011
LIME	$0	0.0%	100.0%	$0	$0
MAPS	$0	100.0%	0.0%	$0	$0
MATERIALS	$604	50.0%	50.0%	$302	$302
MAYOR AND COUNCIL	$325	100.0%	0.0%	$325	$0
METERS	$7,128	0.0%	100.0%	$0	$7,128
OFFICE SUPPLIES	$2,554	100.0%	0.0%	$2,554	$0
OTHER CAPITAL OUTLAY	$0	50.0%	50.0%	$0	$0
OTHER CHEMICALS	$15,784	0.0%	100.0%	$0	$15,784
OTHER COMMODITIES	$8,391	0.0%	100.0%	$0	$8,391
OVERTIME	$20,757	0.0%	100.0%	$0	$20,757
PETROLEUM PRODUCTS	$7,791	50.0%	50.0%	$3,895	$3,895
POSTAGE	$6,575	100.0%	0.0%	$6,575	$0
PRINTING & PUBLICATIONS	$1,090	100.0%	0.0%	$1,090	$0
REFUNDS-UTILITIES DEPOSIT	$4,768	27.6%	72.4%	$1,316	$3,452
SALARIES/FULL-TIME	$386,581	33.3%	66.7%	$128,859	$257,722
SALARIES/PART-TIME	$1,935	33.3%	66.7%	$645	$1,290
SALES TAX PAYMENTS	$17,449	27.6%	72.4%	$4,816	$12,633
SOCIAL SECURITY	$30,317	33.3%	66.7%	$10,106	$20,212
SODIUM HYPOCHLORITE	$4,078	0.0%	100.0%	$0	$4,078
TELEPHONE	$1,305	100.0%	0.0%	$1,305	$0

Table 8 - Average Cost Classification

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
TESTING AND PERMIT FEES	$6,945	100.0%	0.0%	$6,945	$0
TRANSFER IN-WATER WORKS OP	$0	27.6%	72.4%	$0	$0
TRANSFER OUT-WATER WORKS OP	$0	27.6%	72.4%	$0	$0
TRANSPORTATION	$0	50.0%	50.0%	$0	$0
UTILITIES	$80,564	0.0%	100.0%	$0	$80,564
VEHICLE/EQUIP MAINT & REPAIR	$13,564	50.0%	50.0%	$6,782	$6,782
VEHICLE/EQUIP PARTS & SUPPLIES	$5,736	50.0%	50.0%	$2,868	$2,868
W/W DEP/MAINT RSV TRSFR	$0	27.6%	72.4%	$0	$0
WATER LINE CONST	Table 6	27.6%	72.4%	$0	$0
WATER PROTECTION FEE PAYM	$8,023	100.0%	0.0%	$8,023	$0
WELDING & CONSTRUCTION SUPPLIE	$392	50.0%	50.0%	$196	$196
WORKERS COMP	$17,193	33.3%	66.7%	$5,731	$11,462
Adjustment to Balance to 2018 Balance Sheet	$0	27.6%	72.4%	$0	$0
Annual Payment to R&R Reserve (Table 7)	$56,597	50.0%	50.0%	$28,298	$28,298
User Charge Analysis Services	$0	27.6%	72.4%	$0	$0
Total CIP-related Payouts, Less Capacity Charges From Tables 14 & 16 (This value can be negative)	$141,532	27.6%	72.4%	$39,063	$102,469
Grand Total Costs, Weighted Avg Percentages	$1,123,941	27.5%	72.5%	$309,562	$814,380

Bases for Cost to Serve Rate Structure

Number Customers During Year Defined Above	1,702	Unbilled-for Water is Estimated at	16%
Billed Volume, in Gallons, During Year Defined Above	172,107,620	Unbilled-for Water is Estimated at This Percentage of Average Cost	50%
Average Fixed Cost per User per Month During Year Defined Above	$15.16	Resulting Cost of Unbilled-for Water	$484,697
Average Variable Cost to Produce per 1,000 Gallons During Year Defined Above	$4.73	Test Year Customer Metered Volume, in Gallons	135,704,128
Gallons per Billing Cycle Used by Average Residential Customer	4,096	+ Test Year Unbilled-for Water, in Gallons	161,535,000
		Total Test Year Volume, in Gallons, From Master Meter Readings	297,239,128

Table 10 - Initial Rate Adjustments and Resulting Revenues

Council Grove, Kansas; Water Rates, Model 2019-1B

This table calculates a new set of user charge rates and the revenues they would generate.

Out of City Multiplier	200%	Declining Rate Block Multiplier	90%	Other Multiplier	100%

12/31/19 Date when fees will first be collected at adjusted rates. Actual adjustment should occur one billing cycle earlier.

If there are no special costs to consider and before capacity costs are added, if appropriate, rates for a 5/8" meter would be in a "cost to serve" structure when: there is no usage allowance,

the base minimum charge is $15.18 Monthly, and unit charge is $4.74 per 1,000 Gallons.

After rate adjustments are made, customers will be billed monthly.

Blended Sales Revenues: Sales at the current (Test Year) rates (gray highlighted column) will apply until rates are adjusted. Sales at the modeled rates (yellow highlighted column) would apply after the modeled rates are adopted. The "blended" sales revenues show in the right-most column.

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Inside Residential WT1	0	1,000	$52	$15.18	0.000	$4.74	$158	$210
	1,001	2,000	$51,834	$15.18	0.000	$4.74	$158	$51,992
	2,001	3,000	$51,834	$15.18	0.000	$4.74	$158	$51,992
	3,001	4,000	$51,834	$15.18	0.000	$4.74	$158	$51,992
	4,001	5,000	$229,692	$15.18	0.000	$4.74	$520	$230,212
	5,001	6,000	$0	$15.18	0.000	$4.74	$0	$0
	6,001	7,000	$0	$15.18	0.000	$4.74	$0	$0
	7,001	8,000	$0	$15.18	0.000	$4.74	$0	$0
	8,001	9,000	$0	$15.18	0.000	$4.74	$0	$0
	9,001	10,000	$0	$15.18	0.000	$4.74	$0	$0
	10,001	11,000	$0	$15.18	0.000	$4.27	$0	$0
	11,001	12,000	$0	$15.18	0.000	$4.27	$0	$0
	12,001	13,000	$0	$15.18	0.000	$4.27	$0	$0
	13,001	14,000	$0	$15.18	0.000	$4.27	$0	$0
	14,001	15,000	$0	$15.18	0.000	$4.27	$0	$0
	15,001	16,000	$0	$15.18	0.000	$4.27	$0	$0
	16,001	17,000	$0	$15.18	0.000	$4.27	$0	$0
	17,001	18,000	$0	$15.18	0.000	$4.27	$0	$0
	18,001	19,000	$0	$15.18	0.000	$4.27	$0	$0
	19,001	20,000	$0	$15.18	0.000	$4.27	$0	$0
	20,001	21,000	$0	$15.18	0.000	$3.84	$0	$0
	21,001	25,000	$0	$15.18	0.000	$3.84	$0	$0
	25,001	50,000	$0	$15.18	0.000	$3.84	$0	$0
	50,001	200,000	$0	$15.18	0.000	$3.84	$0	$0
	200,001	900,000	$0	$15.18	0.000	$3.46	$0	$0
	900,001	1,000,000	$0	$15.18	0.000	$3.46	$0	$0
	1,000,001	5,000,000	$0	$15.18	0.000	$3.46	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Outside Residential WT2	0	1,000	$12	$30.37	0.000	$9.48	$36	$48
	1,001	2,000	$11,780	$30.37	0.000	$9.48	$36	$11,816
	2,001	3,000	$11,780	$30.37	0.000	$9.48	$36	$11,816
	3,001	4,000	$11,780	$30.37	0.000	$9.48	$36	$11,816
	4,001	5,000	$61,903	$30.37	0.000	$9.48	$148	$62,051
	5,001	6,000	$0	$30.37	0.000	$9.48	$0	$0
	6,001	7,000	$0	$30.37	0.000	$9.48	$0	$0
	7,001	8,000	$0	$30.37	0.000	$9.48	$0	$0
	8,001	9,000	$0	$30.37	0.000	$9.48	$0	$0
	9,001	10,000	$0	$30.37	0.000	$9.48	$0	$0
	10,001	11,000	$0	$30.37	0.000	$8.53	$0	$0
	11,001	12,000	$0	$30.37	0.000	$8.53	$0	$0
	12,001	13,000	$0	$30.37	0.000	$8.53	$0	$0
	13,001	14,000	$0	$30.37	0.000	$8.53	$0	$0
	14,001	15,000	$0	$30.37	0.000	$8.53	$0	$0
	15,001	16,000	$0	$30.37	0.000	$8.53	$0	$0
	16,001	17,000	$0	$30.37	0.000	$8.53	$0	$0
	17,001	18,000	$0	$30.37	0.000	$8.53	$0	$0
	18,001	19,000	$0	$30.37	0.000	$8.53	$0	$0
	19,001	20,000	$0	$30.37	0.000	$8.53	$0	$0
	20,001	21,000	$0	$30.37	0.000	$7.68	$0	$0
	21,001	25,000	$0	$30.37	0.000	$7.68	$0	$0
	25,001	50,000	$0	$30.37	0.000	$7.68	$0	$0
	50,001	200,000	$0	$30.37	0.000	$7.68	$0	$0
	200,001	900,000	$0	$30.37	0.000	$6.91	$0	$0
	900,001	1,000,000	$0	$30.37	0.000	$6.91	$0	$0
	1,000,001	5,000,000	$0	$30.37	0.000	$6.91	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Inside Commercial WT28	0	1,000	$10	$15.18	0.000	$4.74	$29	$39
	1,001	2,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	2,001	3,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	3,001	4,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	4,001	5,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	5,001	6,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	6,001	7,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	7,001	8,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	8,001	9,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	9,001	10,000	$9,578	$15.18	0.000	$4.74	$29	$9,607
	10,001	11,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	11,001	12,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	12,001	13,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	13,001	14,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	14,001	15,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	15,001	16,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	16,001	17,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	17,001	18,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	18,001	19,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	19,001	20,000	$9,309	$15.18	0.000	$4.27	$26	$9,336
	20,001	21,000	$42,633	$15.18	0.000	$3.84	$96	$42,729
	21,001	25,000	$0	$15.18	0.000	$3.84	$0	$0
	25,001	50,000	$0	$15.18	0.000	$3.84	$0	$0
	50,001	200,000	$0	$15.18	0.000	$3.84	$0	$0
	200,001	900,000	$0	$15.18	0.000	$3.46	$0	$0
	900,001	1,000,000	$0	$15.18	0.000	$3.46	$0	$0
	1,000,001	5,000,000	$0	$15.18	0.000	$3.46	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Outside Commercial WT29	0	1,000	$2	$30.37	0.000	$9.48	$5	$7
	1,001	2,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	2,001	3,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	3,001	4,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	4,001	5,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	5,001	6,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	6,001	7,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	7,001	8,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	8,001	9,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	9,001	10,000	$1,524	$30.37	0.000	$9.48	$5	$1,529
	10,001	11,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	11,001	12,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	12,001	13,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	13,001	14,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	14,001	15,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	15,001	16,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	16,001	17,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	17,001	18,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	18,001	19,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	19,001	20,000	$1,243	$30.37	0.000	$8.53	$5	$1,248
	20,001	21,000	$8,638	$30.37	0.000	$7.68	$21	$8,658
	21,001	25,000	$0	$30.37	0.000	$7.68	$0	$0
	25,001	50,000	$0	$30.37	0.000	$7.68	$0	$0
	50,001	200,000	$0	$30.37	0.000	$7.68	$0	$0
	200,001	900,000	$0	$30.37	0.000	$6.91	$0	$0
	900,001	1,000,000	$0	$30.37	0.000	$6.91	$0	$0
	1,000,001	5,000,000	$0	$30.37	0.000	$6.91	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
Rural Water #1 WT5	0	1,000	$0	$245.42	0.000	$5.13	$0	$0
	1,001	2,000	$55	$245.42	0.000	$5.13	$0	$56
	2,001	3,000	$55	$245.42	0.000	$5.13	$0	$56
	3,001	4,000	$55	$245.42	0.000	$5.13	$0	$56
	4,001	5,000	$55	$245.42	0.000	$5.13	$0	$56
	5,001	6,000	$55	$245.42	0.000	$5.13	$0	$56
	6,001	7,000	$55	$245.42	0.000	$5.13	$0	$56
	7,001	8,000	$55	$245.42	0.000	$5.13	$0	$56
	8,001	9,000	$55	$245.42	0.000	$5.13	$0	$56
	9,001	10,000	$55	$245.42	0.000	$5.13	$0	$56
	10,001	11,000	$55	$245.42	0.000	$5.13	$0	$56
	11,001	12,000	$55	$245.42	0.000	$5.13	$0	$56
	12,001	13,000	$55	$245.42	0.000	$5.13	$0	$56
	13,001	14,000	$55	$245.42	0.000	$5.13	$0	$56
	14,001	15,000	$55	$245.42	0.000	$5.13	$0	$56
	15,001	16,000	$55	$245.42	0.000	$5.13	$0	$56
	16,001	17,000	$55	$245.42	0.000	$5.13	$0	$56
	17,001	18,000	$55	$245.42	0.000	$5.13	$0	$56
	18,001	19,000	$55	$245.42	0.000	$5.13	$0	$56
	19,001	20,000	$55	$245.42	0.000	$5.13	$0	$56
	20,001	21,000	$55	$245.42	0.000	$5.13	$0	$56
	21,001	25,000	$222	$245.42	0.000	$5.13	$1	$222
	25,001	50,000	$1,385	$245.42	0.000	$5.13	$4	$1,389
	50,001	200,000	$8,311	$245.42	0.000	$5.13	$25	$8,336
	200,001	900,000	$38,785	$245.42	0.000	$5.13	$118	$38,903
	900,001	1,000,000	$5,541	$245.42	0.000	$5.13	$17	$5,558
	1,000,001	5,000,000	$9,630	$245.42	0.000	$5.13	$26	$9,656
WT6	0	1,000	$0	$15.18	0.000	$4.74	$1	$1
	1,000,001	5,000,000	$0	$15.18	0.000	$3.46	$0	$0
City MM WT99	0	1,000	$0	$0.00	0.000	$0.00	$0	$0
	1,000,001	5,000,000	$0	$0.00	0.000	$0.00	$0	$0
Raw Water	0	1,000	$0	$11.17	0.000	$2.35	$0	$0
	1,000,001	5,000,000	$0	$11.17	0.000	$2.35	$0	$0
Total Rate Revenue at Current Rates			$804,206	Total Rate Revenue at Modeled Rates			$2,409	
						Total Blended Rate Revenues for the Year		$806,615

Note: New Minimum Charge Base Rates: If meter size-based minimum charges are to be used, and the user classes modeled above include meter or connection sizes, the amounts shown in this column include meter size surcharges as calculated in Table 16. Either way, the narrative report includes the rates and surcharges to assess.

12.0	months at the old user charge rates	and	0.0 months at the new user charge rates.

Table 17 - Financial Capacity Indicators and Reserves

Council Grove, Kansas; Water Rates, Model 2019-1B

This table depicts the affordability of future rates, the financial health of the system and the ending balances in various (assumed) accounts for the test year and the next 10 years.

Capacity Indicators	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Customary Affordability Index: Monthly Bill for a 5,000 gal per Month, Small Meter Residential Customer	$35.68	$38.89	$40.05	$41.26	$42.49	$43.77	$45.08	$46.43	$47.83	$49.26	$50.74	$52.26
AMHI Within Service Area	$40,050	$40,872	$41,710	$42,566	$43,440	$44,332	$45,241	$46,170	$47,117	$48,084	$49,071	$50,078
Affordability Index: Current Rates First Column, Modeled Rates After That	1.07%	1.14%	1.15%	1.16%	1.17%	1.18%	1.20%	1.21%	1.22%	1.23%	1.24%	1.25%
Affordability Index (AI) goes to the willingness and ability of customers to pay. AI is the cost of 60,000 gallons of residential service per year (5,000 gallons per month) divided by the Annual Median Household Income (AMHI) in the service area (gleaned from Census data or a survey). Rates near 1.0% are common in the U.S. and are generally considered affordable. Most grant agencies will not consider awarding grants if this indicator is less than 1.5 to 2.0%.												
Low-income, Low-volume Affordability Index: Monthly Bill for a 2,000 gal per Month, Low-income Residential Customer	$22.84	$24.67	$25.41	$26.17	$26.96	$27.76	$28.60	$29.45	$30.34	$31.25	$32.19	$33.15
Income at One-half the AMHI and Rising at One-half the Rate Above	$20,025	$20,230	$20,438	$20,648	$20,860	$21,074	$21,290	$21,508	$21,729	$21,952	$22,177	$22,405
Affordability for Low-income, Low-volume: Current Rates First Column, Modeled Rates After That	1.37%	1.46%	1.49%	1.52%	1.55%	1.58%	1.61%	1.64%	1.68%	1.71%	1.74%	1.78%
This additional indicator of affordability assumes a residential customer with income at one-half of the median household income above, that income is growing at one-half the rate of the median household income and the customer uses 2,000 gallons per month. Such a customer is likely either a minimum wage or near-minimum wage worker, or is retired and living only on Social Security benefits. Such customers are more commonly the "slow pays" and "no pays" compared to others.												
Estimated Operating Ratio: Current Rates First Column, Modeled Rates After That	1.39	1.45	1.02	1.02	1.02	1.19	1.20	1.19	1.20	1.20	1.20	1.21
Operating ratio (OR) is a measure of the utility's ability to pay its operating expenses using only current incomes. A 1.0 OR is break even. Below 1.0 indicates operating in the "red." Generally, the OR should be at least 1.15 for large systems, 1.30 or more for medium-sized systems and perhaps as high as 2.0 for small systems. Note: If the utility has or will have reserves (below,) it has more ability to pay its operating costs than the OR implies.												
Estimated Coverage Ratio: Current Rates First Column, Modeled Rates After That	N.A.	0.00	0.00	0.00	0.00	0.00	1.60	1.57	1.71	1.71	1.65	1.81
Coverage Ratio (CR) goes to the ability of the utility to pay its debt payments out of current incomes. OR applies only to years with debt service. 1.0 is break even. Generally, the CR should be at least 1.25. Note: If the utility has or will have reserves (shown below,) it has more ability to make debt payments than the CR implies.												

Reserves	Balance Ending on 12/31/18	Balance Ending on 12/31/19	Balance Ending on 12/31/20	Balance Ending on 12/31/21	Balance Ending on 12/31/22	Balance Ending on 12/31/23	Balance Ending on 12/31/24	Balance Ending on 12/31/25	Balance Ending on 12/31/26	Balance Ending on 12/31/27	Balance Ending on 12/31/28	Balance Ending on 12/31/29
Cash and Cash Equivalents	-$709	$248,545	$262,094	$281,630	$297,044	$488,200	$505,177	$522,983	$534,401	$549,678	$569,176	$581,629
Other Liquid Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Undedicated Cash Assets	-$709	$248,545	$262,094	$281,630	$297,044	$488,200	$505,177	$522,983	$534,401	$549,678	$569,176	$581,629
Total Cash Assets Discounted for Inflation (Future Unrestricted Purchasing Power)	-$709	$248,545	$254,231	$264,986	$271,104	$432,200	$433,813	$435,630	$431,787	$430,806	$432,705	$442,172
Repair & Replacement	$0	-$170,467	-$121,152	-$70,967	-$25,863	$25,985	-$41,856	$436	-$29,922	-$11,828	$39,224	-$62,651
Debt and CIP Reserves	$0	-$2,091	-$6,533	-$84,153	-$190,146	-$306,551	-$244,261	-$183,087	-$101,998	-$17,534	$62,731	$165,271
Sum of All Reserves	-$709	$75,987	$134,410	$126,510	$81,036	$207,634	$219,061	$340,333	$402,481	$520,316	$671,131	$684,249

Table 18 - Bills Before and After Rate Adjustments

Council Grove, Kansas; Water Rates, Model 2019-1B

Revenue increase to be generated by the modeled rates 9.0%

If applicable, the revenue increase above includes meter size-based minimum charges calculated in Table 15. If rate classes shown below do not include meter size, the modeled bills below do not include those surcharges.

To reduce confusion, this table shows only example customer bills.

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Inside Residential WT1	0	0	0	$18.56	$15.18	-$3.38
	1,001	0	0	$18.56	$19.93	$1.36
	2,001	0	0	$22.84	$24.67	$1.82
	3,001	0	0	$27.12	$29.41	$2.28
	4,001	1,012	1,012	$31.40	$34.15	$2.74
	5,001	0	1,012	$35.68	$38.89	$3.20
	6,001	0	1,012	$39.96	$43.63	$3.66
	7,001	0	1,012	$44.24	$48.37	$4.12
	8,001	0	1,012	$48.52	$53.11	$4.58
	9,001	0	1,012	$52.80	$57.85	$5.04
	10,001	0	1,012	$56.96	$62.11	$5.15
	11,001	0	1,012	$61.12	$66.38	$5.26
	12,001	0	1,012	$65.28	$70.65	$5.36
	13,001	0	1,012	$69.44	$74.91	$5.47
	14,001	0	1,012	$73.60	$79.18	$5.57
	15,001	0	1,012	$77.76	$83.44	$5.68
	16,001	0	1,012	$81.92	$87.71	$5.79
	17,001	0	1,012	$86.08	$91.98	$5.89
	18,001	0	1,012	$90.24	$96.24	$6.00
	19,001	0	1,012	$94.40	$100.51	$6.10
	20,001	0	1,012	$98.56	$104.35	$5.78

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Outside Residential WT2	0	0	0	$37.13	$30.37	-$6.76
	1,001	0	0	$37.14	$39.86	$2.72
	2,001	0	0	$45.70	$49.34	$3.64
	3,001	0	0	$54.26	$58.82	$4.56
	4,001	115	115	$62.82	$68.30	$5.48
	5,001	0	115	$71.38	$77.78	$6.40
	6,001	0	115	$79.94	$87.26	$7.32
	7,001	0	115	$88.50	$96.74	$8.24
	8,001	0	115	$97.06	$106.22	$9.16
	9,001	0	115	$105.62	$115.70	$10.08
	10,001	0	115	$113.71	$124.23	$10.52
	11,001	0	115	$121.80	$132.76	$10.96
	12,001	0	115	$129.89	$141.29	$11.40
	13,001	0	115	$137.98	$149.82	$11.84
	14,001	0	115	$146.07	$158.36	$12.29
	15,001	0	115	$154.16	$166.89	$12.73
	16,001	0	115	$162.25	$175.42	$13.17
	17,001	0	115	$170.34	$183.95	$13.61
	18,001	0	115	$178.43	$192.48	$14.05
	19,001	0	115	$186.52	$201.02	$14.50
	20,001	0	115	$194.61	$208.69	$14.09

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Inside Commercial WT28	0	0	0	$18.56	$15.18	-$3.38
	1,001	0	0	$18.56	$19.93	$1.36
	2,001	0	0	$22.84	$24.67	$1.82
	3,001	0	0	$27.12	$29.41	$2.28
	4,001	0	0	$31.40	$34.15	$2.74
	5,001	0	0	$35.68	$38.89	$3.20
	6,001	0	0	$39.96	$43.63	$3.66
	7,001	0	0	$44.24	$48.37	$4.12
	8,001	0	0	$48.52	$53.11	$4.58
	9,001	0	0	$52.80	$57.85	$5.04
	10,001	0	0	$56.96	$62.11	$5.15
	11,001	0	0	$61.12	$66.38	$5.26
	12,001	0	0	$65.28	$70.65	$5.36
	13,001	0	0	$69.44	$74.91	$5.47
	14,001	0	0	$73.60	$79.18	$5.57
	15,001	0	0	$77.76	$83.44	$5.68
	16,001	0	0	$81.92	$87.71	$5.79
	17,001	0	0	$86.08	$91.98	$5.89
	18,001	0	0	$90.24	$96.24	$6.00
	19,001	0	0	$94.40	$100.51	$6.10
	20,001	187	187	$98.56	$104.35	$5.78
	21,001	0	187	$102.72	$108.19	$5.46
	25,001	0	187	$117.24	$123.54	$6.30
	50,001	0	187	$198.24	$219.53	$21.28
	200,001	0	187	$622.74	$737.85	$115.10
	900,001	0	187	$2,603.74	$3,156.67	$552.93
	1,000,001	0	187	$2,846.74	$3,502.22	$655.47

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Outside Commercial WT29	0	0	0	$37.13	$30.37	-$6.76
	1,001	0	0	$37.14	$39.86	$2.72
	2,001	0	0	$44.63	$49.34	$4.71
	3,001	0	0	$52.12	$58.82	$6.70
	4,001	0	0	$59.61	$68.30	$8.69
	5,001	0	0	$67.10	$77.78	$10.68
	6,001	0	0	$74.59	$87.26	$12.67
	7,001	0	0	$82.08	$96.74	$14.66
	8,001	0	0	$89.57	$106.22	$16.65
	9,001	0	0	$97.06	$115.70	$18.64
	10,001	0	0	$103.17	$124.23	$21.06
	11,001	0	0	$109.28	$132.76	$23.48
	12,001	0	0	$115.39	$141.29	$25.90
	13,001	0	0	$121.50	$149.82	$28.33
	14,001	0	0	$127.61	$158.36	$30.75
	15,001	0	0	$133.72	$166.89	$33.17
	16,001	0	0	$139.83	$175.42	$35.59
	17,001	0	0	$145.94	$183.95	$38.01
	18,001	0	0	$152.05	$192.48	$40.44
	19,001	0	0	$158.16	$201.02	$42.86
	20,001	17	17	$164.27	$208.69	$44.43
	21,001	0	17	$170.38	$216.37	$46.00
	25,001	0	17	$189.90	$247.09	$57.19
	50,001	0	17	$301.90	$439.06	$137.16
	200,001	0	17	$909.40	$1,475.70	$566.30
	900,001	0	17	$3,744.40	$6,313.34	$2,568.94
	1,000,001	0	17	$4,133.40	$7,004.43	$2,871.03

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
Rural Water #1 WT5	0	0	0	$300.00	$245.42	-$54.58
	1,001	0	0	$300.00	$250.55	-$49.46
	2,001	0	0	$304.63	$255.68	-$48.96
	3,001	0	0	$309.26	$260.80	-$48.46
	4,001	0	0	$313.89	$265.93	-$47.96
	5,001	0	0	$318.52	$271.06	-$47.47
	6,001	0	0	$323.15	$276.19	-$46.97
	7,001	0	0	$327.78	$281.31	-$46.47
	8,001	0	0	$332.41	$286.44	-$45.97
	9,001	0	0	$337.04	$291.57	-$45.48
	10,001	0	0	$341.67	$296.70	-$44.98
	11,001	0	0	$346.30	$301.82	-$44.48
	12,001	0	0	$350.93	$306.95	-$43.98
	13,001	0	0	$355.56	$312.08	-$43.49
	14,001	0	0	$360.19	$317.21	-$42.99
	15,001	0	0	$364.82	$322.33	-$42.49
	16,001	0	0	$369.45	$327.46	-$41.99
	17,001	0	0	$374.08	$332.59	-$41.49
	18,001	0	0	$378.71	$337.72	-$41.00
	19,001	0	0	$383.34	$342.85	-$40.50
	20,001	0	0	$387.97	$347.97	-$40.00
	21,001	0	0	$392.60	$353.10	-$39.50
	25,001	0	0	$411.12	$373.61	-$37.51
	50,001	0	0	$526.87	$501.80	-$25.07
	200,001	0	0	$1,221.37	$1,270.94	$49.57
	900,001	0	0	$4,462.37	$4,860.28	$397.90
	1,000,001	1	1	$4,925.37	$5,373.04	$447.66
WT6	0	1	1	$0.00	$15.18	$15.18
City MM WT99	0	0	0	$0.00	$0.00	$0.00
	1,000,001	0	9	$0.00	$0.00	$0.00

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
	0	0	0	$13.65	$11.17	-$2.48
	1,001	0	0	$13.65	$13.52	-$0.14
	2,001	0	0	$15.77	$15.86	$0.09
	3,001	0	0	$17.89	$18.21	$0.32
	4,001	0	0	$20.01	$20.56	$0.55
	5,001	0	0	$22.13	$22.91	$0.78
	6,001	0	0	$24.25	$25.26	$1.00
	7,001	0	0	$26.37	$27.60	$1.23
	8,001	0	0	$28.49	$29.95	$1.46
	9,001	0	0	$30.61	$32.30	$1.69
Raw Water	10,001	0	0	$32.73	$34.65	$1.92
	11,001	0	0	$34.85	$37.00	$2.14
	12,001	0	0	$36.97	$39.34	$2.37
	13,001	0	0	$39.09	$41.69	$2.60
	14,001	0	0	$41.21	$44.04	$2.83
	15,001	0	0	$43.33	$46.39	$3.05
	16,001	0	0	$45.45	$48.73	$3.28
	17,001	0	0	$47.57	$51.08	$3.51
	18,001	0	0	$49.69	$53.43	$3.74
	19,001	0	0	$51.81	$55.78	$3.97
	20,001	0	0	$53.93	$58.13	$4.19

Chart 1 - Operating Ratio

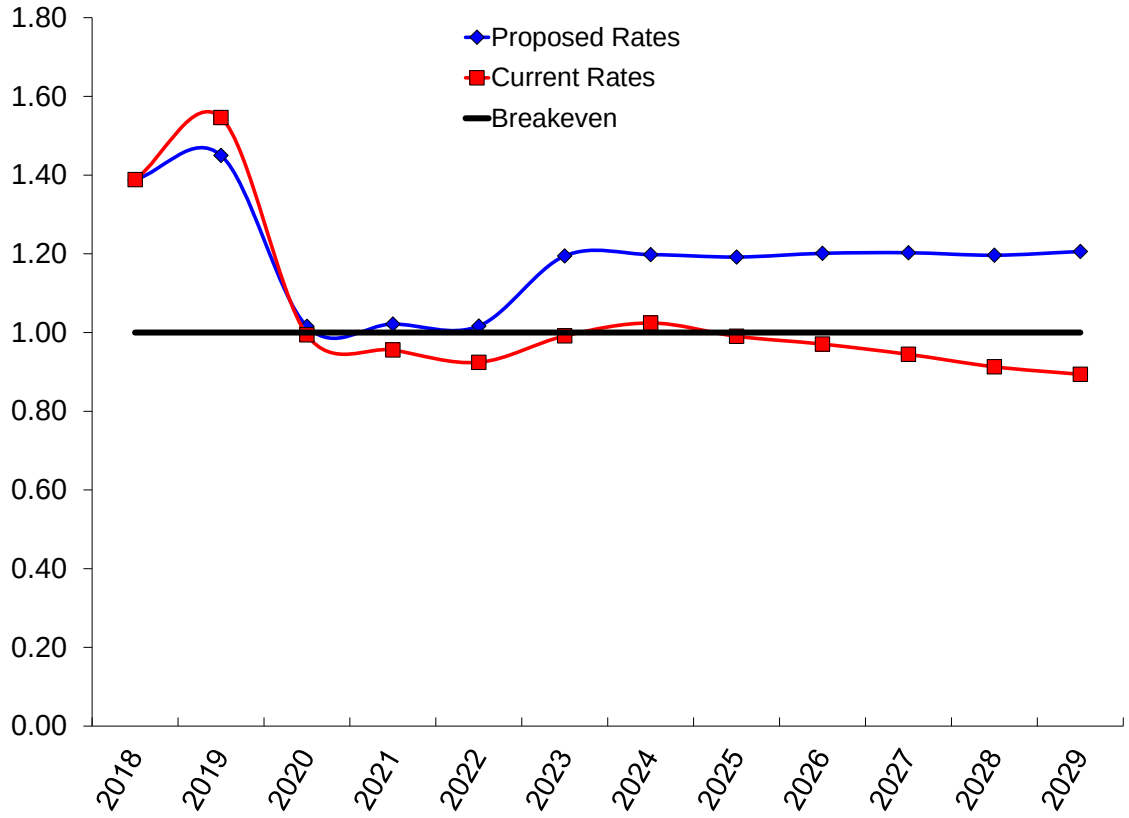


Chart 2 - Coverage Ratio

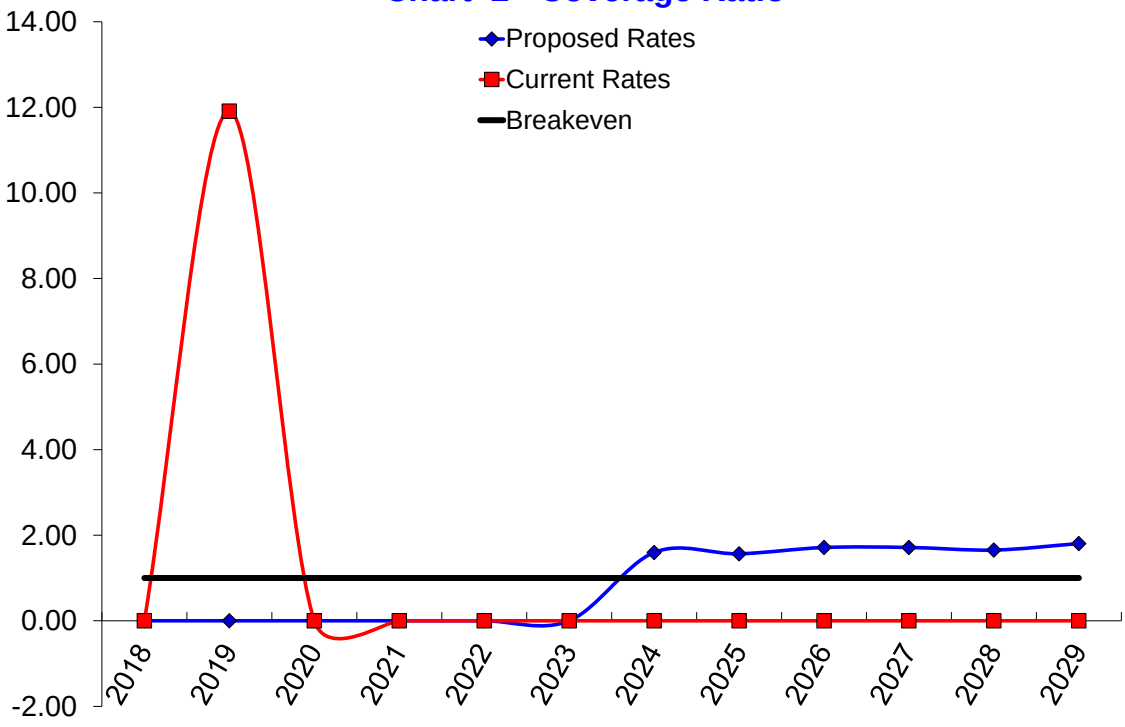


Chart 3 - Residential Users' Bills

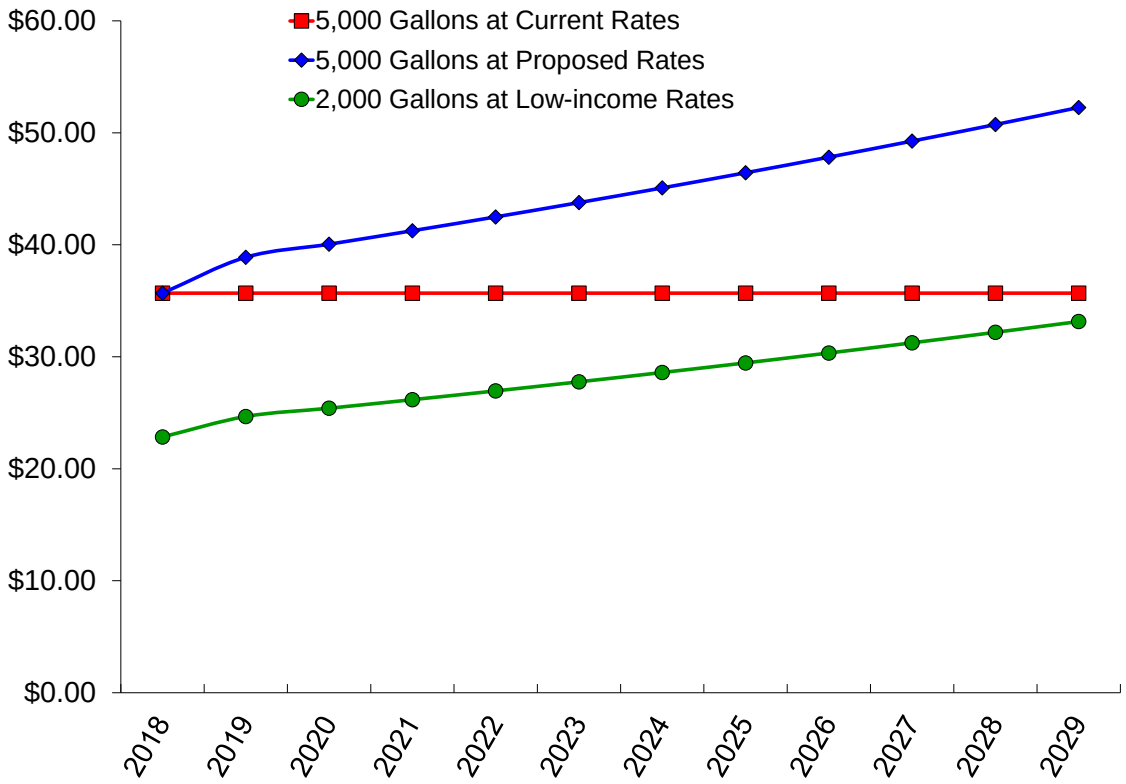


Chart 4 - Affordability

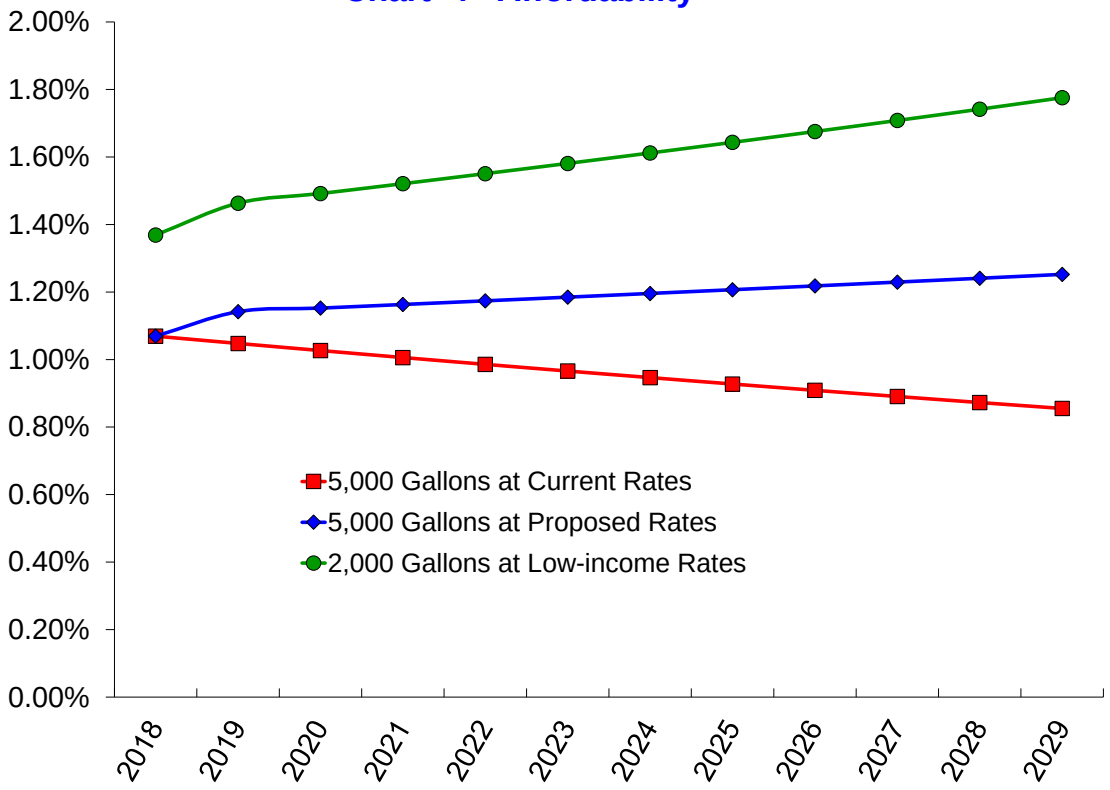


Chart 5 - Working Capital vs Goal

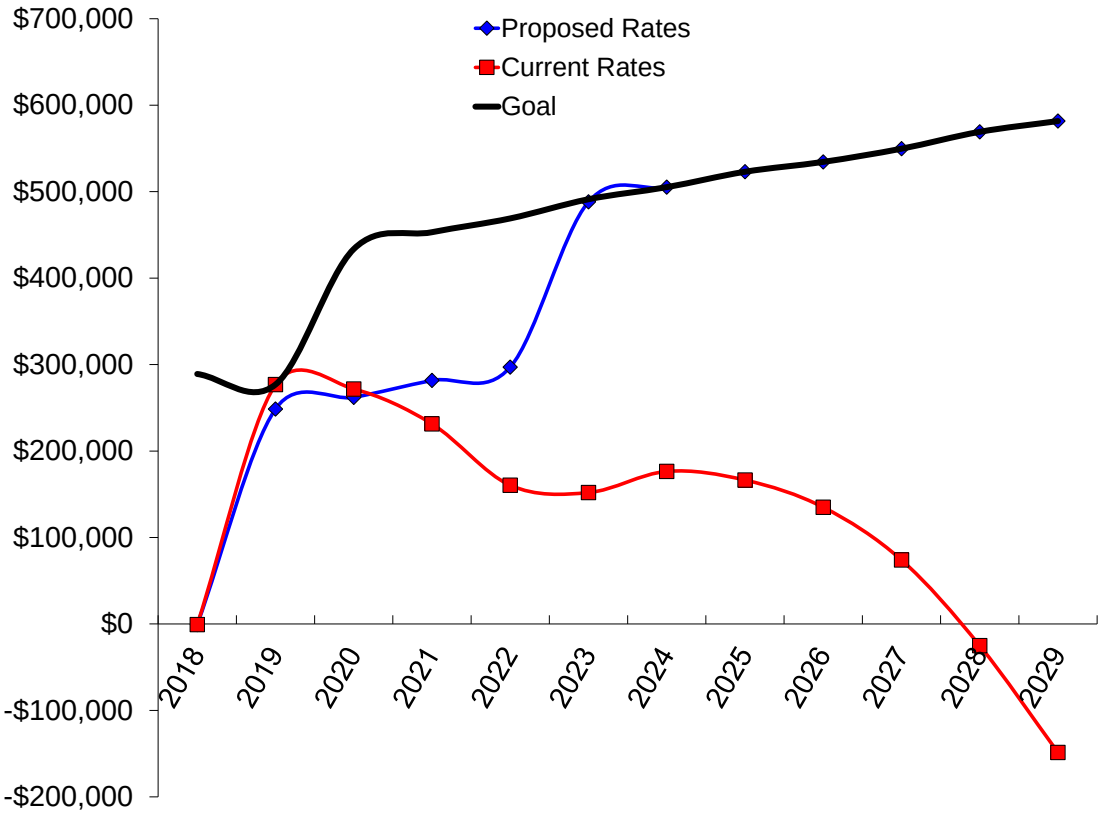


Chart 6 - Value of Cash Assets Before Inflation

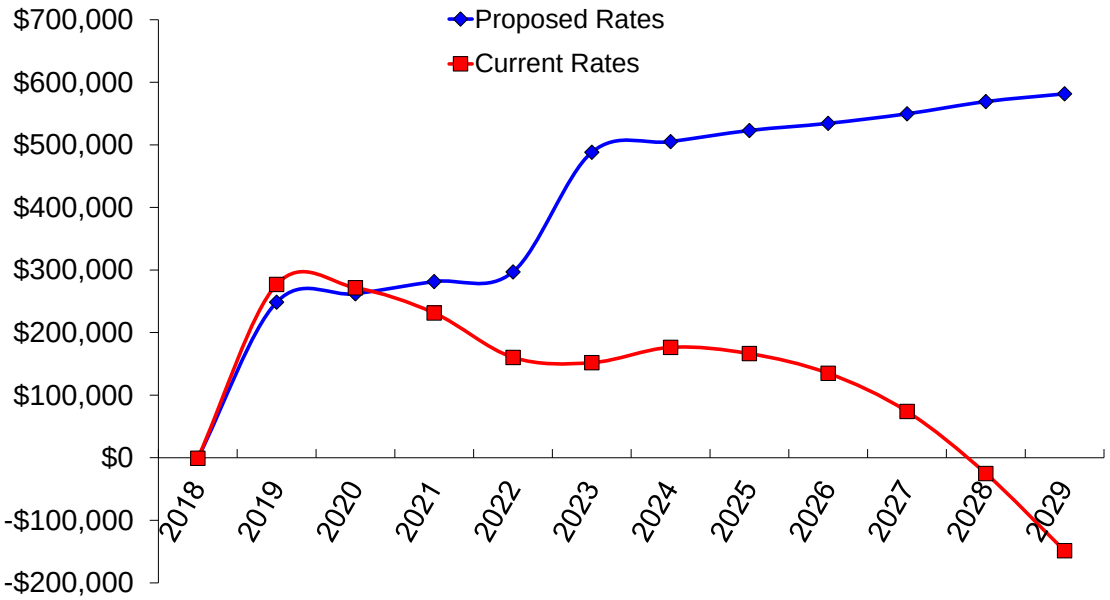


Chart 7 - Value of Cash Assets After Inflation

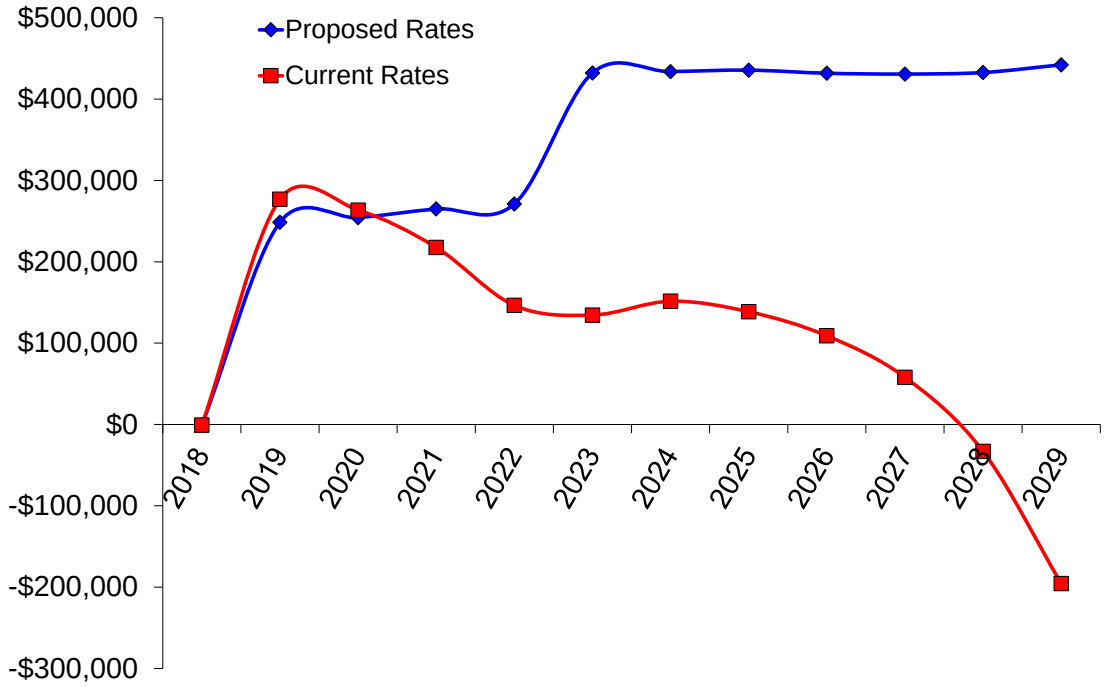
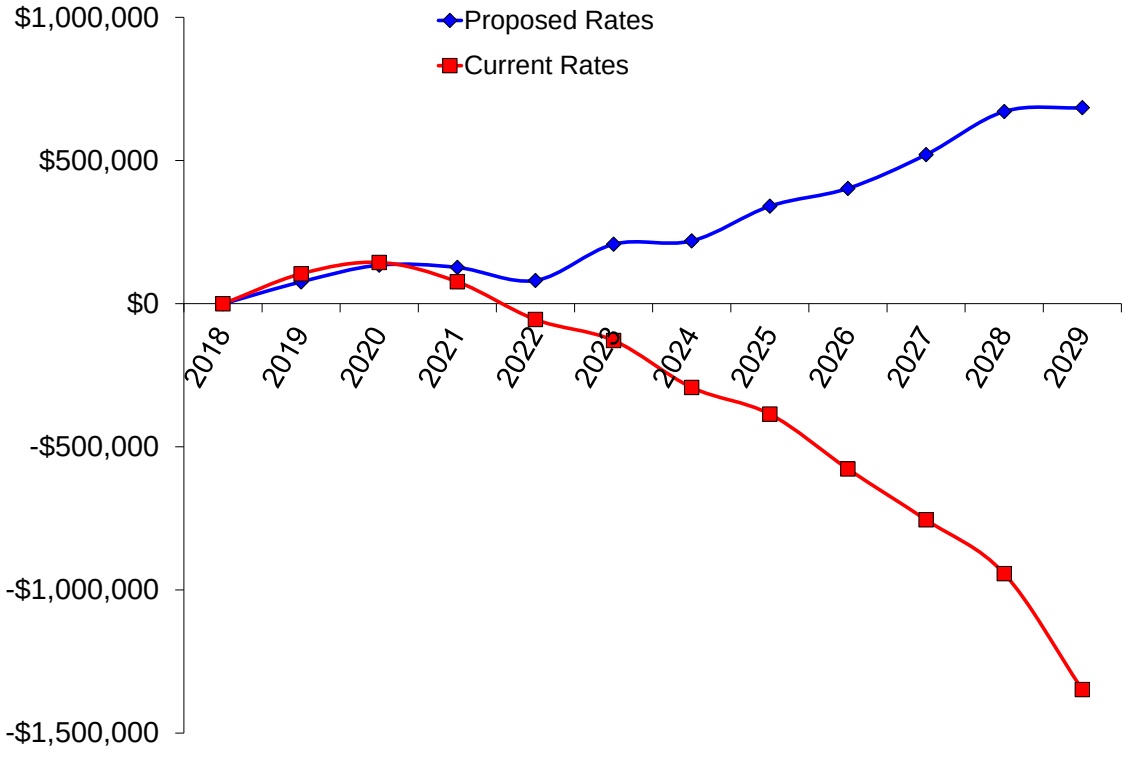


Chart 8 - Sum of All Reserves



Council Grove, Kansas; Sewer Rates, Model 2019-2

(This model used cost-of-service rate calculation principles but then the resulting rates were modified and simplified to fit the City's needs.)

December 11, 2019

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Note: This document is a print out of the spreadsheet model used to calculate new user charge and other rates and fees for the next 10 years. These calculations are complex and are based upon many conditions and assumtions. These issues, and others, are described in a narrative report that accompanies this model.

Table 1 - Rates

Council Grove, Kansas; Sewer Rates, Model 2019-2

Unless rates were recently changed, these are the current rates. At the least, these rates were in effect at the end of the test year. If a volume range was left out of the table, in order to make it shorter, the unit charge that shows for the next lowest volume range also applies to the hidden volume range.

Rates in Effect at End of Test Year

Customer Type, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Billing Cycle Minimum Charge	Usage Allowance in 1,000 Gallons	Unit Charge per 1,000 Gallons
SW10, SW10	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW11, SW11	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW31, SW31	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW32, SW32	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW33, SW CUR 3	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW34, SW CUR 4	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW36, SW CUR 6	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW38, SW CUR 8	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW39, SW CUR 9	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW41, SW CUR 18	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90

Table 1 - Rates

Rates in Effect at End of Test Year

Customer Type, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Billing Cycle Minimum Charge	Usage Allowance in 1,000 Gallons	Unit Charge per 1,000 Gallons
SW43, SW CUR 11	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW62, SW AVG 2	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW63, SW AVG 3	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW64, SW AVG 4	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW68, SW AVG 8	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW69, SW AVG 9	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW70, SW AVG 33	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW72, SW AVG 24	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW73, SW AVG 42	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90
SW99, SW NO BILL	0	$12.50	1.000	$0.90
	145,000	$12.50	1.000	$0.90

Table 2 - Test Year Usage
Council Grove, Kansas; Sewer Rates, Model 2019-2

This table shows usage by all customers during the test year.

Test year = the one-year period being analyzed starts: 1/1/2018

Date this scenario created: 8/22/2019

Residential meter readings per year: 12

Other customer readings per year: 12

Bills per year: 12

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW10, SW10	0	999	10,716	10,716,000	0	0	0	0.0%	0.0%
	1,000	1,999	10,716	10,716,000	0	0	0	0.0%	0.0%
	2,000	2,999	10,716	10,716,000	0	0	0	0.0%	0.0%
	3,000	3,999	10,716	4,696,000	10,716	36,844,000	893	83.8%	49.1%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			42,864	36,844,000	10,716	36,844,000	893	83.8%	49.1%
SW11, SW11	0	999	1,260	1,260,000	0	0	0	0.0%	0.0%
	1,000	1,999	1,260	1,260,000	0	0	0	0.0%	0.0%
	2,000	2,999	1,260	1,260,000	0	0	0	0.0%	0.0%
	3,000	3,999	1,260	426,000	1,260	4,206,000	105	9.9%	5.6%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			5,040	4,206,000	1,260	4,206,000	105	9.9%	5.6%
SW31, SW31	0	999	72	72,000	0	0	0	0.0%	0.0%
	1,000	1,999	72	72,000	0	0	0	0.0%	0.0%
	2,000	2,999	72	72,000	0	0	0	0.0%	0.0%
	3,000	3,999	72	72,000	0	0	0	0.0%	0.0%
	4,000	4,999	72	72,000	0	0	0	0.0%	0.0%
	5,000	5,999	72	72,000	0	0	0	0.0%	0.0%
	6,000	6,999	72	72,000	0	0	0	0.0%	0.0%
	7,000	7,999	72	72,000	0	0	0	0.0%	0.0%
	8,000	8,999	72	72,000	0	0	0	0.0%	0.0%
	9,000	9,999	72	72,000	0	0	0	0.0%	0.0%
	10,000	14,999	72	235,000	72	955,000	6	0.6%	1.3%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			792	955,000	72	955,000	6	0.6%	1.3%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW32, SW32	0	999	132	132,000	0	0	0	0.0%	0.0%
	1,000	1,999	132	132,000	0	0	0	0.0%	0.0%
	2,000	2,999	132	132,000	0	0	0	0.0%	0.0%
	3,000	3,999	132	132,000	0	0	0	0.0%	0.0%
	4,000	4,999	132	132,000	0	0	0	0.0%	0.0%
	5,000	5,999	132	132,000	0	0	0	0.0%	0.0%
	6,000	6,999	132	132,000	0	0	0	0.0%	0.0%
	7,000	7,999	132	132,000	0	0	0	0.0%	0.0%
	8,000	8,999	132	132,000	0	0	0	0.0%	0.0%
	9,000	9,999	132	132,000	0	0	0	0.0%	0.0%
	10,000	14,999	132	660,000	0	0	0	0.0%	0.0%
	15,000	19,999	132	660,000	0	0	0	0.0%	0.0%
	20,000	24,999	132	660,000	0	0	0	0.0%	0.0%
	25,000	29,999	132	660,000	0	0	0	0.0%	0.0%
	30,000	34,999	132	660,000	0	0	0	0.0%	0.0%
	35,000	44,999	132	1,320,000	0	0	0	0.0%	0.0%
	45,000	54,999	132	1,320,000	0	0	0	0.0%	0.0%
	55,000	64,999	132	1,320,000	0	0	0	0.0%	0.0%
	65,000	74,999	132	1,320,000	0	0	0	0.0%	0.0%
	75,000	84,999	132	1,320,000	0	0	0	0.0%	0.0%
	85,000	94,999	132	1,320,000	0	0	0	0.0%	0.0%
	95,000	104,999	132	1,320,000	0	0	0	0.0%	0.0%
	105,000	114,999	132	1,320,000	0	0	0	0.0%	0.0%
	115,000	124,999	132	713,000	132	15,893,000	11	1.0%	21.2%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			3,168	15,893,000	132	15,893,000	11	1.0%	21.2%
SW33, SW CUR 3	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	14,000	24	110,000	2	0.2%	0.1%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			120	110,000	24	110,000	2	0.2%	0.1%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW34, SW CUR 4	0	999	228	228,000	0	0	0	0.0%	0.0%
	1,000	1,999	228	228,000	0	0	0	0.0%	0.0%
	2,000	2,999	228	228,000	0	0	0	0.0%	0.0%
	3,000	3,999	228	228,000	0	0	0	0.0%	0.0%
	4,000	4,999	228	228,000	0	0	0	0.0%	0.0%
	5,000	5,999	228	228,000	0	0	0	0.0%	0.0%
	6,000	6,999	228	228,000	0	0	0	0.0%	0.0%
	7,000	7,999	228	228,000	0	0	0	0.0%	0.0%
	8,000	8,999	228	228,000	0	0	0	0.0%	0.0%
	9,000	9,999	228	228,000	0	0	0	0.0%	0.0%
	10,000	14,999	228	1,140,000	0	0	0	0.0%	0.0%
	15,000	19,999	228	1,140,000	0	0	0	0.0%	0.0%
	20,000	24,999	228	13,000	228	4,573,000	19	1.8%	6.1%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			2,964	4,573,000	228	4,573,000	19	1.8%	6.1%
SW35, SW CUR 5	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	24,000	0	0	0	0.0%	0.0%
	5,000	5,999	24	24,000	0	0	0	0.0%	0.0%
	6,000	6,999	24	24,000	0	0	0	0.0%	0.0%
	7,000	7,999	24	24,000	0	0	0	0.0%	0.0%
	8,000	8,999	24	24,000	0	0	0	0.0%	0.0%
	9,000	9,999	24	24,000	0	0	0	0.0%	0.0%
	10,000	14,999	24	120,000	0	0	0	0.0%	0.0%
	15,000	19,999	24	120,000	0	0	0	0.0%	0.0%
	20,000	24,999	24	120,000	0	0	0	0.0%	0.0%
	25,000	29,999	24	120,000	0	0	0	0.0%	0.0%
	30,000	34,999	24	33,000	24	753,000	2	0.2%	1.0%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			360	753,000	24	753,000	2	0.2%	1.0%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW36, SW CUR 6	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	24,000	0	0	0	0.0%	0.0%
	5,000	5,999	24	24,000	0	0	0	0.0%	0.0%
	6,000	6,999	24	24,000	0	0	0	0.0%	0.0%
	7,000	7,999	24	24,000	0	0	0	0.0%	0.0%
	8,000	8,999	24	24,000	0	0	0	0.0%	0.0%
	9,000	9,999	24	24,000	0	0	0	0.0%	0.0%
	10,000	14,999	24	51,000	24	291,000	2	0.2%	0.4%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			264	291,000	24	291,000	2	0.2%	0.4%
SW38, SW CUR 8	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	24,000	0	0	0	0.0%	0.0%
	5,000	5,999	24	24,000	0	0	0	0.0%	0.0%
	6,000	6,999	24	24,000	0	0	0	0.0%	0.0%
	7,000	7,999	24	24,000	0	0	0	0.0%	0.0%
	8,000	8,999	24	24,000	0	0	0	0.0%	0.0%
	9,000	9,999	24	24,000	0	0	0	0.0%	0.0%
	10,000	14,999	24	120,000	0	0	0	0.0%	0.0%
	15,000	19,999	24	120,000	0	0	0	0.0%	0.0%
	20,000	24,999	24	120,000	0	0	0	0.0%	0.0%
	25,000	29,999	24	120,000	0	0	0	0.0%	0.0%
	30,000	34,999	24	120,000	0	0	0	0.0%	0.0%
	35,000	44,999	24	240,000	0	0	0	0.0%	0.0%
	45,000	54,999	24	240,000	0	0	0	0.0%	0.0%
	55,000	64,999	24	240,000	0	0	0	0.0%	0.0%
	65,000	74,999	24	240,000	0	0	0	0.0%	0.0%
	75,000	84,999	24	240,000	0	0	0	0.0%	0.0%
	85,000	94,999	24	240,000	0	0	0	0.0%	0.0%
	95,000	104,999	24	240,000	0	0	0	0.0%	0.0%
	105,000	114,999	24	23,000	24	2,543,000	2	0.2%	3.4%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			552	2,543,000	24	2,543,000	2	0.2%	3.4%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW39, SW CUR 9	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	24,000	0	0	0	0.0%	0.0%
	5,000	5,999	24	24,000	0	0	0	0.0%	0.0%
	6,000	6,999	24	11,000	24	155,000	2	0.2%	0.2%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			168	155,000	24	155,000	2	0.2%	0.2%
SW41, SW CUR 18	0	999	12	12,000	0	0	0	0.0%	0.0%
	1,000	1,999	12	12,000	0	0	0	0.0%	0.0%
	2,000	2,999	12	12,000	0	0	0	0.0%	0.0%
	3,000	3,999	12	12,000	0	0	0	0.0%	0.0%
	4,000	4,999	12	12,000	0	0	0	0.0%	0.0%
	5,000	5,999	12	12,000	0	0	0	0.0%	0.0%
	6,000	6,999	12	12,000	0	0	0	0.0%	0.0%
	7,000	7,999	12	12,000	0	0	0	0.0%	0.0%
	8,000	8,999	12	12,000	0	0	0	0.0%	0.0%
	9,000	9,999	12	12,000	0	0	0	0.0%	0.0%
	10,000	14,999	12	60,000	0	0	0	0.0%	0.0%
	15,000	19,999	12	60,000	0	0	0	0.0%	0.0%
	20,000	24,999	12	60,000	0	0	0	0.0%	0.0%
	25,000	29,999	12	60,000	0	0	0	0.0%	0.0%
	30,000	34,999	12	60,000	0	0	0	0.0%	0.0%
	35,000	44,999	12	120,000	0	0	0	0.0%	0.0%
	45,000	54,999	12	120,000	0	0	0	0.0%	0.0%
	55,000	64,999	12	120,000	0	0	0	0.0%	0.0%
	65,000	74,999	12	120,000	0	0	0	0.0%	0.0%
	75,000	84,999	12	120,000	0	0	0	0.0%	0.0%
	85,000	94,999	12	120,000	0	0	0	0.0%	0.0%
	95,000	104,999	12	97,000	12	1,237,000	1	0.1%	1.6%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			264	1,237,000	12	1,237,000	1	0.1%	1.6%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW43, SW CUR 11	0	999	12	12,000	0	0	0	0.0%	0.0%
	1,000	1,999	12	12,000	0	0	0	0.0%	0.0%
	2,000	2,999	12	12,000	0	0	0	0.0%	0.0%
	3,000	3,999	12	12,000	0	0	0	0.0%	0.0%
	4,000	4,999	12	12,000	0	0	0	0.0%	0.0%
	5,000	5,999	12	12,000	0	0	0	0.0%	0.0%
	6,000	6,999	12	12,000	0	0	0	0.0%	0.0%
	7,000	7,999	12	12,000	0	0	0	0.0%	0.0%
	8,000	8,999	12	12,000	0	0	0	0.0%	0.0%
	9,000	9,999	12	12,000	0	0	0	0.0%	0.0%
	10,000	14,999	12	60,000	0	0	0	0.0%	0.0%
	15,000	19,999	12	60,000	0	0	0	0.0%	0.0%
	20,000	24,999	12	60,000	0	0	0	0.0%	0.0%
	25,000	29,999	12	60,000	0	0	0	0.0%	0.0%
	30,000	34,999	12	60,000	0	0	0	0.0%	0.0%
	35,000	44,999	12	120,000	0	0	0	0.0%	0.0%
	45,000	54,999	12	120,000	0	0	0	0.0%	0.0%
	55,000	64,999	12	120,000	0	0	0	0.0%	0.0%
	65,000	74,999	12	120,000	0	0	0	0.0%	0.0%
	75,000	84,999	12	120,000	0	0	0	0.0%	0.0%
	85,000	94,999	12	120,000	0	0	0	0.0%	0.0%
	95,000	104,999	12	67,000	12	1,207,000	1	0.1%	1.6%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			264	1,207,000	12	1,207,000	1	0.1%	1.6%
SW62, SW AVG 2	0	999	60	60,000	0	0	0	0.0%	0.0%
	1,000	1,999	60	60,000	0	0	0	0.0%	0.0%
	2,000	2,999	60	60,000	0	0	0	0.0%	0.0%
	3,000	3,999	60	60,000	0	0	0	0.0%	0.0%
	4,000	4,999	60	60,000	0	0	0	0.0%	0.0%
	5,000	5,999	60	9,000	60	309,000	5	0.5%	0.4%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			360	309,000	60	309,000	5	0.5%	0.4%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW63, SW AVG 3	0	999	36	36,000	0	0	0	0.0%	0.0%
	1,000	1,999	36	36,000	0	0	0	0.0%	0.0%
	2,000	2,999	36	36,000	0	0	0	0.0%	0.0%
	3,000	3,999	36	36,000	0	0	0	0.0%	0.0%
	4,000	4,999	36	36,000	0	0	0	0.0%	0.0%
	5,000	5,999	36	20,000	36	200,000	3	0.3%	0.3%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			216	200,000	36	200,000	3	0.3%	0.3%
SW64, SW AVG 4	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	24,000	0	0	0	0.0%	0.0%
	5,000	5,999	24	24,000	0	0	0	0.0%	0.0%
	6,000	6,999	24	24,000	0	0	0	0.0%	0.0%
	7,000	7,999	24	24,000	0	0	0	0.0%	0.0%
	8,000	8,999	24	24,000	0	0	0	0.0%	0.0%
	9,000	9,999	24	24,000	0	0	0	0.0%	0.0%
	10,000	14,999	24	84,000	24	324,000	2	0.2%	0.4%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			264	324,000	24	324,000	2	0.2%	0.4%
SW68, SW AVG 8	0	999	12	12,000	0	0	0	0.0%	0.0%
	1,000	1,999	12	12,000	0	0	0	0.0%	0.0%
	2,000	2,999	12	12,000	0	0	0	0.0%	0.0%
	3,000	3,999	12	12,000	0	0	0	0.0%	0.0%
	4,000	4,999	12	12,000	0	0	0	0.0%	0.0%
	5,000	5,999	12	12,000	0	0	0	0.0%	0.0%
	6,000	6,999	12	12,000	0	0	0	0.0%	0.0%
	7,000	7,999	12	12,000	0	0	0	0.0%	0.0%
	8,000	8,999	12	12,000	0	0	0	0.0%	0.0%
	9,000	9,999	12	12,000	0	0	0	0.0%	0.0%
	10,000	14,999	12	60,000	0	0	0	0.0%	0.0%
	15,000	19,999	12	60,000	0	0	0	0.0%	0.0%
	20,000	24,999	12	60,000	0	0	0	0.0%	0.0%
	25,000	29,999	12	60,000	0	0	0	0.0%	0.0%
	30,000	34,999	12	60,000	0	0	0	0.0%	0.0%
	35,000	44,999	12	93,000	12	513,000	1	0.1%	0.7%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			192	513,000	12	513,000	1	0.1%	0.7%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW69, SW AVG 9	0	999	12	12,000	0	0	0	0.0%	0.0%
	1,000	1,999	12	12,000	0	0	0	0.0%	0.0%
	2,000	2,999	12	12,000	0	0	0	0.0%	0.0%
	3,000	3,999	12	12,000	0	0	0	0.0%	0.0%
	4,000	4,999	12	12,000	0	0	0	0.0%	0.0%
	5,000	5,999	12	12,000	0	0	0	0.0%	0.0%
	6,000	6,999	12	12,000	0	0	0	0.0%	0.0%
	7,000	7,999	12	12,000	0	0	0	0.0%	0.0%
	8,000	8,999	12	12,000	0	0	0	0.0%	0.0%
	9,000	9,999	12	12,000	0	0	0	0.0%	0.0%
	10,000	14,999	12	60,000	0	0	0	0.0%	0.0%
	15,000	19,999	12	60,000	0	0	0	0.0%	0.0%
	20,000	24,999	12	5,000	12	245,000	1	0.1%	0.3%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			156	245,000	12	245,000	1	0.1%	0.3%
SW70, SW AVG 33	0	999	24	24,000	0	0	0	0.0%	0.0%
	1,000	1,999	24	24,000	0	0	0	0.0%	0.0%
	2,000	2,999	24	24,000	0	0	0	0.0%	0.0%
	3,000	3,999	24	24,000	0	0	0	0.0%	0.0%
	4,000	4,999	24	24,000	0	0	0	0.0%	0.0%
	5,000	5,999	24	24,000	0	0	0	0.0%	0.0%
	6,000	6,999	24	24,000	0	0	0	0.0%	0.0%
	7,000	7,999	24	24,000	0	0	0	0.0%	0.0%
	8,000	8,999	24	24,000	0	0	0	0.0%	0.0%
	9,000	9,999	24	24,000	0	0	0	0.0%	0.0%
	10,000	14,999	24	120,000	0	0	0	0.0%	0.0%
	15,000	19,999	24	120,000	0	0	0	0.0%	0.0%
	20,000	24,999	24	120,000	0	0	0	0.0%	0.0%
	25,000	29,999	24	63,000	24	663,000	2	0.2%	0.9%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			336	663,000	24	663,000	2	0.2%	0.9%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW72, SW AVG 24	0	999	36	36,000	0	0	0	0.0%	0.0%
	1,000	1,999	36	36,000	0	0	0	0.0%	0.0%
	2,000	2,999	36	36,000	0	0	0	0.0%	0.0%
	3,000	3,999	36	36,000	0	0	0	0.0%	0.0%
	4,000	4,999	36	36,000	0	0	0	0.0%	0.0%
	5,000	5,999	36	36,000	0	0	0	0.0%	0.0%
	6,000	6,999	36	36,000	0	0	0	0.0%	0.0%
	7,000	7,999	36	36,000	0	0	0	0.0%	0.0%
	8,000	8,999	36	36,000	0	0	0	0.0%	0.0%
	9,000	9,999	36	36,000	0	0	0	0.0%	0.0%
	10,000	14,999	36	180,000	0	0	0	0.0%	0.0%
	15,000	19,999	36	180,000	0	0	0	0.0%	0.0%
	20,000	24,999	36	180,000	0	0	0	0.0%	0.0%
	25,000	29,999	36	180,000	0	0	0	0.0%	0.0%
	30,000	34,999	36	180,000	0	0	0	0.0%	0.0%
	35,000	44,999	36	360,000	0	0	0	0.0%	0.0%
	45,000	54,999	36	160,000	36	1,780,000	3	0.3%	2.4%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			612	1,780,000	36	1,780,000	3	0.3%	2.4%

Table 2 - Test Year Usage

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Count of Bills With ANY Use in Each Range	Use in Each Range in Gallons	Count of Bills That "Maxed Out" in Each Range	Volume of Bills That "Maxed Out" in Each Range	# of Customers That "Maxed Out" in Each Range	% of Customers That "Maxed Out" in Each Range	% of Total Use in Each Range
SW73, SW AVG 42	0	999	12	12,000	0	0	0	0.0%	0.0%
	1,000	1,999	12	12,000	0	0	0	0.0%	0.0%
	2,000	2,999	12	12,000	0	0	0	0.0%	0.0%
	3,000	3,999	12	12,000	0	0	0	0.0%	0.0%
	4,000	4,999	12	12,000	0	0	0	0.0%	0.0%
	5,000	5,999	12	12,000	0	0	0	0.0%	0.0%
	6,000	6,999	12	12,000	0	0	0	0.0%	0.0%
	7,000	7,999	12	12,000	0	0	0	0.0%	0.0%
	8,000	8,999	12	12,000	0	0	0	0.0%	0.0%
	9,000	9,999	12	12,000	0	0	0	0.0%	0.0%
	10,000	14,999	12	60,000	0	0	0	0.0%	0.0%
	15,000	19,999	12	60,000	0	0	0	0.0%	0.0%
	20,000	24,999	12	60,000	0	0	0	0.0%	0.0%
	25,000	29,999	12	60,000	0	0	0	0.0%	0.0%
	30,000	34,999	12	60,000	0	0	0	0.0%	0.0%
	35,000	44,999	12	120,000	0	0	0	0.0%	0.0%
	45,000	54,999	12	120,000	0	0	0	0.0%	0.0%
	55,000	64,999	12	120,000	0	0	0	0.0%	0.0%
	65,000	74,999	12	120,000	0	0	0	0.0%	0.0%
	75,000	84,999	12	120,000	0	0	0	0.0%	0.0%
	85,000	94,999	12	120,000	0	0	0	0.0%	0.0%
	95,000	104,999	12	120,000	0	0	0	0.0%	0.0%
	105,000	114,999	12	120,000	0	0	0	0.0%	0.0%
	115,000	124,999	12	120,000	0	0	0	0.0%	0.0%
	125,000	134,999	12	120,000	0	0	0	0.0%	0.0%
	135,000	144,999	12	120,000	0	0	0	0.0%	0.0%
	145,000	1,000,000	12	527,000	12	2,267,000	1	0.1%	3.0%
			324	2,267,000	12	2,267,000	1	0.1%	3.0%
SW99, SW NO BILL	0	999	12	0	12	0	1	0.1%	0.0%
	145,000	1,000,000	0	0	0	0	0	0.0%	0.0%
			12	0	12	0	1	0.1%	0.0%
		Grand Totals:	59,292	75,068,000	12,780	75,068,000	1,065	100%	100%

Table 3 - Operating Incomes and Basic User Data

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table depicts user statistics, customer growth, and system incomes and across the board "inflationary" style rate increases through the 10th year.

Annual Median Household Income (AMHI)

$38,455	Census Bureau estimate of AMHI for the year	2016
$28,949	Census Bureau estimate of AMHI for the year	2000
$9,506	AMHI growth during this time period	
2.05%	Simple annual income growth rate during this time period (used to project incomes into the future)	

Test Year Growth of Customer Base and Average Tap Fee Paid per Connection

2	Number of new connections made during the test year
$1,500	Average tap or installation fee assessed during the test year

This model is programmed for rates to be reset in the "Analysis Year," also called the "0 Year" column below (heading highlighted blue). Revenues will be collected at the now-current rates for the first part of the analysis year and the modeled rates for the last part of the analysis year. Thus, the revenues shown in the last column of that table are "blended" revenues; part collected at the old rates and part collected at the new rates. It was then assumed that all rate adjustments made after the initial (major) adjustment will be done annually on approximately the anniversary of the first adjustment. If rates will not be adjusted during the "0 Year," an adjustment (normally a revenue reduction) was calculated below to account for the late start in making the first adjustments.

Basic User (Customer) Data

(First year balances and incomes are actual, subsequent years are projected.)	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	Analysis Year 0 Year Starting 1/1/19	Years Following the Analysis Year (for Which Results Have Been Projected) 1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Rate Increases Projected for Future Years	N.A.	N.A.	N.A.	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
				The row above shows the rate at which user charge fees should be increased for each year beyond the initial rate adjustment year. Unless stated otherwise, these should be across-the-board increases to all rates and fees and that should continue until a new rate analysis is done.									
Average Number of Customers for the Year	N.A.	1,065	1,067	1,069	1,071	1,073	1,075	1,077	1,079	1,081	1,083	1,085	1,087
Customers Added or Lost (-) During the Year	N.A.	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Customer Growth or Loss (-) Rate	N.A.	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.18%	0.18%	0.18%
Actual (Test Year) and Projected Volumes, in Gallons	N.A.	75,068,000	75,208,973	75,349,946	75,490,918	75,631,891	75,772,864	75,913,837	76,054,809	76,195,782	76,336,755	76,477,728	76,618,700
How User Charge Fees Were Calculated, Accounting for New Customers and Future Rate Increases													
Actual or Calculated Sales Revenues		$214,864	$214,954	$255,131	$263,277	$271,682	$280,354	$289,302	$298,535	$308,060	$317,889	$328,031	$338,494
Additional Sales Revenues From New Customers			$1	$477	$493	$506	$522	$537	$553	$570	$587	$605	$623
Total Calculated Revenues (User Charge Fees)		$214,864	$214,955	$255,608	$263,769	$272,189	$280,876	$289,839	$299,088	$308,630	$318,476	$328,635	$339,117
Operating Incomes													
SEWER CHARGE	N.A.	$232,495	$232,593	$276,583	$285,413	$294,523	$303,924	$313,623	$323,630	$333,956	$344,610	$355,602	$366,944
SEWER PENALTY	N.A.	$793	$794	$796	$797	$799	$800	$802	$803	$805	$806	$808	$809
New Taps or Connections (Current Rate Structure)	% Above	$3,000	$2,992	$0	$0	$0	$0	$0	$0	$0	$0	$1	$2
New Taps or Connections (New Rate Structure)	% Above	$0	$0	$3,000	$3,090	$3,183	$3,278	$3,377	$3,478	$3,582	$3,690	$3,800	$3,914
Interest Income	N.A.	$0	$504	$547	$894	$938	$995	$991	$1,019	$1,082	$1,077	$1,107	$1,176
MISCELLANEOUS REVENUE(Less New Taps Above)	N.A.	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075
Revenue Loss Because Rate Adjustments Made This Number of Months Late	3.0	$0	$0	-$8,209	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Incomes		**$240,363**	**$240,958**	**$276,792**	**$294,270**	**$303,518**	**$313,073**	**$322,867**	**$333,005**	**$343,499**	**$354,257**	**$365,393**	**$376,921**

Table 4 - Operating Costs and Net Income

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table depicts expenses during the test year, this year and for the next 10 years. Some future costs will experience inflation. Those costs that go up as use goes up are increased by the cost inflation factor plus the growth rate in users.

(First year costs and net incomes are actual, subsequent years are projected.)

			Analysis Year	Years Following the Analysis Year (for Which Results Have Been Projected)									
	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
AUDITING SERVICE	3.0%	$1,335	$1,378	$1,422	$1,467	$1,514	$1,562	$1,612	$1,663	$1,717	$1,771	$1,828	$1,886
BULDING REPAIR	3.0%	$4,953	$5,102	$5,255	$5,412	$5,575	$5,742	$5,914	$6,092	$6,274	$6,463	$6,657	$6,856
CIP TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONTRACTUAL SERVICES	3.0%	$708	$731	$754	$778	$803	$829	$855	$883	$911	$940	$970	$1,001
CUSTODIAL SUPPLIES	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT SERVICE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DRUG AND ALCOHOL TESTING	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DUES / MEMBERSHIP / MEETINGS	3.0%	$957	$986	$1,972	$2,031	$2,092	$2,155	$2,219	$2,286	$2,355	$2,425	$2,498	$2,573
ENGINEERING EXPENSE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT FUND TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HEALTH/DENTAL INSURANCE	3.0%	$12,112	$12,475	$24,950	$25,699	$26,470	$27,264	$28,082	$28,924	$29,792	$30,685	$31,606	$32,554
INSURANCE	3.0%	$3,910	$4,027	$8,055	$8,296	$8,545	$8,801	$9,066	$9,337	$9,618	$9,906	$10,203	$10,509
KPERS	3.0%	$3,264	$3,362	$6,724	$6,926	$7,134	$7,348	$7,568	$7,796	$8,029	$8,270	$8,518	$8,774
MATERIALS	3.0%	$655	$675	$695	$716	$737	$759	$782	$805	$830	$855	$880	$907
OFFICE SUPPLIES	3.0%	$13	$13	$13	$14	$14	$15	$15	$15	$16	$16	$17	$17
OTHER CAPITAL OUTLAY	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTHER CHEMICALS	3.0%	$8,655	$8,914	$9,182	$9,457	$9,741	$10,033	$10,334	$10,644	$10,963	$11,292	$11,631	$11,980
OTHER COMMODITIES	3.0%	$1,465	$1,512	$1,560	$1,610	$1,662	$1,715	$1,769	$1,826	$1,884	$1,944	$2,006	$2,070
OVERTIME	3.0%	$3,926	$4,043	$8,087	$8,329	$8,579	$8,837	$9,102	$9,375	$9,656	$9,946	$10,244	$10,551
PETROLEUM PRODUCTS	3.0%	$2,110	$2,173	$2,239	$2,306	$2,375	$2,446	$2,519	$2,595	$2,673	$2,753	$2,836	$2,921
SALARIES/FULL-TIME	3.0%	$30,909	$31,837	$63,673	$65,583	$67,551	$69,577	$71,665	$73,814	$76,029	$78,310	$80,659	$83,079
SALARIES/PART-TIME	3.0%	$21	$22	$44	$45	$46	$48	$49	$51	$52	$54	$55	$57
SEWER LINE CONSTRUCTION	3.0%	$191	$197	$203	$210	$216	$223	$230	$238	$245	$253	$261	$270
SEWER REP/REPLACEMENT RES	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SOCIAL SECURITY	3.0%	$2,582	$2,659	$5,319	$5,479	$5,643	$5,812	$5,987	$6,166	$6,351	$6,542	$6,738	$6,940
TESTING AND PERMIT FEES	3.0%	$4,107	$4,230	$4,357	$4,487	$4,622	$4,761	$4,904	$5,051	$5,202	$5,358	$5,519	$5,685
TRANSFER IN-SEWER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSFER OUT-SEWER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSPORTATION	3.0%	$24	$25	$26	$27	$27	$28	$29	$30	$31	$32	$33	$34
UTILITIES	3.0%	$9,692	$10,002	$10,321	$10,651	$10,991	$11,341	$11,703	$12,077	$12,462	$12,860	$13,270	$13,693
VEHICLE/EQUIP MAINT & REPAIR	3.0%	$1,070	$1,102	$1,135	$1,169	$1,205	$1,241	$1,278	$1,316	$1,356	$1,396	$1,438	$1,481
VEHICLE/EQUIP PARTS & SUPPLIES	3.0%	$115	$118	$121	$125	$129	$133	$137	$141	$145	$149	$154	$159
WELDING & CONSTRUCTION SUPPLIE	3.0%	$5,070	$5,222	$5,379	$5,540	$5,707	$5,878	$6,054	$6,236	$6,423	$6,615	$6,814	$7,018
WORKERS COMP	3.0%	$2,910	$3,003	$6,005	$6,197	$6,395	$6,599	$6,809	$7,026	$7,251	$7,482	$7,721	$7,967

Table 4 - Operating Costs and Net Income

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
One-time Reduction of R&R Annuity	0.0%	-$15,125	-$15,125	-$3,781	$0	$0	$0	$0	$0	$0	$0	$0	$0
One-time Transfer to R&R Reserve	0.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Annual Payment to R&R Reserve (Table 7)	0.0%	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125
User Charge Analysis Services	5.0%	$0	$5,612	$0	$0	$6,187	$0	$0	$6,821	$0	$0	$7,521	$0
Total CIP-related Payouts	N.A.	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5
Total Operating Costs		**$100,754**	**$109,420**	**$178,834**	**$187,679**	**$199,083**	**$198,270**	**$203,807**	**$216,333**	**$215,389**	**$221,443**	**$235,201**	**$234,106**
Net Income (or Loss)		$139,609	$131,539	$97,958	$106,591	$104,435	$114,802	$119,060	$116,672	$128,111	$132,815	$130,192	$142,814
Working Capital Goal: 50%	In Dollars, That is:	$50,377	$54,710	$89,417	$93,840	$99,542	$99,135	$101,904	$108,167	$107,694	$110,721	$117,601	$117,053

Notes: The yellow highlighted cost items above will rise due to inflation and due to the additional cost of serving (a few) new customers. Tan highlighted items represent staffing costs at near-full staffing levels.

Table 5 - Capital Improvement Program (CIP)

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table depicts capital improvements and their funding. Costs reflect inflation.

	Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)										
	Test Year Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Planned Spending, Debt-paid Portion of Projects (CIP costs to be funded with loans are shown in this section.)												
METER SOFTWARE / HAND HELD/ DRIVE BY SYSTEM (Water & Sewer)	$0	$0	$208,753	$0	$0	$0	$0	$0	$0	$0	$0	$0
SEWER CIPP LINING (Sewer)	$0	$0	$103,000	$0	$109,273	$0	$115,927	$0	$122,987	$0	$130,477	$0
SEWER VACUUM AND JETTER TRUCK REPLACEMENT (Sewer)	$0	$0	$0	$0	$546,364	$0	$0	$0	$0	$0	$0	$0
DIRECTIONAL BORING MACHINE (Water & Sewer)	$0	$0	$0	$132,613	$0	$0	$0	$0	$0	$0	$0	$0
4TH LAGOON/WETLAND (Sewer)	$0	$0	$412,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Closing Costs, Estimated at: 2.5%	$0	$0	$42,507	$3,517	$17,911	$0	$3,360	$0	$3,781	$0	$4,256	$0
Total Debt-paid Portion of Projects	$0	$0	$1,693,260	$136,130	$673,547	$0	$119,287	$0	$126,769	$0	$134,733	$0
Planned Spending, Cash-paid Portion of Projects (CIP costs to be funded from reserves are shown here.)												
WASTE WATER DISTRIBUTION / PUMPS AT CITY LAKE (Sewer)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Cash-paid Portion of Projects	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total CIP Costs	**$0**	**$0**	**$1,693,260**	**$136,130**	**$673,547**	**$0**	**$119,287**	**$0**	**$126,769**	**$0**	**$134,733**	**$0**
Debt Repayment												
New Debt Payments (Following are payments for projects to be paid with new debt. It is assumed these will be loan/lease-financed for a term of: 20 years at a 2.00% interest rate.)												
Loan Originated in 1st Year				$103,554	$103,554	$103,554	$103,554	$103,554	$103,554	$103,554	$103,554	$103,554
Loan Originated in 2nd Year					$8,325	$8,325	$8,325	$8,325	$8,325	$8,325	$8,325	$8,325
Loan Originated in 3rd Year						$41,192	$41,192	$41,192	$41,192	$41,192	$41,192	$41,192
Loan Originated in 5th Year								$7,295	$7,295	$7,295	$7,295	$7,295
Loan Originated in 7th Year										$7,753	$7,753	$7,753
Loan Originated in 9th Year												$8,240
Total Debt Payments	$0	$0	$0	$103,554	$111,879	$153,071	$153,071	$160,367	$160,367	$168,119	$168,119	$176,359
Total CIP-related Payouts	**$0**	**$0**	**$1,693,260**	**$239,684**	**$785,426**	**$153,071**	**$272,359**	**$160,367**	**$287,135**	**$168,119**	**$302,853**	**$176,359**

(This is the total cash required for this CIP and debt payment schedule. These amounts must come from utility income, reserves or outside sources, as shown in the next section.)

Table 5 - Capital Improvement Program (CIP)

This table depicts capital improvements and their funding. Costs reflect inflation.

	Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)										
	Test Year Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
CIP Fund Sources (Following are the sources and amounts of funds expected to pay for the above CIP schedule.)												
Cash Reserves (Internal Funds)												
Debt and CIP Reserves Starting Balance	$0	$212,452	$343,907	$414,036	$420,930	$416,203	$386,664	$357,617	$314,812	$289,325	$256,779	$217,109
Working Capital Transferred in	$212,452	$127,206	$63,250	$102,168	$98,733	$115,209	$116,291	$110,409	$128,583	$129,787	$123,313	$143,362
Debt and CIP Reserves Interest Earned (or Paid)	$0	$4,249	$6,878	$8,281	$8,419	$8,324	$7,733	$7,152	$6,296	$5,786	$5,136	$4,342
Special Assessments on City Lake Properties	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Available Internal Funds	$212,452	$343,907	$414,036	$524,484	$528,082	$539,735	$510,688	$475,179	$449,691	$424,899	$385,228	$364,813
Grant and Loan Proceeds (External Funds)												
Loan Originated in 1st Year			$1,693,260	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 2nd Year				$136,130	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 3rd Year					$673,547	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 5th Year							$119,287	$0	$0	$0	$0	$0
Loan Originated in 7th Year									$126,769	$0	$0	$0
Loan Originated in 9th Year											$134,733	$0
Total Available External Funds	$0	$0	$1,693,260	$136,130	$673,547	$0	$119,287	$0	$126,769	$0	$134,733	$0
Total Available Funds	**$212,452**	**$343,907**	**$2,107,295**	**$660,614**	**$1,201,629**	**$539,735**	**$629,976**	**$475,179**	**$576,460**	**$424,899**	**$519,962**	**$364,813**
Outcomes	(This CIP spending and funding plan will result in the following cash needs and ending balances each year.)											
Total Available Funds	**$212,452**	**$343,907**	**$2,107,295**	**$660,614**	**$1,201,629**	**$539,735**	**$629,976**	**$475,179**	**$576,460**	**$424,899**	**$519,962**	**$364,813**
Total CIP-related Payouts	**$0**	**$0**	**$1,693,260**	**$239,684**	**$785,426**	**$153,071**	**$272,359**	**$160,367**	**$287,135**	**$168,119**	**$302,853**	**$176,359**
Debt and CIP Reserves Ending Balances	**$212,452**	**$343,907**	**$414,036**	**$420,930**	**$416,203**	**$386,664**	**$357,617**	**$314,812**	**$289,325**	**$256,779**	**$217,109**	**$188,453**

Notes: Source of system improvement project base costs - Mathew Anderson, PE, CTS Group. These projects are primarily repair and replacement items but because they will likely be loan-funded, they are included here so loan payments can be calculated. The City Lake Project was estimated by Derrick Craige with the City.

Table 6 - Equipment Replacement Schedule - Detailed

Year Beginning	REPLACE METERS	MAINTAIN AIR COMPRESSORS	GENERATOR MAINTENANCE	BACKWASH LAGOON MAINTENANCE	OZONE GENERATOR DIELECTRIC RODS	DAILY CPU, SOFTWARE, HARDWARE, DEVICES	WATER CPU, SOFTWARE, HARDWARE, DEVICES	REPLACE SODIUM HYPO FEED PUMP	REPLACE INFLUENT VALVE IN OZONE BUILDING	REPLACE CHEMICAL MIXER MOTOR	REPLACE 2 TRUCKS (ROTATION)	REPLACE WATER TESTING METER EQUIPMENT
1/1/19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/20	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$40,000	$0
1/1/21	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/22	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/23	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/24	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/25	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/26	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/27	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$40,000	$0
1/1/28	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/29	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/30	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/31	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/32	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/33	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/34	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$40,000	$0
1/1/35	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/36	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/37	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/38	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/39	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/40	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/41	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$40,000	$0
1/1/42	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/43	Table 5	$150	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table 6 - Equipment Replacement Schedule - Detailed

Year Beginning	REPAIR/ REPLACE MOTOR FOR AIR COMPRESSOR	CLARIFIER MOTORS	0ZONE COMPRESSOR MOTOR	REPLACE CHLORINE ANALYZER	REPLACE 4 NTU ANALYZERS	COMMUNICATION DEVICES	REPLACE SODIUM HYPO TRANSFER PUMP	REPLACE CQ2100 TRANSFE R PUMP	REPLACE AIR DRYER	REPLACE CHEMICAL SCALE	CLARIFIER GEAR BOXES
1/1/19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/21	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/25	$0	$0	$0	$0	$0	$2,500	$0	$0	$0	$0	$0
1/1/26	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/27	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/28	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/35	$0	$0	$0	$0	$0	$2,500	$0	$0	$0	$0	$0
1/1/36	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/40	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/41	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/42	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/43	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table 6 - Equipment Replacement Schedule - Detailed

Year Beginning	REPLACE JOHN DEERE 310SE	REPLACE FILTER MEDIA OR ADD AS NEEDED	REPLACE CHEMICAL FEED PUMP	PURCHASE OZONE COMPRESSORS	INTERIOR AND EXTERIOR WATER TOWER PAINTING	REPLACE #3 HIGH SERVICE PUMP	REPLACE #2 HIGH SERVICE PUMP	REPLACE #1 HIGH SERVICE PUMP	REPLACE BACKWASH PUMP	REPLACE FILTER TO WASTE PUMP	POST CHLORINE FEED SYSTEM	PURCHASE VRC CONTROLLER	Total Annual Replacement Costs
1/1/19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1/1/20	$35,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$75,650
1/1/21	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/24	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/25	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,150
1/1/26	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/27	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40,650
1/1/28	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/34	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40,650
1/1/35	$35,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$38,150
1/1/36	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/38	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/40	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/41	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40,650
1/1/42	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650
1/1/43	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$650

Table 7 - Equipment Replacement Annuity Calculation

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table calculates the annual annuity (savings deposit) needed to build replacement (R&R) reserves. This annuity amount should actually be deposited in a savings account. The annuity amount, called the "Required Annual Deposit (Annuity) to Replacement Account" below, should be included in the utility's general budget as a cost. As a result, all replacement and refurbishment scheduled in Table 6, the detailed replacement schedule, would be paid for out of R&R reserves and not out of the utility's general budget.

In simple terms, the annuity at the bottom of this table should be deposited into an account each year and R&R projects should be paid for out of that account.

3.00%	Average Inflation Rate for the Following Sewer System Equipment for the Term of This Replacement Schedule
2.00%	Average Interest Rate on Balances Invested for the Term of This Replacement Schedule
2.00%	Average Interest Rate on Amounts Borrowed for the Term of This Replacement Schedule

Year Beginning	Schedule Year	This Year's Costs in Current Dollars	Future Annual Inflated Net Costs	Interest Earned on Prior Balance	End of Year Balance in Future Dollars	Minimum Desired End of Year Balance in Future Dollars
1/1/19	Analysis Year	$0	$0	$0	$0	$10,368
1/1/20	1st Year	$75,650	$77,920	$0	-$62,794	$10,679
1/1/21	2nd Year	$650	$690	-$1,256	-$49,615	$10,999
1/1/22	3rd Year	$650	$710	-$992	-$36,192	$11,329
1/1/23	4th Year	$650	$732	-$724	-$22,523	$11,669
1/1/24	5th Year	$650	$754	-$450	-$8,602	$12,019
1/1/25	6th Year	$3,150	$3,761	-$172	$2,590	$12,379
1/1/26	7th Year	$650	$799	$52	$16,968	$12,751
1/1/27	8th Year	$40,650	$51,494	$339	-$19,062	$13,133
1/1/28	9th Year	$650	$848	-$381	-$5,166	$13,527
1/1/29	10th Year	$650	$874	-$103	$8,982	$13,933
1/1/30	11th Year	$650	$900	$180	$23,387	$14,351
1/1/31	12th Year	$650	$927	$468	$38,053	$14,782
1/1/32	13th Year	$650	$955	$761	$52,984	$15,225
1/1/33	14th Year	$650	$983	$1,060	$68,186	$15,682
1/1/34	15th Year	$40,650	$63,331	$1,364	$21,343	$16,152
1/1/35	16th Year	$38,150	$61,220	$427	-$24,324	$16,637
1/1/36	17th Year	$650	$1,074	-$486	-$10,760	$17,136
1/1/37	18th Year	$650	$1,107	-$215	$3,043	$17,650
1/1/38	19th Year	$650	$1,140	$61	$17,089	$18,179
				Starting Account Balance	$0	$10,368
				Minimum Annual Annuity	$14,377	Minimum Desired Balance in Today's Dollars
				Discretionary Annuity	$748	

Notes: There is currently no R&R schedule. Average R&R costs were instead estimated. A Discretionary Annuity amount was added so that at the end of the 20-year modeling period, the balance will equal the average of the annual replacement cost amounts, less interest paid for borrowing during the negative balance years.

Required Annual Deposit (Annuity) to Replacement Account **$15,125**

(This amount is included in Table 4 as an operating cost.)

Table 8 - Average Cost Classification

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table distributes costs from a representative year (the "average rate structure basis year) to fixed and variable categories (see Definitions) in order to calculate the "cost of service" rate structure for that year.

The average rate structure basis year runs from: 1/1/2023 through 12/31/2023

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
AUDITING SERVICE	$1,562	100.0%	0.0%	$1,562	$0
BULDING REPAIR	$5,742	100.0%	0.0%	$5,742	$0
CIP TRANSFER	$0	50.0%	50.0%	$0	$0
CONTRACTUAL SERVICES	$829	50.0%	50.0%	$414	$414
CUSTODIAL SUPPLIES	$0	100.0%	0.0%	$0	$0
DEBT SERVICE	$0	100.0%	0.0%	$0	$0
DRUG AND ALCOHOL TESTING	$0	33.3%	66.7%	$0	$0
DUES / MEMBERSHIP / MEETINGS	$2,155	33.3%	66.7%	$718	$1,437
ENGINEERING EXPENSE	$0	50.0%	50.0%	$0	$0
EQUIPMENT FUND TRANSFER	$0	50.0%	50.0%	$0	$0
HEALTH/DENTAL INSURANCE	$27,264	33.3%	66.7%	$9,088	$18,176
INSURANCE	$8,801	100.0%	0.0%	$8,801	$0
KPERS	$7,348	33.3%	66.7%	$2,449	$4,899
MATERIALS	$759	50.0%	50.0%	$380	$380
OFFICE SUPPLIES	$15	100.0%	0.0%	$15	$0
OTHER CAPITAL OUTLAY	$0	50.0%	50.0%	$0	$0
OTHER CHEMICALS	$10,033	0.0%	100.0%	$0	$10,033
OTHER COMMODITIES	$1,715	0.0%	100.0%	$0	$1,715
OVERTIME	$8,837	33.3%	66.7%	$2,945	$5,891
PETROLEUM PRODUCTS	$2,446	50.0%	50.0%	$1,223	$1,223
SALARIES/FULL-TIME	$69,577	33.3%	66.7%	$23,192	$46,385
SALARIES/PART-TIME	$48	33.3%	66.7%	$16	$32
SEWER LINE CONSTRUCTION	$223	50.0%	50.0%	$112	$112
SEWER REP/REPLACEMENT RES	$0	50.0%	50.0%	$0	$0
SOCIAL SECURITY	$5,812	33.3%	66.7%	$1,937	$3,875

Table 8 - Average Cost Classification

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
TESTING AND PERMIT FEES	$4,761	100.0%	0.0%	$4,761	$0
TRANSFER IN-SEWER	$0	42.9%	57.1%	$0	$0
TRANSFER OUT-SEWER	$0	42.9%	57.1%	$0	$0
TRANSPORTATION	$28	50.0%	50.0%	$14	$14
UTILITIES	$11,341	0.0%	100.0%	$0	$11,341
VEHICLE/EQUIP MAINT & REPAIR	$1,241	50.0%	50.0%	$620	$620
VEHICLE/EQUIP PARTS & SUPPLIES	$133	50.0%	50.0%	$66	$66
WELDING & CONSTRUCTION SUPPLIE	$5,878	50.0%	50.0%	$2,939	$2,939
WORKERS COMP	$6,599	33.3%	66.7%	$2,200	$4,399
Annual Payment to R&R Reserve (Table 7)	$15,125	50.0%	50.0%	$7,563	$7,563
User Charge Analysis Services	$0	50.0%	50.0%	$0	$0
Total CIP-related Payouts, Less Capacity Charges From Tables 14 & 16 (This value can be negative)	$153,071	50.0%	50.0%	$76,536	$76,536
Grand Total Costs, Weighted Avg Percentages	$351,342	43.6%	56.4%	$153,293	$198,049

Bases for Cost to Serve Rate Structure

		100%	$351,342
Number Customers During Year Defined Above	1,075	Inflow and Infiltration is Estimated at	0%
Billed Volume, in Gallons, During Year Defined Above	75,772,864	Inflow and Infiltration is Estimated at This Percentage of Average Cost	50%
Average Fixed Cost per User per Month During Year Defined Above	$11.88	Resulting Cost of Inflow and Infiltration	$0
Average Variable Cost to Produce per 1,000 Gallons During Year Defined Above	$2.61	Test Year Customer Metered Volume, in Gallons	75,068,000
Gallons per Billing Cycle Used by Average Residential Customer	3,438	+ Test Year Inflow and Infiltration, in Gallons	0
		Total Test Year Volume, in Gallons, From Master Meter Readings	75,068,000

Table 10 - Initial Rate Adjustments and Resulting Revenues

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table calculates a new set of user charge rates and the revenues they would generate.

Out of City Multiplier	200%	Conservation Rate Block Multiplier	100%	Other Multiplier	100%

12/31/19 Date when fees will first be collected at adjusted rates. Actual adjustment should occur one billing cycle earlier.

If there are no special costs to consider and before capacity costs are added, if appropriate, rates for a 5/8" meter would be in a "cost to serve" structure when: there is no usage allowance,
the base minimum charge is $8.46 Monthly, and unit charge is $1.86 per 1,000 Gallons.

After rate adjustments are made, customers will be billed monthly.

Blended Sales Revenues: Sales at the current (Test Year) rates (gray highlighted column) will apply until rates are adjusted. Sales at the modeled rates (yellow highlighted column) would apply after the modeled rates are adopted. The "blended" sales revenues show in the right-most column.

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW10, SW10	0	999	$0	$8.46	0.000	$1.86	$55	$55
	1,000	1,999	$9,618	$8.46	0.000	$1.86	$55	$9,673
	2,000	2,999	$9,618	$8.46	0.000	$1.86	$55	$9,673
	3,000	3,999	$137,798	$8.46	0.000	$1.86	$272	$138,070
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW11, SW11	0	999	$0	$8.46	0.000	$1.86	$6	$6
	1,000	1,999	$1,131	$8.46	0.000	$1.86	$6	$1,137
	2,000	2,999	$1,131	$8.46	0.000	$1.86	$6	$1,137
	3,000	3,999	$16,089	$8.46	0.000	$1.86	$31	$16,121
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW31, SW31	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$65	$8.46	0.000	$1.86	$0	$65
	2,000	2,999	$65	$8.46	0.000	$1.86	$0	$65
	3,000	3,999	$65	$8.46	0.000	$1.86	$0	$65
	4,000	4,999	$65	$8.46	0.000	$1.86	$0	$65
	5,000	5,999	$65	$8.46	0.000	$1.86	$0	$65
	6,000	6,999	$65	$8.46	0.000	$1.86	$0	$65
	7,000	7,999	$65	$8.46	0.000	$1.86	$0	$65
	8,000	8,999	$65	$8.46	0.000	$1.86	$0	$65
	9,000	9,999	$65	$8.46	0.000	$1.86	$0	$65
	10,000	14,999	$1,108	$8.46	0.000	$1.86	$3	$1,111
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW32, SW32	0	999	$0	$8.46	0.000	$1.86	$1	$1
	1,000	1,999	$118	$8.46	0.000	$1.86	$1	$119
	2,000	2,999	$118	$8.46	0.000	$1.86	$1	$119
	3,000	3,999	$118	$8.46	0.000	$1.86	$1	$119
	4,000	4,999	$118	$8.46	0.000	$1.86	$1	$119
	5,000	5,999	$118	$8.46	0.000	$1.86	$1	$119
	6,000	6,999	$118	$8.46	0.000	$1.86	$1	$119
	7,000	7,999	$118	$8.46	0.000	$1.86	$1	$119
	8,000	8,999	$118	$8.46	0.000	$1.86	$1	$119
	9,000	9,999	$118	$8.46	0.000	$1.86	$1	$119
	10,000	14,999	$592	$8.46	0.000	$1.86	$3	$596
	15,000	19,999	$592	$8.46	0.000	$1.86	$3	$596
	20,000	24,999	$592	$8.46	0.000	$1.86	$3	$596
	25,000	29,999	$592	$8.46	0.000	$1.86	$3	$596
	30,000	34,999	$592	$8.46	0.000	$1.86	$3	$596
	35,000	44,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	45,000	54,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	55,000	64,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	65,000	74,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	75,000	84,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	85,000	94,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	95,000	104,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	105,000	114,999	$1,185	$8.46	0.000	$1.86	$7	$1,191
	115,000	124,999	$2,285	$8.46	0.000	$1.86	$7	$2,292
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW33, SW CUR 3	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$22	$8.46	0.000	$1.86	$0	$22
	2,000	2,999	$22	$8.46	0.000	$1.86	$0	$22
	3,000	3,999	$22	$8.46	0.000	$1.86	$0	$22
	4,000	4,999	$312	$8.46	0.000	$1.86	$1	$312
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW34, SW CUR 4	0	999	$0	$8.46	0.000	$1.86	$1	$1
	1,000	1,999	$205	$8.46	0.000	$1.86	$1	$206
	2,000	2,999	$205	$8.46	0.000	$1.86	$1	$206
	3,000	3,999	$205	$8.46	0.000	$1.86	$1	$206
	4,000	4,999	$205	$8.46	0.000	$1.86	$1	$206
	5,000	5,999	$205	$8.46	0.000	$1.86	$1	$206
	6,000	6,999	$205	$8.46	0.000	$1.86	$1	$206
	7,000	7,999	$205	$8.46	0.000	$1.86	$1	$206
	8,000	8,999	$205	$8.46	0.000	$1.86	$1	$206
	9,000	9,999	$205	$8.46	0.000	$1.86	$1	$206
	10,000	14,999	$1,023	$8.46	0.000	$1.86	$6	$1,029
	15,000	19,999	$1,023	$8.46	0.000	$1.86	$6	$1,029
	20,000	24,999	$2,854	$8.46	0.000	$1.86	$5	$2,859
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW35, SW CUR 5	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$0	$8.46	0.000	$1.86	$0	$0
	2,000	2,999	$0	$8.46	0.000	$1.86	$0	$0
	3,000	3,999	$0	$8.46	0.000	$1.86	$0	$0
	4,000	4,999	$0	$8.46	0.000	$1.86	$0	$0
	5,000	5,999	$0	$8.46	0.000	$1.86	$0	$0
	6,000	6,999	$0	$8.46	0.000	$1.86	$0	$0
	7,000	7,999	$0	$8.46	0.000	$1.86	$0	$0
	8,000	8,999	$0	$8.46	0.000	$1.86	$0	$0
	9,000	9,999	$0	$8.46	0.000	$1.86	$0	$0
	10,000	14,999	$0	$8.46	0.000	$1.86	$1	$1
	15,000	19,999	$0	$8.46	0.000	$1.86	$1	$1
	20,000	24,999	$0	$8.46	0.000	$1.86	$1	$1
	25,000	29,999	$0	$8.46	0.000	$1.86	$1	$1
	30,000	34,999	$0	$8.46	0.000	$1.86	$1	$1
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW36, SW CUR 6	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$22	$8.46	0.000	$1.86	$0	$22
	2,000	2,999	$22	$8.46	0.000	$1.86	$0	$22
	3,000	3,999	$22	$8.46	0.000	$1.86	$0	$22
	4,000	4,999	$22	$8.46	0.000	$1.86	$0	$22
	5,000	5,999	$22	$8.46	0.000	$1.86	$0	$22
	6,000	6,999	$22	$8.46	0.000	$1.86	$0	$22
	7,000	7,999	$22	$8.46	0.000	$1.86	$0	$22
	8,000	8,999	$22	$8.46	0.000	$1.86	$0	$22
	9,000	9,999	$22	$8.46	0.000	$1.86	$0	$22
	10,000	14,999	$345	$8.46	0.000	$1.86	$1	$346
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW38, SW CUR 8	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$22	$8.46	0.000	$1.86	$0	$22
	2,000	2,999	$22	$8.46	0.000	$1.86	$0	$22
	3,000	3,999	$22	$8.46	0.000	$1.86	$0	$22
	4,000	4,999	$22	$8.46	0.000	$1.86	$0	$22
	5,000	5,999	$22	$8.46	0.000	$1.86	$0	$22
	6,000	6,999	$22	$8.46	0.000	$1.86	$0	$22
	7,000	7,999	$22	$8.46	0.000	$1.86	$0	$22
	8,000	8,999	$22	$8.46	0.000	$1.86	$0	$22
	9,000	9,999	$22	$8.46	0.000	$1.86	$0	$22
	10,000	14,999	$108	$8.46	0.000	$1.86	$1	$108
	15,000	19,999	$108	$8.46	0.000	$1.86	$1	$108
	20,000	24,999	$108	$8.46	0.000	$1.86	$1	$108
	25,000	29,999	$108	$8.46	0.000	$1.86	$1	$108
	30,000	34,999	$108	$8.46	0.000	$1.86	$1	$108
	35,000	44,999	$215	$8.46	0.000	$1.86	$1	$217
	45,000	54,999	$215	$8.46	0.000	$1.86	$1	$217
	55,000	64,999	$215	$8.46	0.000	$1.86	$1	$217
	65,000	74,999	$215	$8.46	0.000	$1.86	$1	$217
	75,000	84,999	$215	$8.46	0.000	$1.86	$1	$217
	85,000	94,999	$215	$8.46	0.000	$1.86	$1	$217
	95,000	104,999	$215	$8.46	0.000	$1.86	$1	$217
	105,000	114,999	$320	$8.46	0.000	$1.86	$1	$320
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW39, SW CUR 9	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$22	$8.46	0.000	$1.86	$0	$22
	2,000	2,999	$22	$8.46	0.000	$1.86	$0	$22
	3,000	3,999	$22	$8.46	0.000	$1.86	$0	$22
	4,000	4,999	$22	$8.46	0.000	$1.86	$0	$22
	5,000	5,999	$22	$8.46	0.000	$1.86	$0	$22
	6,000	6,999	$309	$8.46	0.000	$1.86	$1	$310
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW41, SW CUR 18	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$11	$8.46	0.000	$1.86	$0	$11
	2,000	2,999	$11	$8.46	0.000	$1.86	$0	$11
	3,000	3,999	$11	$8.46	0.000	$1.86	$0	$11
	4,000	4,999	$11	$8.46	0.000	$1.86	$0	$11
	5,000	5,999	$11	$8.46	0.000	$1.86	$0	$11
	6,000	6,999	$11	$8.46	0.000	$1.86	$0	$11
	7,000	7,999	$11	$8.46	0.000	$1.86	$0	$11
	8,000	8,999	$11	$8.46	0.000	$1.86	$0	$11
	9,000	9,999	$11	$8.46	0.000	$1.86	$0	$11
	10,000	14,999	$54	$8.46	0.000	$1.86	$0	$54
	15,000	19,999	$54	$8.46	0.000	$1.86	$0	$54
	20,000	24,999	$54	$8.46	0.000	$1.86	$0	$54
	25,000	29,999	$54	$8.46	0.000	$1.86	$0	$54
	30,000	34,999	$54	$8.46	0.000	$1.86	$0	$54
	35,000	44,999	$108	$8.46	0.000	$1.86	$1	$108
	45,000	54,999	$108	$8.46	0.000	$1.86	$1	$108
	55,000	64,999	$108	$8.46	0.000	$1.86	$1	$108
	65,000	74,999	$108	$8.46	0.000	$1.86	$1	$108
	75,000	84,999	$108	$8.46	0.000	$1.86	$1	$108
	85,000	94,999	$108	$8.46	0.000	$1.86	$1	$108
	95,000	104,999	$237	$8.46	0.000	$1.86	$1	$237
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW43, SW CUR 11	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$11	$8.46	0.000	$1.86	$0	$11
	2,000	2,999	$11	$8.46	0.000	$1.86	$0	$11
	3,000	3,999	$11	$8.46	0.000	$1.86	$0	$11
	4,000	4,999	$11	$8.46	0.000	$1.86	$0	$11
	5,000	5,999	$11	$8.46	0.000	$1.86	$0	$11
	6,000	6,999	$11	$8.46	0.000	$1.86	$0	$11
	7,000	7,999	$11	$8.46	0.000	$1.86	$0	$11
	8,000	8,999	$11	$8.46	0.000	$1.86	$0	$11
	9,000	9,999	$11	$8.46	0.000	$1.86	$0	$11
	10,000	14,999	$54	$8.46	0.000	$1.86	$0	$54
	15,000	19,999	$54	$8.46	0.000	$1.86	$0	$54
	20,000	24,999	$54	$8.46	0.000	$1.86	$0	$54
	25,000	29,999	$54	$8.46	0.000	$1.86	$0	$54
	30,000	34,999	$54	$8.46	0.000	$1.86	$0	$54
	35,000	44,999	$108	$8.46	0.000	$1.86	$1	$108
	45,000	54,999	$108	$8.46	0.000	$1.86	$1	$108
	55,000	64,999	$108	$8.46	0.000	$1.86	$1	$108
	65,000	74,999	$108	$8.46	0.000	$1.86	$1	$108
	75,000	84,999	$108	$8.46	0.000	$1.86	$1	$108
	85,000	94,999	$108	$8.46	0.000	$1.86	$1	$108
	95,000	104,999	$210	$8.46	0.000	$1.86	$1	$210
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW62, SW AVG 2	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$54	$8.46	0.000	$1.86	$0	$54
	2,000	2,999	$54	$8.46	0.000	$1.86	$0	$54
	3,000	3,999	$54	$8.46	0.000	$1.86	$0	$54
	4,000	4,999	$54	$8.46	0.000	$1.86	$0	$54
	5,000	5,999	$756	$8.46	0.000	$1.86	$1	$757
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW63, SW AVG 3	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$32	$8.46	0.000	$1.86	$0	$32
	2,000	2,999	$32	$8.46	0.000	$1.86	$0	$32
	3,000	3,999	$32	$8.46	0.000	$1.86	$0	$32
	4,000	4,999	$32	$8.46	0.000	$1.86	$0	$32
	5,000	5,999	$467	$8.46	0.000	$1.86	$1	$468
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW64, SW AVG 4	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$22	$8.46	0.000	$1.86	$0	$22
	2,000	2,999	$22	$8.46	0.000	$1.86	$0	$22
	3,000	3,999	$22	$8.46	0.000	$1.86	$0	$22
	4,000	4,999	$22	$8.46	0.000	$1.86	$0	$22
	5,000	5,999	$22	$8.46	0.000	$1.86	$0	$22
	6,000	6,999	$22	$8.46	0.000	$1.86	$0	$22
	7,000	7,999	$22	$8.46	0.000	$1.86	$0	$22
	8,000	8,999	$22	$8.46	0.000	$1.86	$0	$22
	9,000	9,999	$22	$8.46	0.000	$1.86	$0	$22
	10,000	14,999	$375	$8.46	0.000	$1.86	$1	$376
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW68, SW AVG 8	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$11	$8.46	0.000	$1.86	$0	$11
	2,000	2,999	$11	$8.46	0.000	$1.86	$0	$11
	3,000	3,999	$11	$8.46	0.000	$1.86	$0	$11
	4,000	4,999	$11	$8.46	0.000	$1.86	$0	$11
	5,000	5,999	$11	$8.46	0.000	$1.86	$0	$11
	6,000	6,999	$11	$8.46	0.000	$1.86	$0	$11
	7,000	7,999	$11	$8.46	0.000	$1.86	$0	$11
	8,000	8,999	$11	$8.46	0.000	$1.86	$0	$11
	9,000	9,999	$11	$8.46	0.000	$1.86	$0	$11
	10,000	14,999	$54	$8.46	0.000	$1.86	$0	$54
	15,000	19,999	$54	$8.46	0.000	$1.86	$0	$54
	20,000	24,999	$54	$8.46	0.000	$1.86	$0	$54
	25,000	29,999	$54	$8.46	0.000	$1.86	$0	$54
	30,000	34,999	$54	$8.46	0.000	$1.86	$0	$54
	35,000	44,999	$233	$8.46	0.000	$1.86	$1	$234
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW69, SW AVG 9	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$11	$8.46	0.000	$1.86	$0	$11
	2,000	2,999	$11	$8.46	0.000	$1.86	$0	$11
	3,000	3,999	$11	$8.46	0.000	$1.86	$0	$11
	4,000	4,999	$11	$8.46	0.000	$1.86	$0	$11
	5,000	5,999	$11	$8.46	0.000	$1.86	$0	$11
	6,000	6,999	$11	$8.46	0.000	$1.86	$0	$11
	7,000	7,999	$11	$8.46	0.000	$1.86	$0	$11
	8,000	8,999	$11	$8.46	0.000	$1.86	$0	$11
	9,000	9,999	$11	$8.46	0.000	$1.86	$0	$11
	10,000	14,999	$54	$8.46	0.000	$1.86	$0	$54
	15,000	19,999	$54	$8.46	0.000	$1.86	$0	$54
	20,000	24,999	$154	$8.46	0.000	$1.86	$0	$154
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
SW70, SW AVG 33	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$22	$8.46	0.000	$1.86	$0	$22
	2,000	2,999	$22	$8.46	0.000	$1.86	$0	$22
	3,000	3,999	$22	$8.46	0.000	$1.86	$0	$22
	4,000	4,999	$22	$8.46	0.000	$1.86	$0	$22
	5,000	5,999	$22	$8.46	0.000	$1.86	$0	$22
	6,000	6,999	$22	$8.46	0.000	$1.86	$0	$22
	7,000	7,999	$22	$8.46	0.000	$1.86	$0	$22
	8,000	8,999	$22	$8.46	0.000	$1.86	$0	$22
	9,000	9,999	$22	$8.46	0.000	$1.86	$0	$22
	10,000	14,999	$108	$8.46	0.000	$1.86	$1	$108
	15,000	19,999	$108	$8.46	0.000	$1.86	$1	$108
	20,000	24,999	$108	$8.46	0.000	$1.86	$1	$108
	25,000	29,999	$356	$8.46	0.000	$1.86	$1	$357
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW72, SW AVG 24	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$32	$8.46	0.000	$1.86	$0	$32
	2,000	2,999	$32	$8.46	0.000	$1.86	$0	$32
	3,000	3,999	$32	$8.46	0.000	$1.86	$0	$32
	4,000	4,999	$32	$8.46	0.000	$1.86	$0	$32
	5,000	5,999	$32	$8.46	0.000	$1.86	$0	$32
	6,000	6,999	$32	$8.46	0.000	$1.86	$0	$32
	7,000	7,999	$32	$8.46	0.000	$1.86	$0	$32
	8,000	8,999	$32	$8.46	0.000	$1.86	$0	$32
	9,000	9,999	$32	$8.46	0.000	$1.86	$0	$32
	10,000	14,999	$162	$8.46	0.000	$1.86	$1	$162
	15,000	19,999	$162	$8.46	0.000	$1.86	$1	$162
	20,000	24,999	$162	$8.46	0.000	$1.86	$1	$162
	25,000	29,999	$162	$8.46	0.000	$1.86	$1	$162
	30,000	34,999	$162	$8.46	0.000	$1.86	$1	$162
	35,000	44,999	$323	$8.46	0.000	$1.86	$2	$325
	45,000	54,999	$592	$8.46	0.000	$1.86	$2	$594
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW73, SW AVG 42	0	999	$0	$8.46	0.000	$1.86	$0	$0
	1,000	1,999	$11	$8.46	0.000	$1.86	$0	$11
	2,000	2,999	$11	$8.46	0.000	$1.86	$0	$11
	3,000	3,999	$11	$8.46	0.000	$1.86	$0	$11
	4,000	4,999	$11	$8.46	0.000	$1.86	$0	$11
	5,000	5,999	$11	$8.46	0.000	$1.86	$0	$11
	6,000	6,999	$11	$8.46	0.000	$1.86	$0	$11
	7,000	7,999	$11	$8.46	0.000	$1.86	$0	$11
	8,000	8,999	$11	$8.46	0.000	$1.86	$0	$11
	9,000	9,999	$11	$8.46	0.000	$1.86	$0	$11
	10,000	14,999	$54	$8.46	0.000	$1.86	$0	$54
	15,000	19,999	$54	$8.46	0.000	$1.86	$0	$54
	20,000	24,999	$54	$8.46	0.000	$1.86	$0	$54
	25,000	29,999	$54	$8.46	0.000	$1.86	$0	$54
	30,000	34,999	$54	$8.46	0.000	$1.86	$0	$54
	35,000	44,999	$108	$8.46	0.000	$1.86	$1	$108
	45,000	54,999	$108	$8.46	0.000	$1.86	$1	$108
	55,000	64,999	$108	$8.46	0.000	$1.86	$1	$108
	65,000	74,999	$108	$8.46	0.000	$1.86	$1	$108
	75,000	84,999	$108	$8.46	0.000	$1.86	$1	$108
	85,000	94,999	$108	$8.46	0.000	$1.86	$1	$108
	95,000	104,999	$108	$8.46	0.000	$1.86	$1	$108
	105,000	114,999	$108	$8.46	0.000	$1.86	$1	$108
	115,000	124,999	$108	$8.46	0.000	$1.86	$1	$108
	125,000	134,999	$108	$8.46	0.000	$1.86	$1	$108
	135,000	144,999	$108	$8.46	0.000	$1.86	$1	$108
	145,000	1,000,000	$623	$8.46	0.000	$1.86	$3	$626
SW99, SW NO BILL	0	999	$150	$8.46	0.000	$1.86	$0	$150
	145,000	1,000,000	$0	$8.46	0.000	$1.86	$0	$0
Total Rate Revenue at Current Rates			$214,275	Total Rate Revenue at Modeled Rates			$679	
						Total Blended Rate Revenues for the Year		$214,954

Note: New Minimum Charge Base Rates: If meter size-based minimum charges are to be used, and the user classes modeled above include meter or connection sizes, the amounts shown in this column include meter size surcharges as calculated in Table 16. Either way, the narrative report includes the rates and surcharges to assess.

12.0	months at the old user charge rates	and	0.0	months at the new user charge rates.

Table 17 - Financial Capacity Indicators and Reserves

Council Grove, Kansas; Sewer Rates, Model 2019-2

This table depicts the affordability of future rates, the financial health of the system and the ending balances in various (assumed) accounts for the test year and the next 10 years.

Capacity Indicators	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Customary Affordability Index: Monthly Bill for a 5,000 gal per Month, Small Meter Residential Customer	$16.10	$17.76	$18.29	$18.84	$19.40	$19.99	$20.58	$21.20	$21.84	$22.49	$23.17	$23.86
AMHI Within Service Area	$40,050	$40,872	$41,710	$42,566	$43,440	$44,332	$45,241	$46,170	$47,117	$48,084	$49,071	$50,078
Affordability Index: Current Rates First Column, Modeled Rates After That	0.48%	0.52%	0.53%	0.53%	0.54%	0.54%	0.55%	0.55%	0.56%	0.56%	0.57%	0.57%
Affordability Index (AI) goes to the willingness and ability of customers to pay. AI is the cost of 60,000 gallons of residential service per year (5,000 gallons per month) divided by the Annual Median Household Income (AMHI) in the service area (gleaned from Census data or a survey). Rates near 1.0% are common in the U.S. and are generally considered affordable. Most grant agencies will not consider awarding grants if this indicator is less than 1.5 to 2.0%.												
Low-income, Low-volume Affordability Index: Monthly Bill for a 2,000 gal per Month, Low-income Residential Customer	$13.40	$12.18	$12.54	$12.92	$13.31	$13.70	$14.12	$14.54	$14.98	$15.42	$15.89	$16.36
Income at One-half the AMHI and Rising at One-half the Rate Above	$20,025	$20,230	$20,438	$20,648	$20,860	$21,074	$21,290	$21,508	$21,729	$21,952	$22,177	$22,405
Affordability for Low-income, Low-volume: Current Rates First Column, Modeled Rates After That	0.80%	0.72%	0.74%	0.75%	0.77%	0.78%	0.80%	0.81%	0.83%	0.84%	0.86%	0.88%
This additional indicator of affordability assumes a residential customer with income at one-half of the median household income above, that income is growing at one-half the rate of the median household income and the customer uses 2,000 gallons per month. Such a customer is likely either a minimum wage or near-minimum wage worker, or is retired and living only on Social Security benefits. Such customers are more commonly the "slow pays" and "no pays" compared to others.												
Estimated Operating Ratio: Current Rates First Column, Modeled Rates After That	2.39	2.20	1.55	1.57	1.52	1.58	1.58	1.54	1.59	1.60	1.55	1.61
Operating ratio (OR) is a measure of the utility's ability to pay its operating expenses using only current incomes. A 1.0 OR is break even. Below 1.0 indicates operating in the "red." Generally, the OR should be at least 1.15 for large systems, 1.30 or more for medium-sized systems and perhaps as high as 2.0 for small systems. Note: If the utility has or will have reserves (below,) it has more ability to pay its operating costs than the OR implies.												
Estimated Coverage Ratio: Current Rates First Column, Modeled Rates After That	N.A.	N.A.	N.A.	0.99	0.88	0.75	0.76	0.69	0.80	0.77	0.73	0.81
Coverage Ratio (CR) goes to the ability of the utility to pay its debt payments out of current incomes. OR applies only to years with debt service. 1.0 is break even. Generally, the CR should be at least 1.25. Note: If the utility has or will have reserves (shown below,) it has more ability to make debt payments than the CR implies.												

Reserves	Balance Ending on 12/31/18	Balance Ending on 12/31/19	Balance Ending on 12/31/20	Balance Ending on 12/31/21	Balance Ending on 12/31/22	Balance Ending on 12/31/23	Balance Ending on 12/31/24	Balance Ending on 12/31/25	Balance Ending on 12/31/26	Balance Ending on 12/31/27	Balance Ending on 12/31/28	Balance Ending on 12/31/29
Cash and Cash Equivalents	$50,377	$54,710	$89,417	$93,840	$99,542	$99,135	$101,904	$108,167	$107,694	$110,721	$117,601	$117,053
Other Liquid Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Undedicated Cash Assets	$50,377	$54,710	$89,417	$93,840	$99,542	$99,135	$101,904	$108,167	$107,694	$110,721	$117,601	$117,053
Total Cash Assets Discounted for Inflation (Future Unrestricted Purchasing Power)	$50,377	$54,710	$86,735	$88,294	$90,849	$87,764	$87,508	$90,100	$87,015	$86,777	$89,404	$88,988
Repair & Replacement	$0	-$62,794	-$49,615	-$36,192	-$22,523	-$8,602	$2,590	$16,968	-$19,062	-$5,166	$8,982	$23,387
Debt and CIP Reserves	$212,452	$343,907	$414,036	$420,930	$416,203	$386,664	$357,617	$314,812	$289,325	$256,779	$217,109	$188,453
Sum of All Reserves	$262,829	$335,823	$453,838	$478,577	$493,221	$477,197	$462,111	$439,946	$377,957	$362,334	$343,691	$328,893

Table 18 - Bills Before and After Rate Adjustments

Council Grove, Kansas; Sewer Rates, Model 2019-2

Revenue increase to be generated by the modeled rates 15.3%

If applicable, the revenue increase above includes meter size-based minimum charges calculated in Table 15. If rate classes shown below do not include meter size, the modeled bills below do not include those surcharges.

To reduce confusion, this table shows only example customer bills.

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW10, SW10	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	893	893	$14.30	$14.04	-$0.26
	4,000	0	893	$15.20	$15.90	$0.70
	5,000	0	893	$16.10	$17.76	$1.66
	6,000	0	893	$17.00	$19.62	$2.62
	7,000	0	893	$17.90	$21.48	$3.58
	8,000	0	893	$18.80	$23.34	$4.54
	9,000	0	893	$19.70	$25.20	$5.50
	10,000	0	893	$20.60	$27.06	$6.46
	15,000	0	893	$25.10	$36.36	$11.26
	20,000	0	893	$29.60	$45.66	$16.06
	145,000	0	893	$142.10	$278.16	$136.06
SW11, SW11	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	105	105	$14.30	$14.04	-$0.26
	4,000	0	105	$15.20	$15.90	$0.70
	5,000	0	105	$16.10	$17.76	$1.66
	6,000	0	105	$17.00	$19.62	$2.62
	7,000	0	105	$17.90	$21.48	$3.58
	8,000	0	105	$18.80	$23.34	$4.54
	9,000	0	105	$19.70	$25.20	$5.50
	10,000	0	105	$20.60	$27.06	$6.46
	15,000	0	105	$25.10	$36.36	$11.26
	20,000	0	105	$29.60	$45.66	$16.06
	145,000	0	105	$142.10	$278.16	$136.06

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW31, SW31	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	6	6	$20.60	$27.06	$6.46
	15,000	0	6	$25.10	$36.36	$11.26
	20,000	0	6	$29.60	$45.66	$16.06
	145,000	0	6	$142.10	$278.16	$136.06
SW32, SW32	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	75,000	0	0	$79.10	$147.96	$68.86
	85,000	0	0	$88.10	$166.56	$78.46
	95,000	0	0	$97.10	$185.16	$88.06
	105,000	0	0	$106.10	$203.76	$97.66
	115,000	11	11	$115.10	$222.36	$107.26
	125,000	0	11	$124.10	$240.96	$116.86
	135,000	0	11	$133.10	$259.56	$126.46
	145,000	0	11	$142.10	$278.16	$136.06

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW33, SW CUR 3	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	2	2	$15.20	$15.90	$0.70
	5,000	0	2	$16.10	$17.76	$1.66
	6,000	0	2	$17.00	$19.62	$2.62
	7,000	0	2	$17.90	$21.48	$3.58
	8,000	0	2	$18.80	$23.34	$4.54
	9,000	0	2	$19.70	$25.20	$5.50
	10,000	0	2	$20.60	$27.06	$6.46
	15,000	0	2	$25.10	$36.36	$11.26
	20,000	0	2	$29.60	$45.66	$16.06
	145,000	0	2	$142.10	$278.16	$136.06
SW34, SW CUR 4	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	0	0	$20.60	$27.06	$6.46
	15,000	0	0	$25.10	$36.36	$11.26
	20,000	19	19	$29.60	$45.66	$16.06
	25,000	0	19	$34.10	$54.96	$20.86
	30,000	0	19	$38.60	$64.26	$25.66
	35,000	0	19	$43.10	$73.56	$30.46
	45,000	0	19	$52.10	$92.16	$40.06
	145,000	0	19	$142.10	$278.16	$136.06
SW35, SW CUR 5	0	0	0	$0.00	$8.46	$8.46
	1,000	0	0	$0.00	$10.32	$10.32
	10,000	0	0	$0.00	$27.06	$27.06
	15,000	0	0	$0.00	$36.36	$36.36
	20,000	0	0	$0.00	$45.66	$45.66
	25,000	0	0	$0.00	$54.96	$54.96
	30,000	2	2	$0.00	$64.26	$64.26
	35,000	0	2	$0.00	$73.56	$73.56
	45,000	0	2	$0.00	$92.16	$92.16
	145,000	0	2	$0.00	$278.16	$278.16

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW36, SW CUR 6	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	2	2	$20.60	$27.06	$6.46
	15,000	0	2	$25.10	$36.36	$11.26
	20,000	0	2	$29.60	$45.66	$16.06
	145,000	0	2	$142.10	$278.16	$136.06
SW38, SW CUR 8	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	75,000	0	0	$79.10	$147.96	$68.86
	85,000	0	0	$88.10	$166.56	$78.46
	95,000	0	0	$97.10	$185.16	$88.06
	105,000	2	2	$106.10	$203.76	$97.66
	115,000	0	2	$115.10	$222.36	$107.26
	125,000	0	2	$124.10	$240.96	$116.86
	135,000	0	2	$133.10	$259.56	$126.46
	145,000	0	2	$142.10	$278.16	$136.06
SW39, SW CUR 9	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	2	2	$17.00	$19.62	$2.62
	7,000	0	2	$17.90	$21.48	$3.58
	8,000	0	2	$18.80	$23.34	$4.54
	9,000	0	2	$19.70	$25.20	$5.50
	10,000	0	2	$20.60	$27.06	$6.46
	15,000	0	2	$25.10	$36.36	$11.26
	20,000	0	2	$29.60	$45.66	$16.06
	145,000	0	2	$142.10	$278.16	$136.06

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW41, SW CUR 18	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	75,000	0	0	$79.10	$147.96	$68.86
	85,000	0	0	$88.10	$166.56	$78.46
	95,000	1	1	$97.10	$185.16	$88.06
	105,000	0	1	$106.10	$203.76	$97.66
	115,000	0	1	$115.10	$222.36	$107.26
	125,000	0	1	$124.10	$240.96	$116.86
	135,000	0	1	$133.10	$259.56	$126.46
	145,000	0	1	$142.10	$278.16	$136.06
SW43, SW CUR 11	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	75,000	0	0	$79.10	$147.96	$68.86
	85,000	0	0	$88.10	$166.56	$78.46
	95,000	1	1	$97.10	$185.16	$88.06
	105,000	0	1	$106.10	$203.76	$97.66
	115,000	0	1	$115.10	$222.36	$107.26
	125,000	0	1	$124.10	$240.96	$116.86
	135,000	0	1	$133.10	$259.56	$126.46
	145,000	0	1	$142.10	$278.16	$136.06
SW62, SW AVG 2	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	5	5	$16.10	$17.76	$1.66
	6,000	0	5	$17.00	$19.62	$2.62
	7,000	0	5	$17.90	$21.48	$3.58
	8,000	0	5	$18.80	$23.34	$4.54
	9,000	0	5	$19.70	$25.20	$5.50
	10,000	0	5	$20.60	$27.06	$6.46
	15,000	0	5	$25.10	$36.36	$11.26
	20,000	0	5	$29.60	$45.66	$16.06
	145,000	0	5	$142.10	$278.16	$136.06

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW63, SW AVG 3	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	3	3	$16.10	$17.76	$1.66
	6,000	0	3	$17.00	$19.62	$2.62
	7,000	0	3	$17.90	$21.48	$3.58
	8,000	0	3	$18.80	$23.34	$4.54
	9,000	0	3	$19.70	$25.20	$5.50
	10,000	0	3	$20.60	$27.06	$6.46
	15,000	0	3	$25.10	$36.36	$11.26
	20,000	0	3	$29.60	$45.66	$16.06
	145,000	0	3	$142.10	$278.16	$136.06
SW64, SW AVG 4	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	2	2	$20.60	$27.06	$6.46
	15,000	0	2	$25.10	$36.36	$11.26
	20,000	0	2	$29.60	$45.66	$16.06
	145,000	0	2	$142.10	$278.16	$136.06

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW68, SW AVG 8	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	0	0	$20.60	$27.06	$6.46
	15,000	0	0	$25.10	$36.36	$11.26
	20,000	0	0	$29.60	$45.66	$16.06
	25,000	0	0	$34.10	$54.96	$20.86
	30,000	0	0	$38.60	$64.26	$25.66
	35,000	1	1	$43.10	$73.56	$30.46
	45,000	0	1	$52.10	$92.16	$40.06
	55,000	0	1	$61.10	$110.76	$49.66
	145,000	0	1	$142.10	$278.16	$136.06
SW69, SW AVG 9	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	0	0	$20.60	$27.06	$6.46
	15,000	0	0	$25.10	$36.36	$11.26
	20,000	1	1	$29.60	$45.66	$16.06
	25,000	0	1	$34.10	$54.96	$20.86
	145,000	0	1	$142.10	$278.16	$136.06
SW70, SW AVG 33	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	20,000	0	0	$29.60	$45.66	$16.06
	25,000	2	2	$34.10	$54.96	$20.86
	30,000	0	2	$38.60	$64.26	$25.66
	35,000	0	2	$43.10	$73.56	$30.46
	145,000	0	2	$142.10	$278.16	$136.06

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW72, SW AVG 24	0	0	0	$12.50	$8.46	-$4.04
	1,000	0	0	$12.50	$10.32	-$2.18
	2,000	0	0	$13.40	$12.18	-$1.22
	3,000	0	0	$14.30	$14.04	-$0.26
	4,000	0	0	$15.20	$15.90	$0.70
	5,000	0	0	$16.10	$17.76	$1.66
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	30,000	0	0	$38.60	$64.26	$25.66
	35,000	0	0	$43.10	$73.56	$30.46
	45,000	3	3	$52.10	$92.16	$40.06
	55,000	0	3	$61.10	$110.76	$49.66
	145,000	0	3	$142.10	$278.16	$136.06
SW73, SW AVG 42	0	0	0	$12.50	$8.46	-$4.04
	6,000	0	0	$17.00	$19.62	$2.62
	7,000	0	0	$17.90	$21.48	$3.58
	8,000	0	0	$18.80	$23.34	$4.54
	9,000	0	0	$19.70	$25.20	$5.50
	10,000	0	0	$20.60	$27.06	$6.46
	15,000	0	0	$25.10	$36.36	$11.26
	20,000	0	0	$29.60	$45.66	$16.06
	115,000	0	0	$115.10	$222.36	$107.26
	125,000	0	0	$124.10	$240.96	$116.86
	135,000	0	0	$133.10	$259.56	$126.46
	145,000	1	1	$142.10	$278.16	$136.06
SW99, SW NO BILL	0	1	1	$12.50	$8.46	-$4.04
	1,000	0	1	$12.50	$10.32	-$2.18
	2,000	0	1	$13.40	$12.18	-$1.22
	3,000	0	1	$14.30	$14.04	-$0.26
	4,000	0	1	$15.20	$15.90	$0.70
	5,000	0	1	$16.10	$17.76	$1.66
	6,000	0	1	$17.00	$19.62	$2.62
	7,000	0	1	$17.90	$21.48	$3.58
	8,000	0	1	$18.80	$23.34	$4.54
	9,000	0	1	$19.70	$25.20	$5.50
	10,000	0	1	$20.60	$27.06	$6.46
	15,000	0	1	$25.10	$36.36	$11.26
	20,000	0	1	$29.60	$45.66	$16.06
	145,000	0	1	$142.10	$278.16	$136.06

Table 19 - User Statistics
Council Grove, Kansas; Sewer Rates, Model 2019-2

This table shows measures of equitability, or "fairness," of the rates as modeled in Table 10. If debt, capacity or other surcharges were also calculated but not included in Table 10, this table does not take those fees into account.

If your rates were based only on volume of service, your % of Usage and % of Revenues figures would be the same within all the classes. While rates are not set up that way, it is still useful to make comparisons on that basis. This table does that, among other things.

Normally, the % of usage figure will be lower than the % of revenue for the lower volumes of use. That will switch for the higher volumes of use. Even for declining rate structures, this switch should occur near the volume of the average residential user, typically near 5,000 gallons/month (668 cu ft).

In urban and suburban areas the average monthly use for residential or general customers can be twice that used by their rural and "old town" counterparts. Use is largely dependent upon who lives in a community. Older people living in longer established neighborhoods tend to use less volume than younger people living in more recently developed areas. As you make comparisons between different customers and customer classes, keep that, and the following statistics about your rates in mind:

3,438	Gallons: This is the average residential customer's usage per Monthly billing cycle.

Usage allowance is the volume "given away" with the minimum charge. The higher the allowance, the less volume the utility can sell to generate income.

75,068,000	Gallons: The volume metered through customer meters that was available to be sold during the test year.
12,768,000	Gallons: The volume given away as a usage allowance during the test year.
$11,470	Revenue Loss: At the unit charge rate in effect during the test year, revenue lost due to the usage allowance.
$0	Revenue Loss: At the modeled unit charge rates and usage allowance (if any), revenue lost due to the usage allowance.

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW10, SW10	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	8.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	4.5%	8.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	4.5%	8.0%
	3,000	3,999	36,844,000	893.0	100.0%	100.0%	83.8%	49.1%	64.3%	40.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		36,844,000	893.0			83.8%	49.1%	73.3%	64.3%
SW11, SW11	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.9%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.5%	0.9%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.5%	0.9%
	3,000	3,999	4,206,000	105.0	100.0%	100.0%	9.9%	5.6%	7.5%	4.6%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		4,206,000	105.0			9.9%	5.6%	8.6%	7.5%
SW31, SW31	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	10,000	14,999	955,000	6.0	100.0%	100.0%	0.6%	1.3%	0.5%	0.4%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		955,000	6.0			0.6%	1.3%	0.8%	1.0%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW32, SW32	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.3%	0.5%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.3%	0.5%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.3%	0.5%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.3%	0.5%
	30,000	34,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.3%	0.5%
	35,000	44,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	45,000	54,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	55,000	64,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	65,000	74,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	75,000	84,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	85,000	94,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	95,000	104,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	105,000	114,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.6%	1.0%
	115,000	124,999	15,893,000	11.0	100.0%	100.0%	1.0%	21.2%	1.1%	1.0%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		15,893,000	11.0			1.0%	21.2%	7.4%	12.4%
SW33, SW CUR 3	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	110,000	2.0	100.0%	100.0%	0.2%	0.1%	0.1%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		110,000	2.0			0.2%	0.1%	0.2%	0.2%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW34, SW CUR 4	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.2%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.5%	0.9%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.5%	0.9%
	20,000	24,999	4,573,000	19.0	100.0%	100.0%	1.8%	6.1%	1.3%	0.8%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		4,573,000	19.0			1.8%	6.1%	3.1%	4.2%
SW35, SW CUR 5	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
	30,000	34,999	753,000	2.0	100.0%	100.0%	0.2%	1.0%	0.0%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		753,000	2.0			0.2%	1.0%	0.0%	0.6%
SW36, SW CUR 6	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	291,000	2.0	100.0%	100.0%	0.2%	0.4%	0.2%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		291,000	2.0			0.2%	0.4%	0.3%	0.3%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW38, SW CUR 8	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	30,000	34,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	35,000	44,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	45,000	54,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	55,000	64,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	65,000	74,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	75,000	84,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	85,000	94,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	95,000	104,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.2%
	105,000	114,999	2,543,000	2.0	100.0%	100.0%	0.2%	3.4%	0.1%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		2,543,000	2.0			0.2%	3.4%	1.2%	2.0%
SW39, SW CUR 9	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	155,000	2.0	100.0%	100.0%	0.2%	0.2%	0.1%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		155,000	2.0			0.2%	0.2%	0.2%	0.2%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW41, SW CUR 18	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	30,000	34,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	35,000	44,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	45,000	54,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	55,000	64,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	65,000	74,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	75,000	84,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	85,000	94,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	95,000	104,999	1,237,000	1.0	100.0%	100.0%	0.1%	1.6%	0.1%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		1,237,000	1.0			0.1%	1.6%	0.6%	1.0%
SW43, SW CUR 11	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	30,000	34,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	35,000	44,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	45,000	54,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	55,000	64,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	65,000	74,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	75,000	84,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	85,000	94,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	95,000	104,999	1,207,000	1.0	100.0%	100.0%	0.1%	1.6%	0.1%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		1,207,000	1.0			0.1%	1.6%	0.6%	0.9%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW62, SW AVG 2	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	309,000	5.0	100.0%	100.0%	0.5%	0.4%	0.4%	0.2%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		309,000	5.0			0.5%	0.4%	0.5%	0.4%
SW63, SW AVG 3	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	200,000	3.0	100.0%	100.0%	0.3%	0.3%	0.2%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		200,000	3.0			0.3%	0.3%	0.3%	0.3%
SW64, SW AVG 4	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	324,000	2.0	100.0%	100.0%	0.2%	0.4%	0.2%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		324,000	2.0			0.2%	0.4%	0.3%	0.3%
SW68, SW AVG 8	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	30,000	34,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	35,000	44,999	513,000	1.0	100.0%	100.0%	0.1%	0.7%	0.1%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		513,000	1.0			0.1%	0.7%	0.3%	0.4%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW69, SW AVG 9	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	20,000	24,999	245,000	1.0	100.0%	100.0%	0.1%	0.3%	0.1%	0.0%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		245,000	1.0			0.1%	0.3%	0.2%	0.2%
SW70, SW AVG 33	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	25,000	29,999	663,000	2.0	100.0%	100.0%	0.2%	0.9%	0.2%	0.1%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		663,000	2.0			0.2%	0.9%	0.4%	0.6%

Table 19 - User Statistics

Customer, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Use in Each Range in Gallons	Customers Within This Range	Cumulative Use % in This Class From Low to High	Cumulative Use % in This Class From High to Low	% Users	% Use	% Revenue at Current Rates	% Revenue at Modeled Rates
SW72, SW AVG 24	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	1,000	1,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	2,000	2,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	3,000	3,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	4,000	4,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	5,000	5,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	6,000	6,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	7,000	7,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	8,000	8,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	9,000	9,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	10,000	14,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	15,000	19,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	20,000	24,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	25,000	29,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	30,000	34,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	35,000	44,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.2%	0.3%
	45,000	54,999	1,780,000	3.0	100.0%	100.0%	0.3%	2.4%	0.3%	0.2%
	145,000	1,000,000	0	0.0	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		1,780,000	3.0			0.3%	2.4%	0.9%	1.5%
SW73, SW AVG 42	0	999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	35,000	44,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	45,000	54,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	55,000	64,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	65,000	74,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	75,000	84,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	85,000	94,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	95,000	104,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	105,000	114,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	115,000	124,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	125,000	134,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	135,000	144,999	0	0.0	0.0%	100.0%	0.0%	0.0%	0.1%	0.1%
	145,000	1,000,000	2,267,000	1.0	100.0%	100.0%	0.1%	3.0%	0.3%	0.4%
	Totals for Class		2,267,000	1.0			0.1%	3.0%	1.0%	1.7%
SW99, SW NO BILL	0	999	0	1.0	0.0%	100.0%	0.1%	0.0%	0.1%	0.0%
	145,000	1,000,000	0	0.0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
	Totals for Class		0	1.0			0.1%	0.0%	0.1%	0.0%
	Grand Totals		74,405,000				99.81%	99.12%	99.59%	99.42%

Chart 1 - Operating Ratio

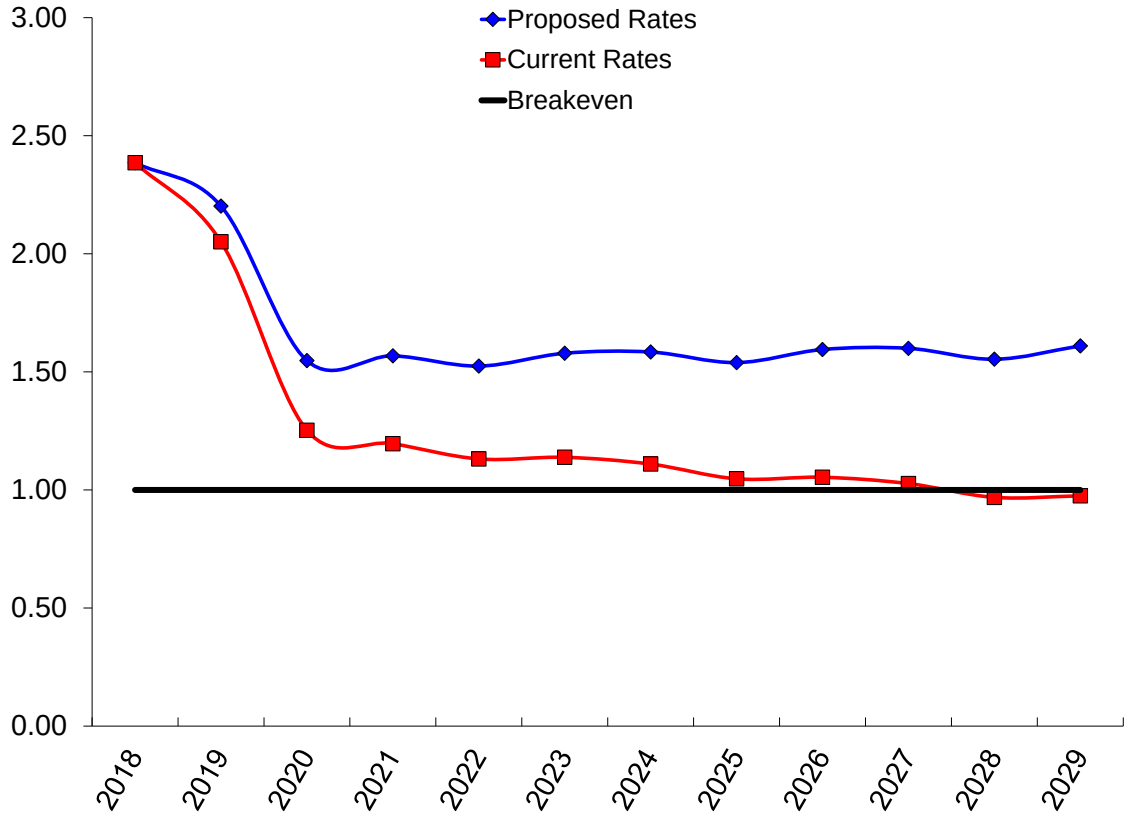


Chart 2 - Coverage Ratio

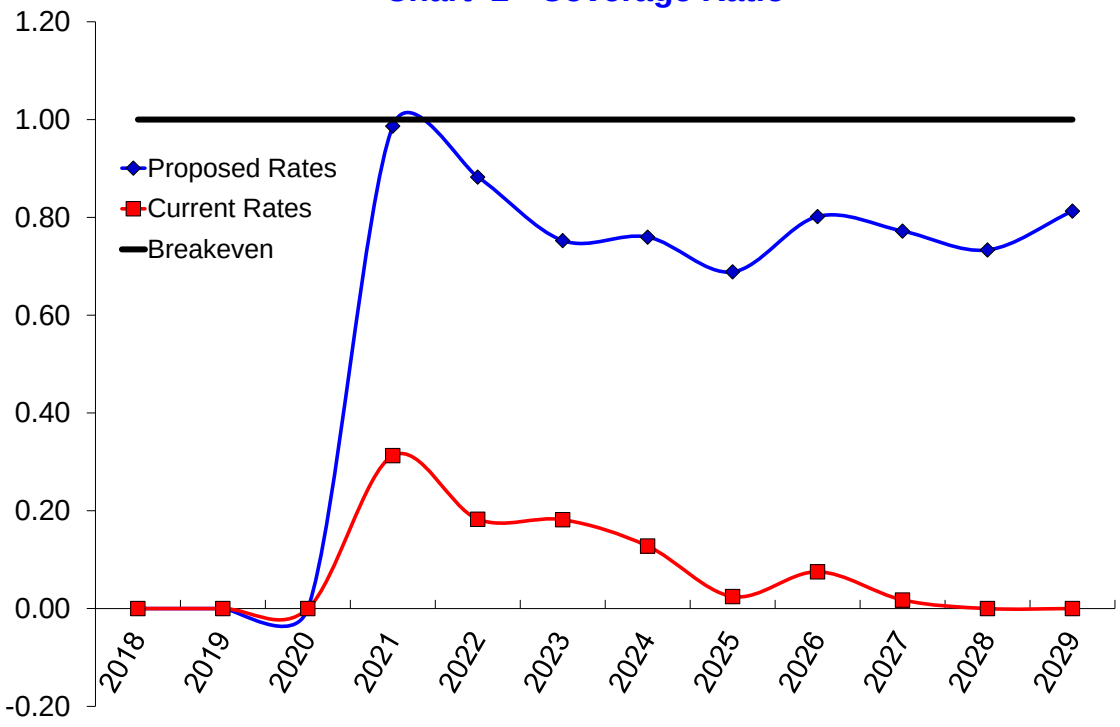


Chart 3 - Residential Users' Bills

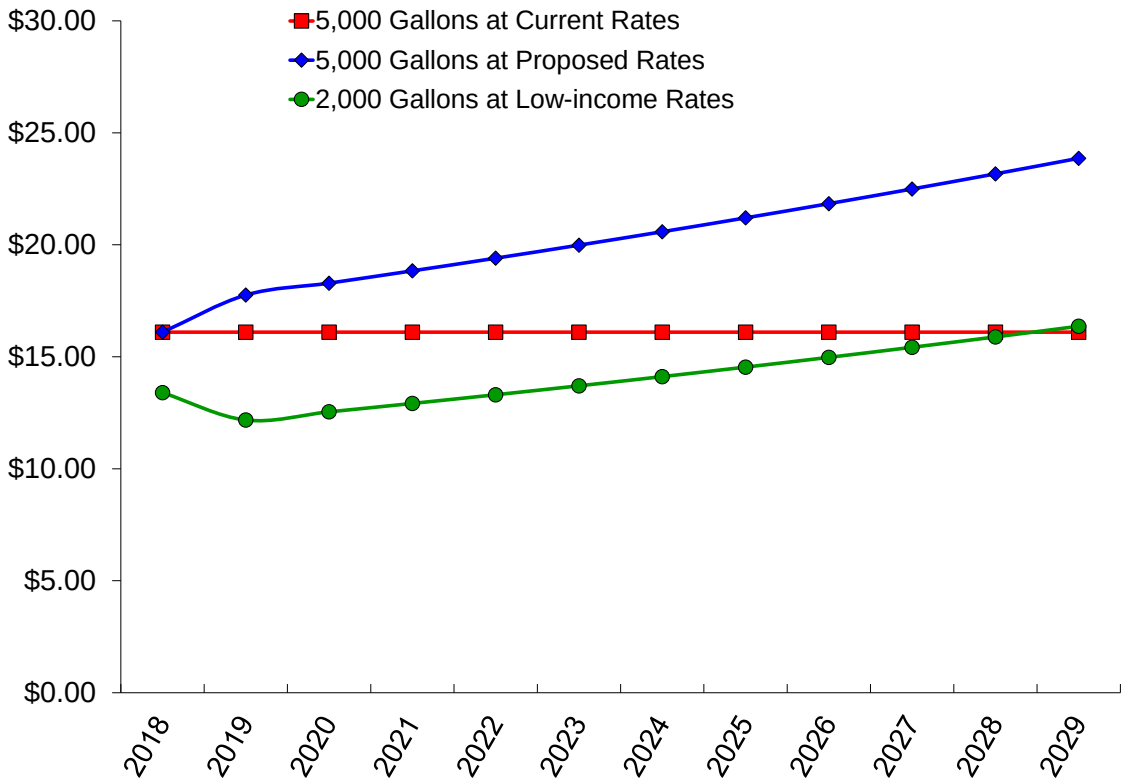


Chart 4 - Affordability

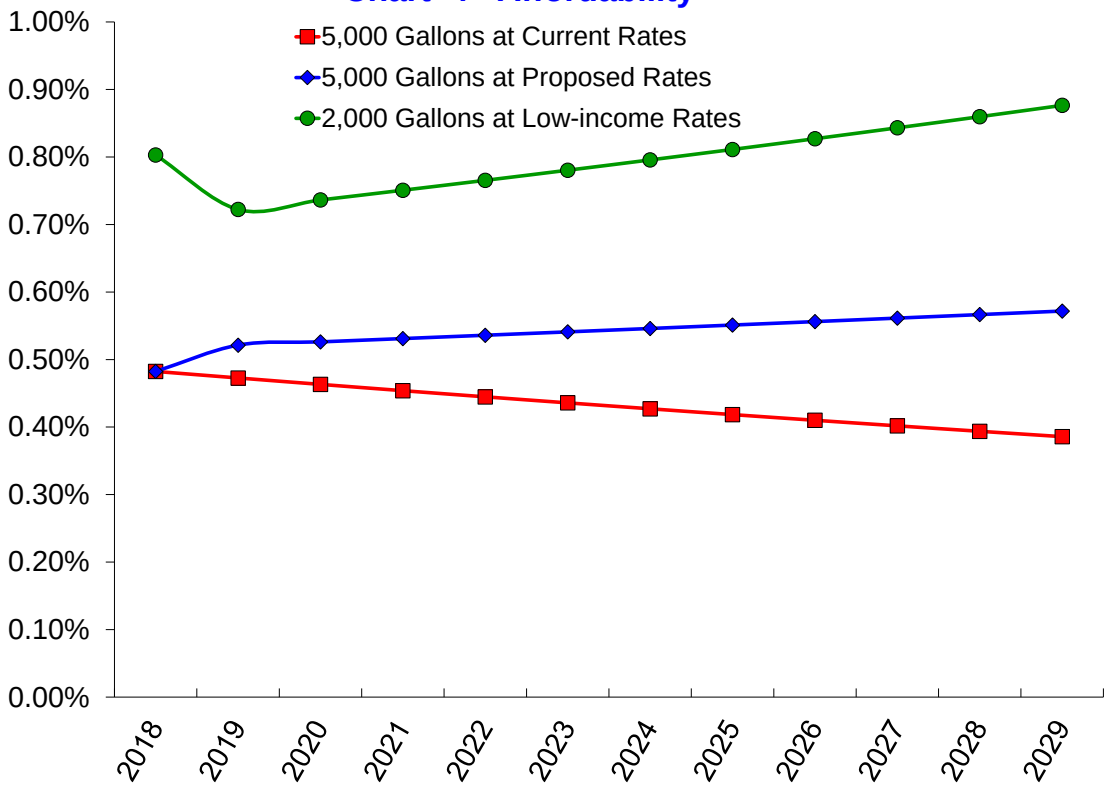


Chart 5 - Working Capital vs Goal

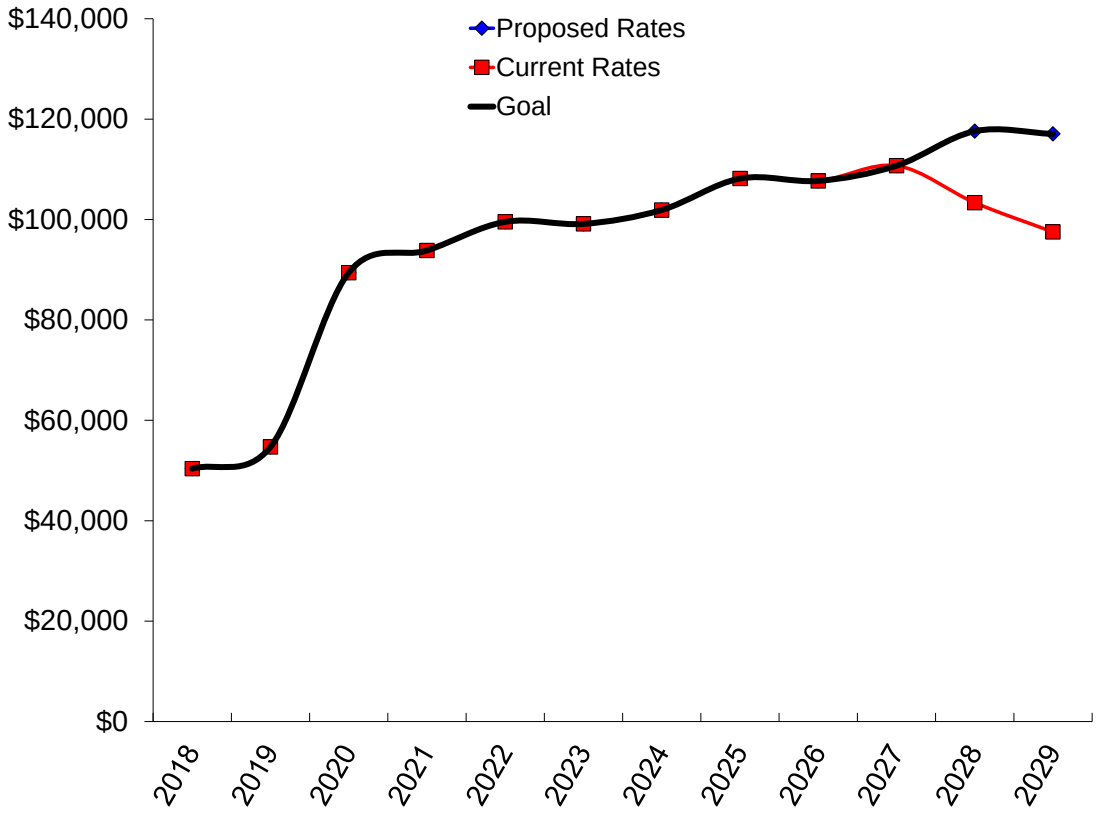


Chart 6 - Value of Cash Assets Before Inflation

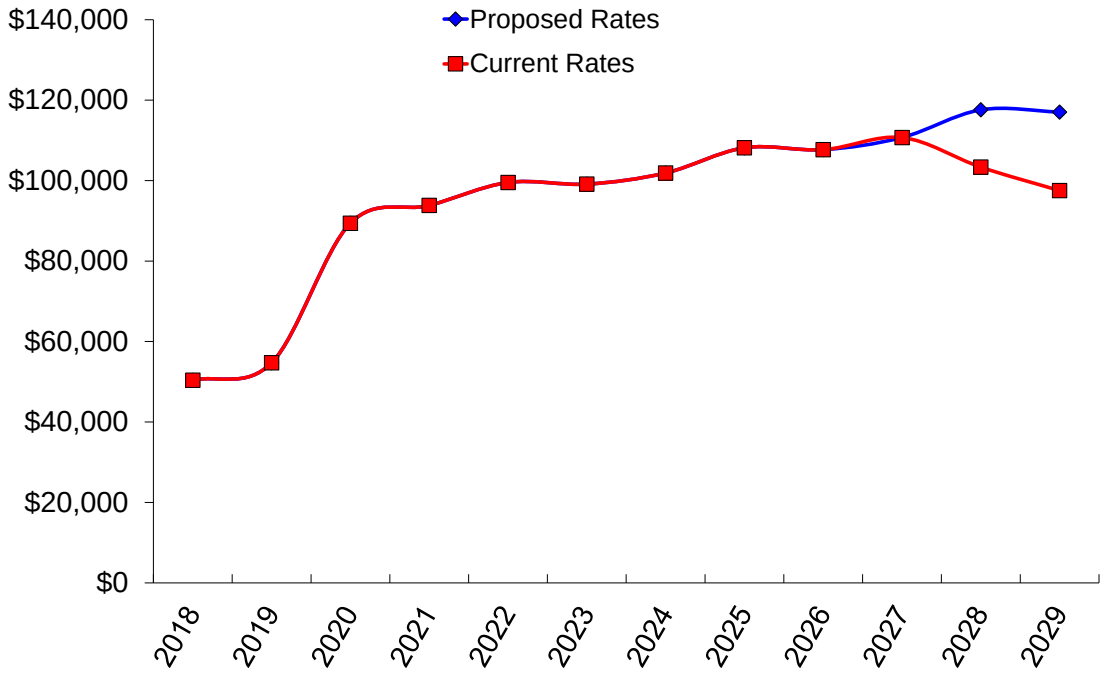


Chart 7 - Value of Cash Assets After Inflation

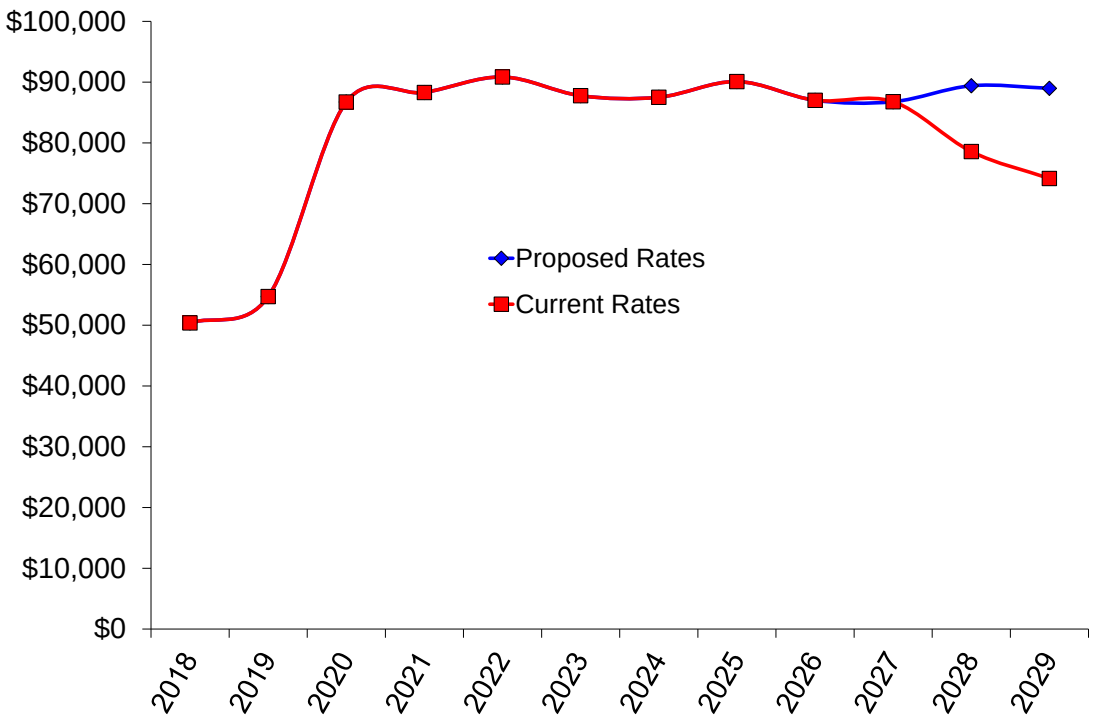
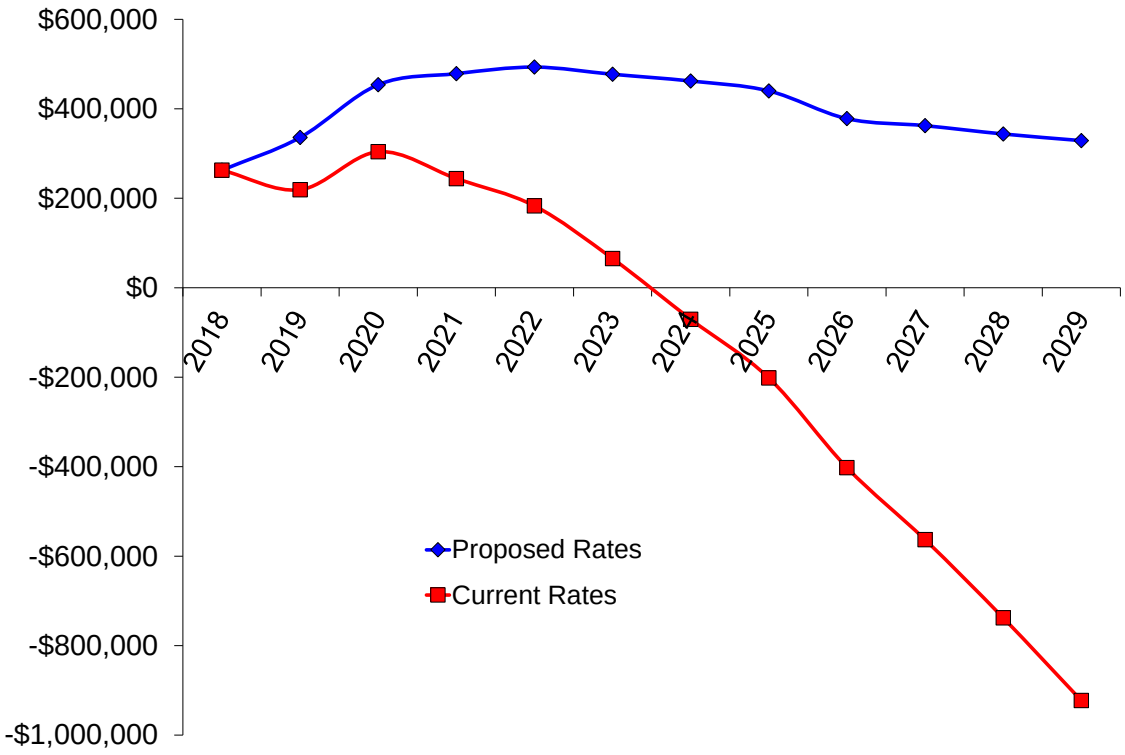


Chart 8 - Sum of All Reserves



Council Grove, Kansas; Sewer Rates, Model 2019-2B

(This model is like Model 2019-2, except it also assumes extending service to the City Lake area.)

December 11, 2019

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Note: This document is a print out of the spreadsheet model used to calculate new user charge and other rates and fees for the next 10 years. These calculations are complex and are based upon many conditions and assumtions. These issues, and others, are described in a narrative report that accompanies this model.

Table 3 - Operating Incomes and Basic User Data

Council Grove, Kansas; Sewer Rates, Model 2019-2B

This table depicts user statistics, customer growth, and system incomes and across the board "inflationary" style rate increases through the 10th year.

Annual Median Household Income (AMHI)

$38,455	Census Bureau estimate of AMHI for the year	2016
$28,949	Census Bureau estimate of AMHI for the year	2000
$9,506	AMHI growth during this time period	
2.05%	Simple annual income growth rate during this time period (used to project incomes into the future)	

Test Year Growth of Customer Base and Average Tap Fee Paid per Connection

2	Number of new connections made during the test year
$1,500	Average tap or installation fee assessed during the test year

This model is programmed for rates to be reset in the "Analysis Year," also called the "0 Year" column below (heading highlighted blue). Revenues will be collected at the now-current rates for the first part of the analysis year and the modeled rates for the last part of the analysis year. Thus, the revenues shown in the last column of that table are "blended" revenues; part collected at the old rates and part collected at the new rates. It was then assumed that all rate adjustments made after the initial (major) adjustment will be done annually on approximately the anniversary of the first adjustment. If rates will not be adjusted during the "0 Year," an adjustment (normally a revenue reduction) was calculated below to account for the late start in making the first adjustments.

Basic User (Customer) Data

(First year balances and incomes are actual, subsequent years are projected.)	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	Analysis Year 0 Year Starting 1/1/19	Years Following the Analysis Year (for Which Results Have Been Projected) 1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Rate Increases Projected for Future Years	N.A.	N.A.	N.A.	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
				The row above shows the rate at which user charge fees should be increased for each year beyond the initial rate adjustment year. Unless stated otherwise, these should be across-the-board increases to all rates and fees and that should continue until a new rate analysis is done.									
Average Number of Customers for the Year	N.A.	1,065	1,067	1,069	1,071	1,423	1,425	1,427	1,429	1,431	1,433	1,435	1,437
Customers Added or Lost (-) During the Year	N.A.	2.0	2.0	2.0	2.0	352.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Customer Growth or Loss (-) Rate	N.A.	0.19%	0.19%	0.19%	0.19%	24.74%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
Actual (Test Year) and Projected Volumes, in Gallons	N.A.	75,068,000	75,208,973	75,349,946	75,490,918	100,302,126	100,443,099	100,584,071	100,725,044	100,866,017	101,006,990	101,147,962	101,288,935
How User Charge Fees Were Calculated, Accounting for New Customers and Future Rate Increases													
Actual or Calculated Sales Revenues		$214,864	$214,848	$215,303	$222,177	$229,271	$294,564	$303,827	$313,380	$323,233	$333,396	$343,877	$354,687
Additional Sales Revenues From New Customers			$1	$403	$416	$56,714	$413	$426	$439	$452	$465	$479	$494
Total Calculated Revenues (User Charge Fees)		$214,864	$214,849	$215,706	$222,593	$285,984	$294,977	$304,253	$313,819	$323,685	$333,861	$344,356	$355,180
Operating Incomes													
SEWER CHARGE	N.A.	$232,495	$232,479	$233,406	$240,858	$309,451	$319,182	$329,219	$339,570	$350,246	$361,256	$372,613	$384,325
SEWER PENALTY	N.A.	$793	$794	$796	$797	$995	$996	$997	$999	$1,000	$1,002	$1,003	$1,004
New Taps or Connections (Current Rate Structure)	% Above	$3,000	$2,992	$0	$0	$0	$0	$0	$0	$0	$0	$1	$2
New Taps or Connections (New Rate Structure)	% Above	$0	$0	$3,000	$3,090	$560,155	$3,278	$3,377	$3,478	$3,582	$3,690	$3,800	$3,914
Interest Income	N.A.	$0	$504	$547	$894	$938	$1,022	$1,019	$1,047	$1,111	$1,107	$1,138	$1,207
MISCELLANEOUS REVENUE(Less New Taps Above)	N.A.	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075	$4,075
New Connection Allowance for City Lake Properties	N.A.	$0	$0	$0	$0	-$556,973	$0	$0	$0	$0	$0	$0	$0
Revenue Loss Because Rate Adjustments Made This Number of Months Late	3.0	$0	$0	$1,458	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Incomes		**$240,363**	**$240,844**	**$243,282**	**$249,715**	**$318,642**	**$328,553**	**$338,686**	**$349,168**	**$360,013**	**$371,129**	**$382,630**	**$394,529**

Table 4 - Operating Costs and Net Income

Council Grove, Kansas; Sewer Rates, Model 2019-2B

This table depicts expenses during the test year, this year and for the next 10 years. Some future costs will experience inflation. Those costs that go up as use goes up are increased by the cost inflation factor plus the growth rate in users.

(First year costs and net incomes are actual, subsequent years are projected.)

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	Analysis Year 0 Year Starting 1/1/19	Years Following the Analysis Year (for Which Results Have Been Projected) 1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
AUDITING SERVICE	3.0%	$1,335	$1,378	$1,422	$1,467	$1,885	$1,944	$2,005	$2,068	$2,133	$2,200	$2,269	$2,341
BULDING REPAIR	3.0%	$4,953	$5,102	$5,255	$5,412	$5,575	$5,742	$5,914	$6,092	$6,274	$6,463	$6,657	$6,856
CIP TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CONTRACTUAL SERVICES	3.0%	$708	$731	$754	$778	$1,000	$1,032	$1,064	$1,097	$1,132	$1,168	$1,204	$1,242
CUSTODIAL SUPPLIES	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT SERVICE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DRUG AND ALCOHOL TESTING	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DUES / MEMBERSHIP / MEETINGS	3.0%	$957	$986	$1,972	$2,031	$2,092	$2,155	$2,219	$2,286	$2,355	$2,425	$2,498	$2,573
ENGINEERING EXPENSE	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT FUND TRANSFER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HEALTH/DENTAL INSURANCE	3.0%	$12,112	$12,475	$24,950	$25,699	$26,470	$27,264	$28,082	$28,924	$29,792	$30,685	$31,606	$32,554
INSURANCE	3.0%	$3,910	$4,027	$8,055	$8,296	$8,545	$8,801	$9,066	$9,337	$9,618	$9,906	$10,203	$10,509
KPERS	3.0%	$3,264	$3,362	$6,724	$6,926	$7,134	$7,348	$7,568	$7,796	$8,029	$8,270	$8,518	$8,774
MATERIALS	3.0%	$655	$675	$695	$716	$737	$759	$782	$805	$830	$855	$880	$907
OFFICE SUPPLIES	3.0%	$13	$13	$13	$14	$14	$15	$15	$15	$16	$16	$17	$17
OTHER CAPITAL OUTLAY	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTHER CHEMICALS	3.0%	$8,655	$8,914	$9,182	$9,457	$9,741	$10,033	$10,334	$10,644	$10,963	$11,292	$11,631	$11,980
OTHER COMMODITIES	3.0%	$1,465	$1,512	$1,560	$1,610	$2,069	$2,134	$2,201	$2,270	$2,342	$2,415	$2,491	$2,569
OVERTIME	3.0%	$3,926	$4,043	$8,087	$8,329	$8,579	$8,837	$9,102	$9,375	$9,656	$9,946	$10,244	$10,551
PETROLEUM PRODUCTS	3.0%	$2,110	$2,173	$2,239	$2,306	$2,375	$2,446	$2,519	$2,595	$2,673	$2,753	$2,836	$2,921
SALARIES/FULL-TIME	3.0%	$30,909	$31,837	$63,673	$65,583	$67,551	$69,577	$71,665	$73,814	$76,029	$78,310	$80,659	$83,079
SALARIES/PART-TIME	3.0%	$21	$22	$44	$45	$46	$48	$49	$51	$52	$54	$55	$57
SEWER LINE CONSTRUCTION	3.0%	$191	$197	$203	$210	$269	$278	$287	$296	$305	$314	$324	$335
SEWER REP/REPLACEMENT RES	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SOCIAL SECURITY	3.0%	$2,582	$2,659	$5,319	$5,479	$5,643	$5,812	$5,987	$6,166	$6,351	$6,542	$6,738	$6,940
TESTING AND PERMIT FEES	3.0%	$4,107	$4,230	$4,357	$4,487	$4,622	$4,761	$4,904	$5,051	$5,202	$5,358	$5,519	$5,685
TRANSFER IN-SEWER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSFER OUT-SEWER	3.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TRANSPORTATION	3.0%	$24	$25	$26	$27	$27	$28	$29	$30	$31	$32	$33	$34
UTILITIES	3.0%	$9,692	$10,002	$10,321	$10,651	$13,684	$14,114	$14,558	$15,015	$15,488	$15,974	$16,477	$16,995
VEHICLE/EQUIP MAINT & REPAIR	3.0%	$1,070	$1,102	$1,135	$1,169	$1,205	$1,241	$1,278	$1,316	$1,356	$1,396	$1,438	$1,481
VEHICLE/EQUIP PARTS & SUPPLIES	3.0%	$115	$118	$121	$125	$129	$133	$137	$141	$145	$149	$154	$159
WELDING & CONSTRUCTION SUPPLIE	3.0%	$5,070	$5,222	$5,379	$5,540	$5,707	$5,878	$6,054	$6,236	$6,423	$6,615	$6,814	$7,018
WORKERS COMP	3.0%	$2,910	$3,003	$6,005	$6,197	$7,961	$8,212	$8,470	$8,736	$9,011	$9,294	$9,586	$9,888

Table 4 - Operating Costs and Net Income

	Inflation/ Deflation (–) Factor	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
One-time Reduction of R&R Annuity	0.0%	-$15,125	-$15,125	-$3,781	$0	$0	$0	$0	$0	$0	$0	$0	$0
One-time Transfer to R&R Reserve	0.0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Annual Payment to R&R Reserve (Table 7)	0.0%	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125	$15,125
User Charge Analysis Services	5.0%	$0	$5,612	$0	$0	$6,187	$0	$0	$6,821	$0	$0	$7,521	$0
Total CIP-related Payouts	N.A.	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5	Table 5
Total Operating Costs		**$100,754**	**$109,420**	**$178,834**	**$187,679**	**$204,371**	**$203,715**	**$209,412**	**$222,104**	**$221,329**	**$227,559**	**$241,498**	**$240,589**
Net Income (or Loss)		$139,609	$131,424	$64,448	$62,036	$114,271	$124,839	$129,274	$127,065	$138,684	$143,570	$141,132	$153,939
Working Capital Goal: 50% In Dollars, That is:		$50,377	$54,710	$89,417	$93,840	$102,186	$101,857	$104,706	$111,052	$110,665	$113,780	$120,749	$120,295

Notes: The yellow highlighted cost items above will rise due to inflation and due to the additional cost of serving (a few) new customers. Tan highlighted items represent staffing costs at near-full staffing levels.

Table 5 - Capital Improvement Program (CIP)

Council Grove, Kansas; Sewer Rates, Model 2019-2B

This table depicts capital improvements and their funding. Costs reflect inflation.

	Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)										
	Test Year Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
Planned Spending, Debt-paid Portion of Projects (CIP costs to be funded with loans are shown in this section.)												
METER SOFTWARE / HAND HELD/ DRIVE BY SYSTEM (Water & Sewer)	$0	$0	$208,753	$0	$0	$0	$0	$0	$0	$0	$0	$0
SEWER CIPP LINING (Sewer)	$0	$0	$103,000	$0	$109,273	$0	$115,927	$0	$122,987	$0	$130,477	$0
SEWER VACUUM AND JETTER TRUCK REPLACEMENT (Sewer)	$0	$0	$0	$0	$546,364	$0	$0	$0	$0	$0	$0	$0
DIRECTIONAL BORING MACHINE (Water & Sewer)	$0	$0	$0	$132,613	$0	$0	$0	$0	$0	$0	$0	$0
4TH LAGOON/WETLAND (Sewer)	$0	$0	$412,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Closing Costs, Estimated at: 2.5%	$0	$0	$42,507	$3,517	$17,911	$0	$3,360	$0	$3,781	$0	$4,256	$0
Total Debt-paid Portion of Projects	$0	$0	$1,693,260	$136,130	$673,547	$0	$119,287	$0	$126,769	$0	$134,733	$0
Planned Spending, Cash-paid Portion of Projects (CIP costs to be funded from reserves are shown here.)												
WASTE WATER DISTRIBUTION / PUMPS AT CITY LAKE (Sewer)	$0	$0	$0	$8,487,200	$0	$0	$0	$0	$0	$0	$0	$0
Total Cash-paid Portion of Projects	$0	$0	$0	$8,487,200	$0	$0	$0	$0	$0	$0	$0	$0
Total CIP Costs	**$0**	**$0**	**$1,693,260**	**$8,623,330**	**$673,547**	**$0**	**$119,287**	**$0**	**$126,769**	**$0**	**$134,733**	**$0**
Debt Repayment												
New Debt Payments (Following are payments for projects to be paid with new debt. It is assumed these will be loan/lease-financed for a term of: 20 years at a 2.00% interest rate.)												
Loan Originated in 1st Year				$103,554	$103,554	$103,554	$103,554	$103,554	$103,554	$103,554	$103,554	$103,554
Loan Originated in 2nd Year					$8,325	$8,325	$8,325	$8,325	$8,325	$8,325	$8,325	$8,325
Loan Originated in 3rd Year						$41,192	$41,192	$41,192	$41,192	$41,192	$41,192	$41,192
Loan Originated in 5th Year								$7,295	$7,295	$7,295	$7,295	$7,295
Loan Originated in 7th Year										$7,753	$7,753	$7,753
Loan Originated in 9th Year												$8,240
Total Debt Payments	$0	$0	$0	$103,554	$111,879	$153,071	$153,071	$160,367	$160,367	$168,119	$168,119	$176,359
Total CIP-related Payouts	**$0**	**$0**	**$1,693,260**	**$8,726,884**	**$785,426**	**$153,071**	**$272,359**	**$160,367**	**$287,135**	**$168,119**	**$302,853**	**$176,359**
(This is the total cash required for this CIP and debt payment schedule. These amounts must come from utility income, reserves or outside sources, as shown in the next section.)												

Table 5 - Capital Improvement Program (CIP)

This table depicts capital improvements and their funding. Costs reflect inflation.

	Analysis Year	Years Following the Analysis Year (for Which Improvement Projects, Costs, Funding, etc. Have Been Projected)										
	Test Year Starting	0 Year Starting	1st Year Starting	2nd Year Starting	3rd Year Starting	4th Year Starting	5th Year Starting	6th Year Starting	7th Year Starting	8th Year Starting	9th Year Starting	10th Year Starting
	1/1/18	1/1/19	1/1/20	1/1/21	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	1/1/27	1/1/28	1/1/29
CIP Fund Sources (Following are the sources and amounts of funds expected to pay for the above CIP schedule.)												
Cash Reserves (Internal Funds)												
Debt and CIP Reserves Starting Balance	$0	$212,452	$343,792	$380,409	$342,076	$342,963	$321,918	$301,710	$268,097	$252,164	$229,543	$200,177
Working Capital Transferred in	$212,452	$127,091	$29,741	$57,613	$105,925	$125,167	$126,425	$120,719	$139,071	$140,455	$134,163	$154,394
Debt and CIP Reserves Interest Earned (or Paid)	$0	$4,249	$6,876	$7,608	$6,842	$6,859	$6,438	$6,034	$5,362	$5,043	$4,591	$4,004
Special Assessments on City Lake Properties	$0	$0	$0	$8,487,200	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Income Source (Name it)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Available Internal Funds	$212,452	$343,792	$380,409	$8,932,831	$454,843	$474,990	$454,782	$428,464	$412,530	$397,662	$368,297	$358,574
Grant and Loan Proceeds (External Funds)												
Loan Originated in 1st Year			$1,693,260	$0	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 2nd Year				$136,130	$0	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 3rd Year					$673,547	$0	$0	$0	$0	$0	$0	$0
Loan Originated in 5th Year							$119,287	$0	$0	$0	$0	$0
Loan Originated in 7th Year									$126,769	$0	$0	$0
Loan Originated in 9th Year											$134,733	$0
Total Available External Funds	$0	$0	$1,693,260	$136,130	$673,547	$0	$119,287	$0	$126,769	$0	$134,733	$0
Total Available Funds	**$212,452**	**$343,792**	**$2,073,669**	**$9,068,960**	**$1,128,390**	**$474,990**	**$574,069**	**$428,464**	**$539,299**	**$397,662**	**$503,030**	**$358,574**
Outcomes	(This CIP spending and funding plan will result in the following cash needs and ending balances each year.)											
Total Available Funds	**$212,452**	**$343,792**	**$2,073,669**	**$9,068,960**	**$1,128,390**	**$474,990**	**$574,069**	**$428,464**	**$539,299**	**$397,662**	**$503,030**	**$358,574**
Total CIP-related Payouts	**$0**	**$0**	**$1,693,260**	**$8,726,884**	**$785,426**	**$153,071**	**$272,359**	**$160,367**	**$287,135**	**$168,119**	**$302,853**	**$176,359**
Debt and CIP Reserves Ending Balances	**$212,452**	**$343,792**	**$380,409**	**$342,076**	**$342,963**	**$321,918**	**$301,710**	**$268,097**	**$252,164**	**$229,543**	**$200,177**	**$182,215**

Notes: Source of system improvement project base costs - Mathew Anderson, PE, CTS Group. These projects are primarily repair and replacement items but because they will likely be loan-funded, they are included here so loan payments can be calculated. The City Lake Project was estimated by Derrick Craige with the City.

Table 8 - Average Cost Classification

Council Grove, Kansas; Sewer Rates, Model 2019-2B

This table distributes costs from a representative year (the "average rate structure basis year) to fixed and variable categories (see Definitions) in order to calculate the "cost of service" rate structure for that year.

The average rate structure basis year runs from: 1/1/2023 through 12/31/2023

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
AUDITING SERVICE	$1,944	100.0%	0.0%	$1,944	$0
BULDING REPAIR	$5,742	100.0%	0.0%	$5,742	$0
CIP TRANSFER	$0	50.0%	50.0%	$0	$0
CONTRACTUAL SERVICES	$1,032	50.0%	50.0%	$516	$516
CUSTODIAL SUPPLIES	$0	100.0%	0.0%	$0	$0
DEBT SERVICE	$0	100.0%	0.0%	$0	$0
DRUG AND ALCOHOL TESTING	$0	33.3%	66.7%	$0	$0
DUES / MEMBERSHIP / MEETINGS	$2,155	33.3%	66.7%	$718	$1,437
ENGINEERING EXPENSE	$0	50.0%	50.0%	$0	$0
EQUIPMENT FUND TRANSFER	$0	50.0%	50.0%	$0	$0
HEALTH/DENTAL INSURANCE	$27,264	33.3%	66.7%	$9,088	$18,176
INSURANCE	$8,801	100.0%	0.0%	$8,801	$0
KPERS	$7,348	33.3%	66.7%	$2,449	$4,899
MATERIALS	$759	50.0%	50.0%	$380	$380
OFFICE SUPPLIES	$15	100.0%	0.0%	$15	$0
OTHER CAPITAL OUTLAY	$0	50.0%	50.0%	$0	$0
OTHER CHEMICALS	$10,033	0.0%	100.0%	$0	$10,033
OTHER COMMODITIES	$2,134	0.0%	100.0%	$0	$2,134
OVERTIME	$8,837	33.3%	66.7%	$2,945	$5,891
PETROLEUM PRODUCTS	$2,446	50.0%	50.0%	$1,223	$1,223
SALARIES/FULL-TIME	$69,577	33.3%	66.7%	$23,192	$46,385
SALARIES/PART-TIME	$48	33.3%	66.7%	$16	$32
SEWER LINE CONSTRUCTION	$278	50.0%	50.0%	$139	$139
SEWER REP/REPLACEMENT RES	$0	50.0%	50.0%	$0	$0
SOCIAL SECURITY	$5,812	33.3%	66.7%	$1,937	$3,875

Table 8 - Average Cost Classification

Cost Items	Cost During Rate Structure Basis Year	Fixed Cost %	Variable Cost %	Fixed Cost	Variable Cost
TESTING AND PERMIT FEES	$4,761	100.0%	0.0%	$4,761	$0
TRANSFER IN-SEWER	$0	43.3%	56.7%	$0	$0
TRANSFER OUT-SEWER	$0	43.3%	56.7%	$0	$0
TRANSPORTATION	$28	50.0%	50.0%	$14	$14
UTILITIES	$14,114	0.0%	100.0%	$0	$14,114
VEHICLE/EQUIP MAINT & REPAIR	$1,241	50.0%	50.0%	$620	$620
VEHICLE/EQUIP PARTS & SUPPLIES	$133	50.0%	50.0%	$66	$66
WELDING & CONSTRUCTION SUPPLIE	$5,878	50.0%	50.0%	$2,939	$2,939
WORKERS COMP	$8,212	33.3%	66.7%	$2,737	$5,475
Annual Payment to R&R Reserve (Table 7)	$15,125	50.0%	50.0%	$7,563	$7,563
User Charge Analysis Services	$0	50.0%	50.0%	$0	$0
Total CIP-related Payouts, Less Capacity Charges From Tables 14 & 16 (This value can be negative)	$153,071	50.0%	50.0%	$76,536	$76,536
Grand Total Costs, Weighted Avg Percentages	$356,786	43.3%	56.7%	$154,341	$202,445

Bases for Cost to Serve Rate Structure

		100%	$356,786
Number Customers During Year Defined Above	1,425	Inflow and Infiltration is Estimated at	0%
Billed Volume, in Gallons, During Year Defined Above	100,443,099	Inflow and Infiltration is Estimated at This Percentage of Average Cost	50%
Average Fixed Cost per User per Month During Year Defined Above	$9.03	Resulting Cost of Inflow and Infiltration	$0
Average Variable Cost to Produce per 1,000 Gallons During Year Defined Above	$2.02	Test Year Customer Metered Volume, in Gallons	75,068,000
Gallons per Billing Cycle Used by Average Residential Customer	3,438	+ Test Year Inflow and Infiltration, in Gallons	0
		Total Test Year Volume, in Gallons, From Master Meter Readings	75,068,000

Table 10 - Initial Rate Adjustments and Resulting Revenues

Council Grove, Kansas; Sewer Rates, Model 2019-2B

This table calculates a new set of user charge rates and the revenues they would generate.

Out of City Multiplier	200%	Conservation Rate Block Multiplier	100%	Other Multiplier	100%

12/31/19 Date when fees will first be collected at adjusted rates. Actual adjustment should occur one billing cycle earlier.

If there are no special costs to consider and before capacity costs are added, if appropriate, rates for a 5/8" meter would be in a "cost to serve" structure when: there is no usage allowance,
the base minimum charge is $7.08 Monthly, and unit charge is $1.58 per 1,000 Gallons.

After rate adjustments are made, customers will be billed monthly.

Blended Sales Revenues: Sales at the current (Test Year) rates (gray highlighted column) will apply until rates are adjusted. Sales at the modeled rates (yellow highlighted column) would apply after the modeled rates are adopted. The "blended" sales revenues show in the right-most column.

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW10, SW10	0	999	$0	$7.08	0.000	$1.58	$46	$46
	1,000	1,999	$9,618	$7.08	0.000	$1.58	$46	$9,664
	2,000	2,999	$9,618	$7.08	0.000	$1.58	$46	$9,664
	3,000	3,999	$137,798	$7.08	0.000	$1.58	$228	$138,026
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW11, SW11	0	999	$0	$7.08	0.000	$1.58	$5	$5
	1,000	1,999	$1,131	$7.08	0.000	$1.58	$5	$1,136
	2,000	2,999	$1,131	$7.08	0.000	$1.58	$5	$1,136
	3,000	3,999	$16,089	$7.08	0.000	$1.58	$26	$16,115
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW31, SW31	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$65	$7.08	0.000	$1.58	$0	$65
	2,000	2,999	$65	$7.08	0.000	$1.58	$0	$65
	3,000	3,999	$65	$7.08	0.000	$1.58	$0	$65
	4,000	4,999	$65	$7.08	0.000	$1.58	$0	$65
	5,000	5,999	$65	$7.08	0.000	$1.58	$0	$65
	6,000	6,999	$65	$7.08	0.000	$1.58	$0	$65
	7,000	7,999	$65	$7.08	0.000	$1.58	$0	$65
	8,000	8,999	$65	$7.08	0.000	$1.58	$0	$65
	9,000	9,999	$65	$7.08	0.000	$1.58	$0	$65
	10,000	14,999	$1,108	$7.08	0.000	$1.58	$2	$1,111
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW32, SW32	0	999	$0	$7.08	0.000	$1.58	$1	$1
	1,000	1,999	$118	$7.08	0.000	$1.58	$1	$119
	2,000	2,999	$118	$7.08	0.000	$1.58	$1	$119
	3,000	3,999	$118	$7.08	0.000	$1.58	$1	$119
	4,000	4,999	$118	$7.08	0.000	$1.58	$1	$119
	5,000	5,999	$118	$7.08	0.000	$1.58	$1	$119
	6,000	6,999	$118	$7.08	0.000	$1.58	$1	$119
	7,000	7,999	$118	$7.08	0.000	$1.58	$1	$119
	8,000	8,999	$118	$7.08	0.000	$1.58	$1	$119
	9,000	9,999	$118	$7.08	0.000	$1.58	$1	$119
	10,000	14,999	$592	$7.08	0.000	$1.58	$3	$595
	15,000	19,999	$592	$7.08	0.000	$1.58	$3	$595
	20,000	24,999	$592	$7.08	0.000	$1.58	$3	$595
	25,000	29,999	$592	$7.08	0.000	$1.58	$3	$595
	30,000	34,999	$592	$7.08	0.000	$1.58	$3	$595
	35,000	44,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	45,000	54,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	55,000	64,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	65,000	74,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	75,000	84,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	85,000	94,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	95,000	104,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	105,000	114,999	$1,185	$7.08	0.000	$1.58	$6	$1,190
	115,000	124,999	$2,285	$7.08	0.000	$1.58	$6	$2,291
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW33, SW CUR 3	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$22	$7.08	0.000	$1.58	$0	$22
	2,000	2,999	$22	$7.08	0.000	$1.58	$0	$22
	3,000	3,999	$22	$7.08	0.000	$1.58	$0	$22
	4,000	4,999	$312	$7.08	0.000	$1.58	$1	$312
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW34, SW CUR 4	0	999	$0	$7.08	0.000	$1.58	$1	$1
	1,000	1,999	$205	$7.08	0.000	$1.58	$1	$206
	2,000	2,999	$205	$7.08	0.000	$1.58	$1	$206
	3,000	3,999	$205	$7.08	0.000	$1.58	$1	$206
	4,000	4,999	$205	$7.08	0.000	$1.58	$1	$206
	5,000	5,999	$205	$7.08	0.000	$1.58	$1	$206
	6,000	6,999	$205	$7.08	0.000	$1.58	$1	$206
	7,000	7,999	$205	$7.08	0.000	$1.58	$1	$206
	8,000	8,999	$205	$7.08	0.000	$1.58	$1	$206
	9,000	9,999	$205	$7.08	0.000	$1.58	$1	$206
	10,000	14,999	$1,023	$7.08	0.000	$1.58	$5	$1,028
	15,000	19,999	$1,023	$7.08	0.000	$1.58	$5	$1,028
	20,000	24,999	$2,854	$7.08	0.000	$1.58	$4	$2,858
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW35, SW CUR 5	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$0	$7.08	0.000	$1.58	$0	$0
	2,000	2,999	$0	$7.08	0.000	$1.58	$0	$0
	3,000	3,999	$0	$7.08	0.000	$1.58	$0	$0
	4,000	4,999	$0	$7.08	0.000	$1.58	$0	$0
	5,000	5,999	$0	$7.08	0.000	$1.58	$0	$0
	6,000	6,999	$0	$7.08	0.000	$1.58	$0	$0
	7,000	7,999	$0	$7.08	0.000	$1.58	$0	$0
	8,000	8,999	$0	$7.08	0.000	$1.58	$0	$0
	9,000	9,999	$0	$7.08	0.000	$1.58	$0	$0
	10,000	14,999	$0	$7.08	0.000	$1.58	$1	$1
	15,000	19,999	$0	$7.08	0.000	$1.58	$1	$1
	20,000	24,999	$0	$7.08	0.000	$1.58	$1	$1
	25,000	29,999	$0	$7.08	0.000	$1.58	$1	$1
	30,000	34,999	$0	$7.08	0.000	$1.58	$1	$1
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW36, SW CUR 6	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$22	$7.08	0.000	$1.58	$0	$22
	2,000	2,999	$22	$7.08	0.000	$1.58	$0	$22
	3,000	3,999	$22	$7.08	0.000	$1.58	$0	$22
	4,000	4,999	$22	$7.08	0.000	$1.58	$0	$22
	5,000	5,999	$22	$7.08	0.000	$1.58	$0	$22
	6,000	6,999	$22	$7.08	0.000	$1.58	$0	$22
	7,000	7,999	$22	$7.08	0.000	$1.58	$0	$22
	8,000	8,999	$22	$7.08	0.000	$1.58	$0	$22
	9,000	9,999	$22	$7.08	0.000	$1.58	$0	$22
	10,000	14,999	$345	$7.08	0.000	$1.58	$1	$346
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW38, SW CUR 8	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$22	$7.08	0.000	$1.58	$0	$22
	2,000	2,999	$22	$7.08	0.000	$1.58	$0	$22
	3,000	3,999	$22	$7.08	0.000	$1.58	$0	$22
	4,000	4,999	$22	$7.08	0.000	$1.58	$0	$22
	5,000	5,999	$22	$7.08	0.000	$1.58	$0	$22
	6,000	6,999	$22	$7.08	0.000	$1.58	$0	$22
	7,000	7,999	$22	$7.08	0.000	$1.58	$0	$22
	8,000	8,999	$22	$7.08	0.000	$1.58	$0	$22
	9,000	9,999	$22	$7.08	0.000	$1.58	$0	$22
	10,000	14,999	$108	$7.08	0.000	$1.58	$1	$108
	15,000	19,999	$108	$7.08	0.000	$1.58	$1	$108
	20,000	24,999	$108	$7.08	0.000	$1.58	$1	$108
	25,000	29,999	$108	$7.08	0.000	$1.58	$1	$108
	30,000	34,999	$108	$7.08	0.000	$1.58	$1	$108
	35,000	44,999	$215	$7.08	0.000	$1.58	$1	$216
	45,000	54,999	$215	$7.08	0.000	$1.58	$1	$216
	55,000	64,999	$215	$7.08	0.000	$1.58	$1	$216
	65,000	74,999	$215	$7.08	0.000	$1.58	$1	$216
	75,000	84,999	$215	$7.08	0.000	$1.58	$1	$216
	85,000	94,999	$215	$7.08	0.000	$1.58	$1	$216
	95,000	104,999	$215	$7.08	0.000	$1.58	$1	$216
	105,000	114,999	$320	$7.08	0.000	$1.58	$1	$320
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW39, SW CUR 9	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$22	$7.08	0.000	$1.58	$0	$22
	2,000	2,999	$22	$7.08	0.000	$1.58	$0	$22
	3,000	3,999	$22	$7.08	0.000	$1.58	$0	$22
	4,000	4,999	$22	$7.08	0.000	$1.58	$0	$22
	5,000	5,999	$22	$7.08	0.000	$1.58	$0	$22
	6,000	6,999	$309	$7.08	0.000	$1.58	$1	$310
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW41, SW CUR 18	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$11	$7.08	0.000	$1.58	$0	$11
	2,000	2,999	$11	$7.08	0.000	$1.58	$0	$11
	3,000	3,999	$11	$7.08	0.000	$1.58	$0	$11
	4,000	4,999	$11	$7.08	0.000	$1.58	$0	$11
	5,000	5,999	$11	$7.08	0.000	$1.58	$0	$11
	6,000	6,999	$11	$7.08	0.000	$1.58	$0	$11
	7,000	7,999	$11	$7.08	0.000	$1.58	$0	$11
	8,000	8,999	$11	$7.08	0.000	$1.58	$0	$11
	9,000	9,999	$11	$7.08	0.000	$1.58	$0	$11
	10,000	14,999	$54	$7.08	0.000	$1.58	$0	$54
	15,000	19,999	$54	$7.08	0.000	$1.58	$0	$54
	20,000	24,999	$54	$7.08	0.000	$1.58	$0	$54
	25,000	29,999	$54	$7.08	0.000	$1.58	$0	$54
	30,000	34,999	$54	$7.08	0.000	$1.58	$0	$54
	35,000	44,999	$108	$7.08	0.000	$1.58	$1	$108
	45,000	54,999	$108	$7.08	0.000	$1.58	$1	$108
	55,000	64,999	$108	$7.08	0.000	$1.58	$1	$108
	65,000	74,999	$108	$7.08	0.000	$1.58	$1	$108
	75,000	84,999	$108	$7.08	0.000	$1.58	$1	$108
	85,000	94,999	$108	$7.08	0.000	$1.58	$1	$108
	95,000	104,999	$237	$7.08	0.000	$1.58	$1	$237
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW43, SW CUR 11	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$11	$7.08	0.000	$1.58	$0	$11
	2,000	2,999	$11	$7.08	0.000	$1.58	$0	$11
	3,000	3,999	$11	$7.08	0.000	$1.58	$0	$11
	4,000	4,999	$11	$7.08	0.000	$1.58	$0	$11
	5,000	5,999	$11	$7.08	0.000	$1.58	$0	$11
	6,000	6,999	$11	$7.08	0.000	$1.58	$0	$11
	7,000	7,999	$11	$7.08	0.000	$1.58	$0	$11
	8,000	8,999	$11	$7.08	0.000	$1.58	$0	$11
	9,000	9,999	$11	$7.08	0.000	$1.58	$0	$11
	10,000	14,999	$54	$7.08	0.000	$1.58	$0	$54
	15,000	19,999	$54	$7.08	0.000	$1.58	$0	$54
	20,000	24,999	$54	$7.08	0.000	$1.58	$0	$54
	25,000	29,999	$54	$7.08	0.000	$1.58	$0	$54
	30,000	34,999	$54	$7.08	0.000	$1.58	$0	$54
	35,000	44,999	$108	$7.08	0.000	$1.58	$1	$108
	45,000	54,999	$108	$7.08	0.000	$1.58	$1	$108
	55,000	64,999	$108	$7.08	0.000	$1.58	$1	$108
	65,000	74,999	$108	$7.08	0.000	$1.58	$1	$108
	75,000	84,999	$108	$7.08	0.000	$1.58	$1	$108
	85,000	94,999	$108	$7.08	0.000	$1.58	$1	$108
	95,000	104,999	$210	$7.08	0.000	$1.58	$1	$210
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW62, SW AVG 2	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$54	$7.08	0.000	$1.58	$0	$54
	2,000	2,999	$54	$7.08	0.000	$1.58	$0	$54
	3,000	3,999	$54	$7.08	0.000	$1.58	$0	$54
	4,000	4,999	$54	$7.08	0.000	$1.58	$0	$54
	5,000	5,999	$756	$7.08	0.000	$1.58	$1	$757
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW63, SW AVG 3	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$32	$7.08	0.000	$1.58	$0	$32
	2,000	2,999	$32	$7.08	0.000	$1.58	$0	$32
	3,000	3,999	$32	$7.08	0.000	$1.58	$0	$32
	4,000	4,999	$32	$7.08	0.000	$1.58	$0	$32
	5,000	5,999	$467	$7.08	0.000	$1.58	$1	$468
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW64, SW AVG 4	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$22	$7.08	0.000	$1.58	$0	$22
	2,000	2,999	$22	$7.08	0.000	$1.58	$0	$22
	3,000	3,999	$22	$7.08	0.000	$1.58	$0	$22
	4,000	4,999	$22	$7.08	0.000	$1.58	$0	$22
	5,000	5,999	$22	$7.08	0.000	$1.58	$0	$22
	6,000	6,999	$22	$7.08	0.000	$1.58	$0	$22
	7,000	7,999	$22	$7.08	0.000	$1.58	$0	$22
	8,000	8,999	$22	$7.08	0.000	$1.58	$0	$22
	9,000	9,999	$22	$7.08	0.000	$1.58	$0	$22
	10,000	14,999	$375	$7.08	0.000	$1.58	$1	$375
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW68, SW AVG 8	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$11	$7.08	0.000	$1.58	$0	$11
	2,000	2,999	$11	$7.08	0.000	$1.58	$0	$11
	3,000	3,999	$11	$7.08	0.000	$1.58	$0	$11
	4,000	4,999	$11	$7.08	0.000	$1.58	$0	$11
	5,000	5,999	$11	$7.08	0.000	$1.58	$0	$11
	6,000	6,999	$11	$7.08	0.000	$1.58	$0	$11
	7,000	7,999	$11	$7.08	0.000	$1.58	$0	$11
	8,000	8,999	$11	$7.08	0.000	$1.58	$0	$11
	9,000	9,999	$11	$7.08	0.000	$1.58	$0	$11
	10,000	14,999	$54	$7.08	0.000	$1.58	$0	$54
	15,000	19,999	$54	$7.08	0.000	$1.58	$0	$54
	20,000	24,999	$54	$7.08	0.000	$1.58	$0	$54
	25,000	29,999	$54	$7.08	0.000	$1.58	$0	$54
	30,000	34,999	$54	$7.08	0.000	$1.58	$0	$54
	35,000	44,999	$233	$7.08	0.000	$1.58	$1	$234
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW69, SW AVG 9	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$11	$7.08	0.000	$1.58	$0	$11
	2,000	2,999	$11	$7.08	0.000	$1.58	$0	$11
	3,000	3,999	$11	$7.08	0.000	$1.58	$0	$11
	4,000	4,999	$11	$7.08	0.000	$1.58	$0	$11
	5,000	5,999	$11	$7.08	0.000	$1.58	$0	$11
	6,000	6,999	$11	$7.08	0.000	$1.58	$0	$11
	7,000	7,999	$11	$7.08	0.000	$1.58	$0	$11
	8,000	8,999	$11	$7.08	0.000	$1.58	$0	$11
	9,000	9,999	$11	$7.08	0.000	$1.58	$0	$11
	10,000	14,999	$54	$7.08	0.000	$1.58	$0	$54
	15,000	19,999	$54	$7.08	0.000	$1.58	$0	$54
	20,000	24,999	$154	$7.08	0.000	$1.58	$0	$154
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
SW70, SW AVG 33	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$22	$7.08	0.000	$1.58	$0	$22
	2,000	2,999	$22	$7.08	0.000	$1.58	$0	$22
	3,000	3,999	$22	$7.08	0.000	$1.58	$0	$22
	4,000	4,999	$22	$7.08	0.000	$1.58	$0	$22
	5,000	5,999	$22	$7.08	0.000	$1.58	$0	$22
	6,000	6,999	$22	$7.08	0.000	$1.58	$0	$22
	7,000	7,999	$22	$7.08	0.000	$1.58	$0	$22
	8,000	8,999	$22	$7.08	0.000	$1.58	$0	$22
	9,000	9,999	$22	$7.08	0.000	$1.58	$0	$22
	10,000	14,999	$108	$7.08	0.000	$1.58	$1	$108
	15,000	19,999	$108	$7.08	0.000	$1.58	$1	$108
	20,000	24,999	$108	$7.08	0.000	$1.58	$1	$108
	25,000	29,999	$356	$7.08	0.000	$1.58	$1	$356
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW72, SW AVG 24	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$32	$7.08	0.000	$1.58	$0	$32
	2,000	2,999	$32	$7.08	0.000	$1.58	$0	$32
	3,000	3,999	$32	$7.08	0.000	$1.58	$0	$32
	4,000	4,999	$32	$7.08	0.000	$1.58	$0	$32
	5,000	5,999	$32	$7.08	0.000	$1.58	$0	$32
	6,000	6,999	$32	$7.08	0.000	$1.58	$0	$32
	7,000	7,999	$32	$7.08	0.000	$1.58	$0	$32
	8,000	8,999	$32	$7.08	0.000	$1.58	$0	$32
	9,000	9,999	$32	$7.08	0.000	$1.58	$0	$32
	10,000	14,999	$162	$7.08	0.000	$1.58	$1	$162
	15,000	19,999	$162	$7.08	0.000	$1.58	$1	$162
	20,000	24,999	$162	$7.08	0.000	$1.58	$1	$162
	25,000	29,999	$162	$7.08	0.000	$1.58	$1	$162
	30,000	34,999	$162	$7.08	0.000	$1.58	$1	$162
	35,000	44,999	$323	$7.08	0.000	$1.58	$2	$325
	45,000	54,999	$592	$7.08	0.000	$1.58	$1	$594
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0

Table 10 - Initial Rate Adjustments and Resulting Revenues

Customer Class, Rate Class or Meter Size	Volume Range Bottom (in Gallons)	Volume Range Top (in Gallons)	Sales This Year at Current Rates	Minimum Charge for Calculation Purposes	New Usage Allowance in 1,000 Gallons	New Unit Charge per 1,000 Gallons	Sales This Year at Modeled Rates	Total "Blended" Sales This Year
SW73, SW AVG 42	0	999	$0	$7.08	0.000	$1.58	$0	$0
	1,000	1,999	$11	$7.08	0.000	$1.58	$0	$11
	2,000	2,999	$11	$7.08	0.000	$1.58	$0	$11
	3,000	3,999	$11	$7.08	0.000	$1.58	$0	$11
	4,000	4,999	$11	$7.08	0.000	$1.58	$0	$11
	5,000	5,999	$11	$7.08	0.000	$1.58	$0	$11
	6,000	6,999	$11	$7.08	0.000	$1.58	$0	$11
	7,000	7,999	$11	$7.08	0.000	$1.58	$0	$11
	8,000	8,999	$11	$7.08	0.000	$1.58	$0	$11
	9,000	9,999	$11	$7.08	0.000	$1.58	$0	$11
	10,000	14,999	$54	$7.08	0.000	$1.58	$0	$54
	15,000	19,999	$54	$7.08	0.000	$1.58	$0	$54
	20,000	24,999	$54	$7.08	0.000	$1.58	$0	$54
	25,000	29,999	$54	$7.08	0.000	$1.58	$0	$54
	30,000	34,999	$54	$7.08	0.000	$1.58	$0	$54
	35,000	44,999	$108	$7.08	0.000	$1.58	$1	$108
	45,000	54,999	$108	$7.08	0.000	$1.58	$1	$108
	55,000	64,999	$108	$7.08	0.000	$1.58	$1	$108
	65,000	74,999	$108	$7.08	0.000	$1.58	$1	$108
	75,000	84,999	$108	$7.08	0.000	$1.58	$1	$108
	85,000	94,999	$108	$7.08	0.000	$1.58	$1	$108
	95,000	104,999	$108	$7.08	0.000	$1.58	$1	$108
	105,000	114,999	$108	$7.08	0.000	$1.58	$1	$108
	115,000	124,999	$108	$7.08	0.000	$1.58	$1	$108
	125,000	134,999	$108	$7.08	0.000	$1.58	$1	$108
	135,000	144,999	$108	$7.08	0.000	$1.58	$1	$108
	145,000	1,000,000	$623	$7.08	0.000	$1.58	$3	$625
SW99, SW NO BILL	0	999	$150	$7.08	0.000	$1.58	$0	$150
	145,000	1,000,000	$0	$7.08	0.000	$1.58	$0	$0
Total Rate Revenue at Current Rates			$214,275	Total Rate Revenue at Modeled Rates			$573	
						Total Blended Rate Revenues for the Year		$214,848

Note: New Minimum Charge Base Rates: If meter size-based minimum charges are to be used, and the user classes modeled above include meter or connection sizes, the amounts shown in this column include meter size surcharges as calculated in Table 16. Either way, the narrative report includes the rates and surcharges to assess.

12.0	months at the old user charge rates	and	0.0	months at the new user charge rates.

Table 17 - Financial Capacity Indicators and Reserves

Council Grove, Kansas; Sewer Rates, Model 2019-2B

This table depicts the affordability of future rates, the financial health of the system and the ending balances in various (assumed) accounts for the test year and the next 10 years.

Capacity Indicators	Test Year Starting 1/1/18	0 Year Starting 1/1/19	1st Year Starting 1/1/20	2nd Year Starting 1/1/21	3rd Year Starting 1/1/22	4th Year Starting 1/1/23	5th Year Starting 1/1/24	6th Year Starting 1/1/25	7th Year Starting 1/1/26	8th Year Starting 1/1/27	9th Year Starting 1/1/28	10th Year Starting 1/1/29
Customary Affordability Index: Monthly Bill for a 5,000 gal per Month, Small Meter Residential Customer	$16.10	$14.98	$15.42	$15.89	$16.36	$16.86	$17.36	$17.88	$18.42	$18.97	$19.54	$20.13
AMHI Within Service Area	$40,050	$40,872	$41,710	$42,566	$43,440	$44,332	$45,241	$46,170	$47,117	$48,084	$49,071	$50,078
Affordability Index: Current Rates First Column, Modeled Rates After That	0.48%	0.44%	0.44%	0.45%	0.45%	0.46%	0.46%	0.46%	0.47%	0.47%	0.48%	0.48%

Affordability Index (AI) goes to the willingness and ability of customers to pay. AI is the cost of 60,000 gallons of residential service per year (5,000 gallons per month) divided by the Annual Median Household Income (AMHI) in the service area (gleaned from Census data or a survey). Rates near 1.0% are common in the U.S. and are generally considered affordable. Most grant agencies will not consider awarding grants if this indicator is less than 1.5 to 2.0%.

Low-income, Low-volume Affordability Index												
Monthly Bill for a 2,000 gal per Month, Low-income Residential Customer	$13.40	$10.24	$10.54	$10.86	$11.18	$11.52	$11.87	$12.22	$12.59	$12.97	$13.36	$13.76
Income at One-half the AMHI and Rising at One-half the Rate Above	$20,025	$20,230	$20,438	$20,648	$20,860	$21,074	$21,290	$21,508	$21,729	$21,952	$22,177	$22,405
Affordability for Low-income, Low-volume: Current Rates First Column, Modeled Rates After That	0.80%	0.61%	0.62%	0.63%	0.64%	0.66%	0.67%	0.68%	0.70%	0.71%	0.72%	0.74%

This additional indicator of affordability assumes a residential customer with income at one-half of the median household income above, that income is growing at one-half the rate of the median household income and the customer uses 2,000 gallons per month. Such a customer is likely either a minimum wage or near-minimum wage worker, or is retired and living only on Social Security benefits. Such customers are more commonly the "slow pays" and "no pays" compared to others.

Estimated Operating Ratio: Current Rates First Column, Modeled Rates After That	2.39	2.20	1.36	1.33	1.56	1.61	1.62	1.57	1.63	1.63	1.58	1.64

Operating ratio (OR) is a measure of the utility's ability to pay its operating expenses using only current incomes. A 1.0 OR is break even. Below 1.0 indicates operating in the "red." Generally, the OR should be at least 1.15 for large systems, 1.30 or more for medium-sized systems and perhaps as high as 2.0 for small systems. Note: If the utility has or will have reserves (below,) it has more ability to pay its operating costs than the OR implies.

Estimated Coverage Ratio: Current Rates First Column, Modeled Rates After That	N.A.	N.A.	N.A.	0.56	0.95	0.82	0.83	0.75	0.87	0.84	0.80	0.88

Coverage Ratio (CR) goes to the ability of the utility to pay its debt payments out of current incomes. OR applies only to years with debt service. 1.0 is break even. Generally, the CR should be at least 1.25. Note: If the utility has or will have reserves (shown below,) it has more ability to make debt payments than the CR implies.

Reserves	Balance Ending on 12/31/18	Balance Ending on 12/31/19	Balance Ending on 12/31/20	Balance Ending on 12/31/21	Balance Ending on 12/31/22	Balance Ending on 12/31/23	Balance Ending on 12/31/24	Balance Ending on 12/31/25	Balance Ending on 12/31/26	Balance Ending on 12/31/27	Balance Ending on 12/31/28	Balance Ending on 12/31/29
Cash and Cash Equivalents	$50,377	$54,710	$89,417	$93,840	$102,186	$101,857	$104,706	$111,052	$110,665	$113,780	$120,749	$120,295
Other Liquid Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Undedicated Cash Assets	$50,377	$54,710	$89,417	$93,840	$102,186	$101,857	$104,706	$111,052	$110,665	$113,780	$120,749	$120,295
Total Cash Assets Discounted for Inflation (Future Unrestricted Purchasing Power)	$50,377	$54,710	$86,735	$88,294	$93,262	$90,174	$89,915	$92,503	$89,415	$89,174	$91,797	$91,452
Repair & Replacement	$0	-$62,794	-$49,615	-$36,192	-$22,523	-$8,602	$2,590	$16,968	-$19,062	-$5,166	$8,982	$23,387
Debt and CIP Reserves	$212,452	$343,792	$380,409	$342,076	$342,963	$321,918	$301,710	$268,097	$252,164	$229,543	$200,177	$182,215
Sum of All Reserves	$262,829	$335,708	$420,211	$399,724	$422,626	$415,174	$409,007	$396,116	$343,766	$338,156	$329,908	$325,897

Table 18 - Bills Before and After Rate Adjustments

Council Grove, Kansas; Sewer Rates, Model 2019-2B

Revenue increase to be generated by the modeled rates -2.7%

If applicable, the revenue increase above includes meter size-based minimum charges calculated in Table 15. If rate classes shown below do not include meter size, the modeled bills below do not include those surcharges.

To reduce confusion, this table shows only example customer bills.

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW10, SW10	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	893	893	$14.30	$11.82	-$2.48
	4,000	0	893	$15.20	$13.40	-$1.80
	5,000	0	893	$16.10	$14.98	-$1.12
	6,000	0	893	$17.00	$16.56	-$0.44
	7,000	0	893	$17.90	$18.14	$0.24
	8,000	0	893	$18.80	$19.72	$0.92
	9,000	0	893	$19.70	$21.30	$1.60
	10,000	0	893	$20.60	$22.88	$2.28
	15,000	0	893	$25.10	$30.78	$5.68
	20,000	0	893	$29.60	$38.68	$9.08
	145,000	0	893	$142.10	$236.18	$94.08
SW11, SW11	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	105	105	$14.30	$11.82	-$2.48
	4,000	0	105	$15.20	$13.40	-$1.80
	5,000	0	105	$16.10	$14.98	-$1.12
	6,000	0	105	$17.00	$16.56	-$0.44
	7,000	0	105	$17.90	$18.14	$0.24
	8,000	0	105	$18.80	$19.72	$0.92
	9,000	0	105	$19.70	$21.30	$1.60
	10,000	0	105	$20.60	$22.88	$2.28
	15,000	0	105	$25.10	$30.78	$5.68
	20,000	0	105	$29.60	$38.68	$9.08
	145,000	0	105	$142.10	$236.18	$94.08

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW31, SW31	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	6	6	$20.60	$22.88	$2.28
	15,000	0	6	$25.10	$30.78	$5.68
	20,000	0	6	$29.60	$38.68	$9.08
	145,000	0	6	$142.10	$236.18	$94.08
SW32, SW32	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	75,000	0	0	$79.10	$125.58	$46.48
	85,000	0	0	$88.10	$141.38	$53.28
	95,000	0	0	$97.10	$157.18	$60.08
	105,000	0	0	$106.10	$172.98	$66.88
	115,000	11	11	$115.10	$188.78	$73.68
	125,000	0	11	$124.10	$204.58	$80.48
	135,000	0	11	$133.10	$220.38	$87.28
	145,000	0	11	$142.10	$236.18	$94.08

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW33, SW CUR 3	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	2	2	$15.20	$13.40	-$1.80
	5,000	0	2	$16.10	$14.98	-$1.12
	6,000	0	2	$17.00	$16.56	-$0.44
	7,000	0	2	$17.90	$18.14	$0.24
	8,000	0	2	$18.80	$19.72	$0.92
	9,000	0	2	$19.70	$21.30	$1.60
	10,000	0	2	$20.60	$22.88	$2.28
	15,000	0	2	$25.10	$30.78	$5.68
	20,000	0	2	$29.60	$38.68	$9.08
	145,000	0	2	$142.10	$236.18	$94.08
SW34, SW CUR 4	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	0	0	$20.60	$22.88	$2.28
	15,000	0	0	$25.10	$30.78	$5.68
	20,000	19	19	$29.60	$38.68	$9.08
	25,000	0	19	$34.10	$46.58	$12.48
	30,000	0	19	$38.60	$54.48	$15.88
	35,000	0	19	$43.10	$62.38	$19.28
	45,000	0	19	$52.10	$78.18	$26.08
	145,000	0	19	$142.10	$236.18	$94.08
SW35, SW CUR 5	0	0	0	$0.00	$7.08	$7.08
	1,000	0	0	$0.00	$8.66	$8.66
	10,000	0	0	$0.00	$22.88	$22.88
	15,000	0	0	$0.00	$30.78	$30.78
	20,000	0	0	$0.00	$38.68	$38.68
	25,000	0	0	$0.00	$46.58	$46.58
	30,000	2	2	$0.00	$54.48	$54.48
	35,000	0	2	$0.00	$62.38	$62.38
	45,000	0	2	$0.00	$78.18	$78.18
	145,000	0	2	$0.00	$236.18	$236.18

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW36, SW CUR 6	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	2	2	$20.60	$22.88	$2.28
	15,000	0	2	$25.10	$30.78	$5.68
	20,000	0	2	$29.60	$38.68	$9.08
	145,000	0	2	$142.10	$236.18	$94.08
SW38, SW CUR 8	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	75,000	0	0	$79.10	$125.58	$46.48
	85,000	0	0	$88.10	$141.38	$53.28
	95,000	0	0	$97.10	$157.18	$60.08
	105,000	2	2	$106.10	$172.98	$66.88
	115,000	0	2	$115.10	$188.78	$73.68
	125,000	0	2	$124.10	$204.58	$80.48
	135,000	0	2	$133.10	$220.38	$87.28
	145,000	0	2	$142.10	$236.18	$94.08
SW39, SW CUR 9	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	2	2	$17.00	$16.56	-$0.44
	7,000	0	2	$17.90	$18.14	$0.24
	8,000	0	2	$18.80	$19.72	$0.92
	9,000	0	2	$19.70	$21.30	$1.60
	10,000	0	2	$20.60	$22.88	$2.28
	15,000	0	2	$25.10	$30.78	$5.68
	20,000	0	2	$29.60	$38.68	$9.08
	145,000	0	2	$142.10	$236.18	$94.08

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW41, SW CUR 18	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	75,000	0	0	$79.10	$125.58	$46.48
	85,000	0	0	$88.10	$141.38	$53.28
	95,000	1	1	$97.10	$157.18	$60.08
	105,000	0	1	$106.10	$172.98	$66.88
	115,000	0	1	$115.10	$188.78	$73.68
	125,000	0	1	$124.10	$204.58	$80.48
	135,000	0	1	$133.10	$220.38	$87.28
	145,000	0	1	$142.10	$236.18	$94.08
SW43, SW CUR 11	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	75,000	0	0	$79.10	$125.58	$46.48
	85,000	0	0	$88.10	$141.38	$53.28
	95,000	1	1	$97.10	$157.18	$60.08
	105,000	0	1	$106.10	$172.98	$66.88
	115,000	0	1	$115.10	$188.78	$73.68
	125,000	0	1	$124.10	$204.58	$80.48
	135,000	0	1	$133.10	$220.38	$87.28
	145,000	0	1	$142.10	$236.18	$94.08
SW62, SW AVG 2	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	5	5	$16.10	$14.98	-$1.12
	6,000	0	5	$17.00	$16.56	-$0.44
	7,000	0	5	$17.90	$18.14	$0.24
	8,000	0	5	$18.80	$19.72	$0.92
	9,000	0	5	$19.70	$21.30	$1.60
	10,000	0	5	$20.60	$22.88	$2.28
	15,000	0	5	$25.10	$30.78	$5.68
	20,000	0	5	$29.60	$38.68	$9.08
	145,000	0	5	$142.10	$236.18	$94.08

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW63, SW AVG 3	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	3	3	$16.10	$14.98	-$1.12
	6,000	0	3	$17.00	$16.56	-$0.44
	7,000	0	3	$17.90	$18.14	$0.24
	8,000	0	3	$18.80	$19.72	$0.92
	9,000	0	3	$19.70	$21.30	$1.60
	10,000	0	3	$20.60	$22.88	$2.28
	15,000	0	3	$25.10	$30.78	$5.68
	20,000	0	3	$29.60	$38.68	$9.08
	145,000	0	3	$142.10	$236.18	$94.08
SW64, SW AVG 4	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	2	2	$20.60	$22.88	$2.28
	15,000	0	2	$25.10	$30.78	$5.68
	20,000	0	2	$29.60	$38.68	$9.08
	145,000	0	2	$142.10	$236.18	$94.08

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW68, SW AVG 8	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	0	0	$20.60	$22.88	$2.28
	15,000	0	0	$25.10	$30.78	$5.68
	20,000	0	0	$29.60	$38.68	$9.08
	25,000	0	0	$34.10	$46.58	$12.48
	30,000	0	0	$38.60	$54.48	$15.88
	35,000	1	1	$43.10	$62.38	$19.28
	45,000	0	1	$52.10	$78.18	$26.08
	55,000	0	1	$61.10	$93.98	$32.88
	145,000	0	1	$142.10	$236.18	$94.08
SW69, SW AVG 9	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	0	0	$20.60	$22.88	$2.28
	15,000	0	0	$25.10	$30.78	$5.68
	20,000	1	1	$29.60	$38.68	$9.08
	25,000	0	1	$34.10	$46.58	$12.48
	145,000	0	1	$142.10	$236.18	$94.08
SW70, SW AVG 33	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	20,000	0	0	$29.60	$38.68	$9.08
	25,000	2	2	$34.10	$46.58	$12.48
	30,000	0	2	$38.60	$54.48	$15.88
	35,000	0	2	$43.10	$62.38	$19.28
	145,000	0	2	$142.10	$236.18	$94.08

Table 18 - Bills Before and After Rate Adjustments

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume and Below the Next	Customers up to and Including This Volume	Current Bill	Modeled Bill	Modeled Bill Increase or Decrease (-)
SW72, SW AVG 24	0	0	0	$12.50	$7.08	-$5.42
	1,000	0	0	$12.50	$8.66	-$3.84
	2,000	0	0	$13.40	$10.24	-$3.16
	3,000	0	0	$14.30	$11.82	-$2.48
	4,000	0	0	$15.20	$13.40	-$1.80
	5,000	0	0	$16.10	$14.98	-$1.12
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	30,000	0	0	$38.60	$54.48	$15.88
	35,000	0	0	$43.10	$62.38	$19.28
	45,000	3	3	$52.10	$78.18	$26.08
	55,000	0	3	$61.10	$93.98	$32.88
	145,000	0	3	$142.10	$236.18	$94.08
SW73, SW AVG 42	0	0	0	$12.50	$7.08	-$5.42
	6,000	0	0	$17.00	$16.56	-$0.44
	7,000	0	0	$17.90	$18.14	$0.24
	8,000	0	0	$18.80	$19.72	$0.92
	9,000	0	0	$19.70	$21.30	$1.60
	10,000	0	0	$20.60	$22.88	$2.28
	15,000	0	0	$25.10	$30.78	$5.68
	20,000	0	0	$29.60	$38.68	$9.08
	115,000	0	0	$115.10	$188.78	$73.68
	125,000	0	0	$124.10	$204.58	$80.48
	135,000	0	0	$133.10	$220.38	$87.28
	145,000	1	1	$142.10	$236.18	$94.08
SW99, SW NO BILL	0	1	1	$12.50	$7.08	-$5.42
	1,000	0	1	$12.50	$8.66	-$3.84
	2,000	0	1	$13.40	$10.24	-$3.16
	3,000	0	1	$14.30	$11.82	-$2.48
	4,000	0	1	$15.20	$13.40	-$1.80
	5,000	0	1	$16.10	$14.98	-$1.12
	6,000	0	1	$17.00	$16.56	-$0.44
	7,000	0	1	$17.90	$18.14	$0.24
	8,000	0	1	$18.80	$19.72	$0.92
	9,000	0	1	$19.70	$21.30	$1.60
	10,000	0	1	$20.60	$22.88	$2.28
	15,000	0	1	$25.10	$30.78	$5.68
	20,000	0	1	$29.60	$38.68	$9.08
	145,000	0	1	$142.10	$236.18	$94.08

Chart 1 - Operating Ratio

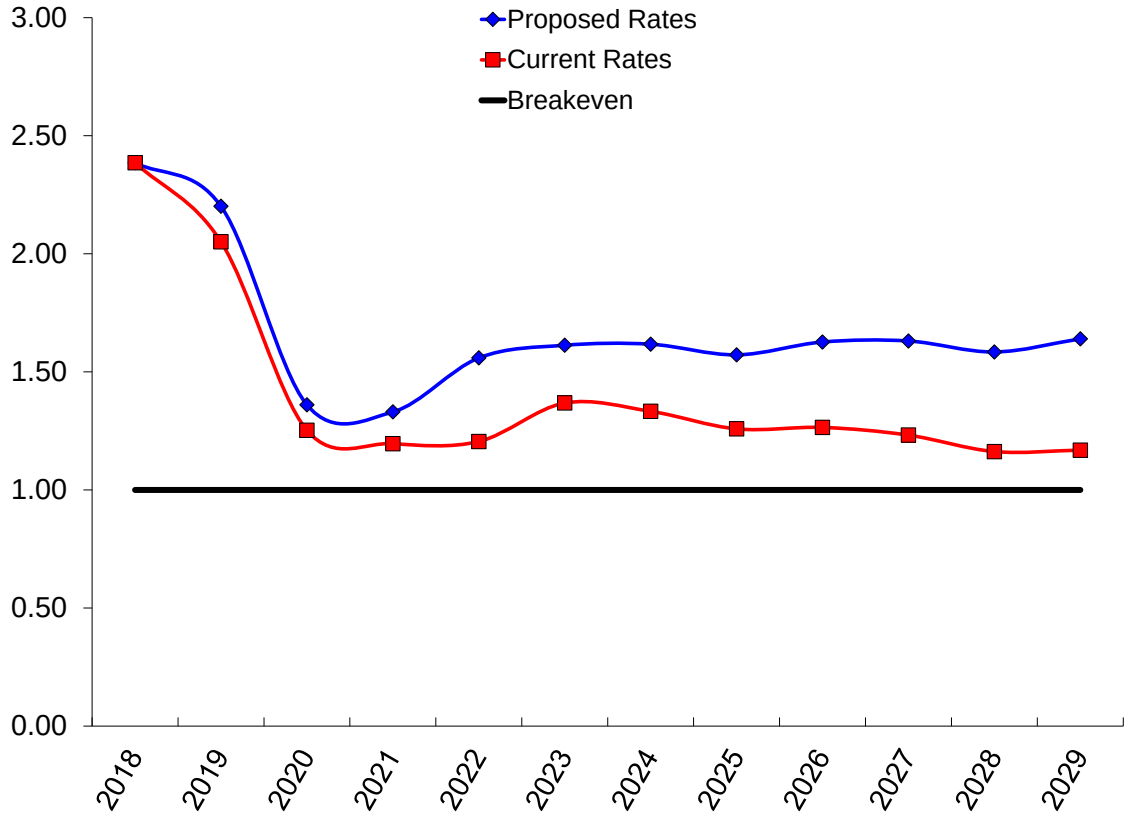

Chart 2 - Coverage Ratio

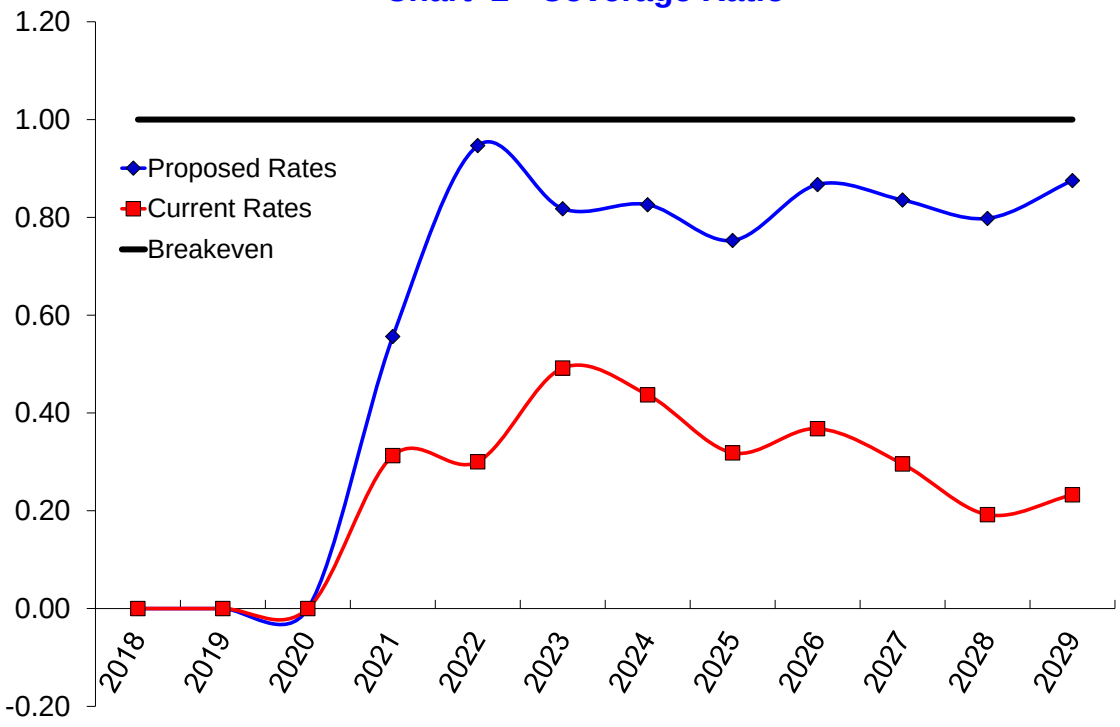

Chart 3 - Residential Users' Bills

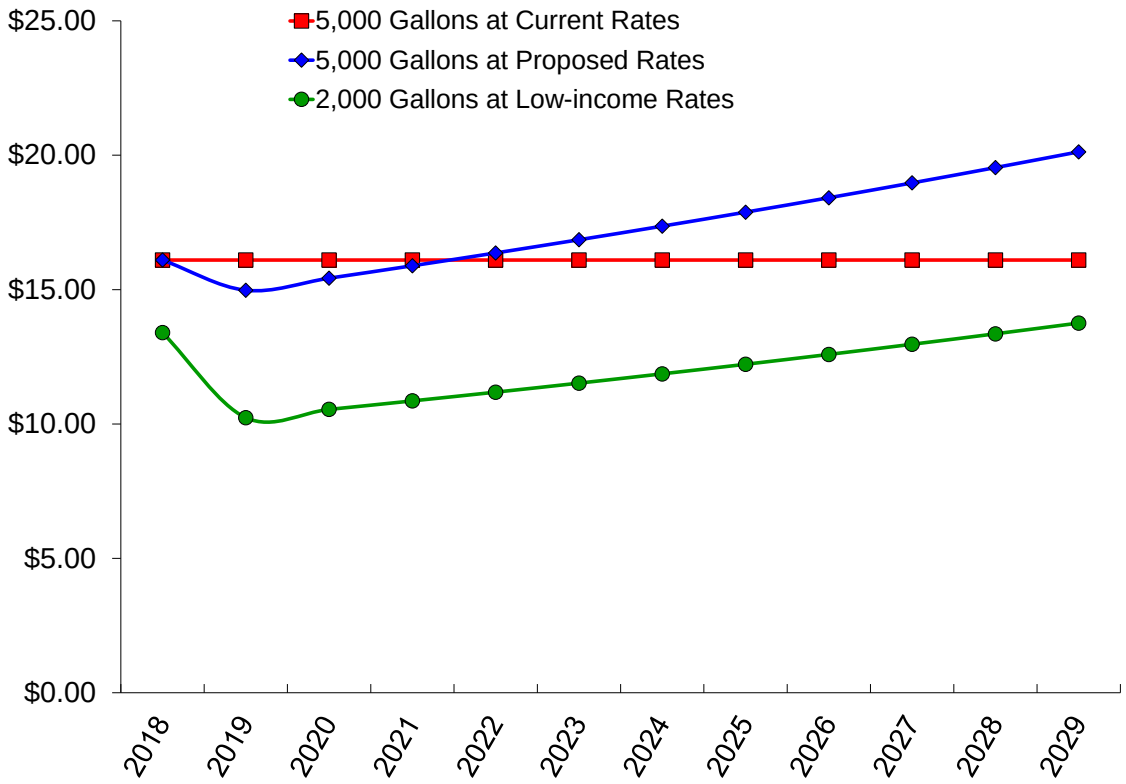

Chart 4 - Affordability

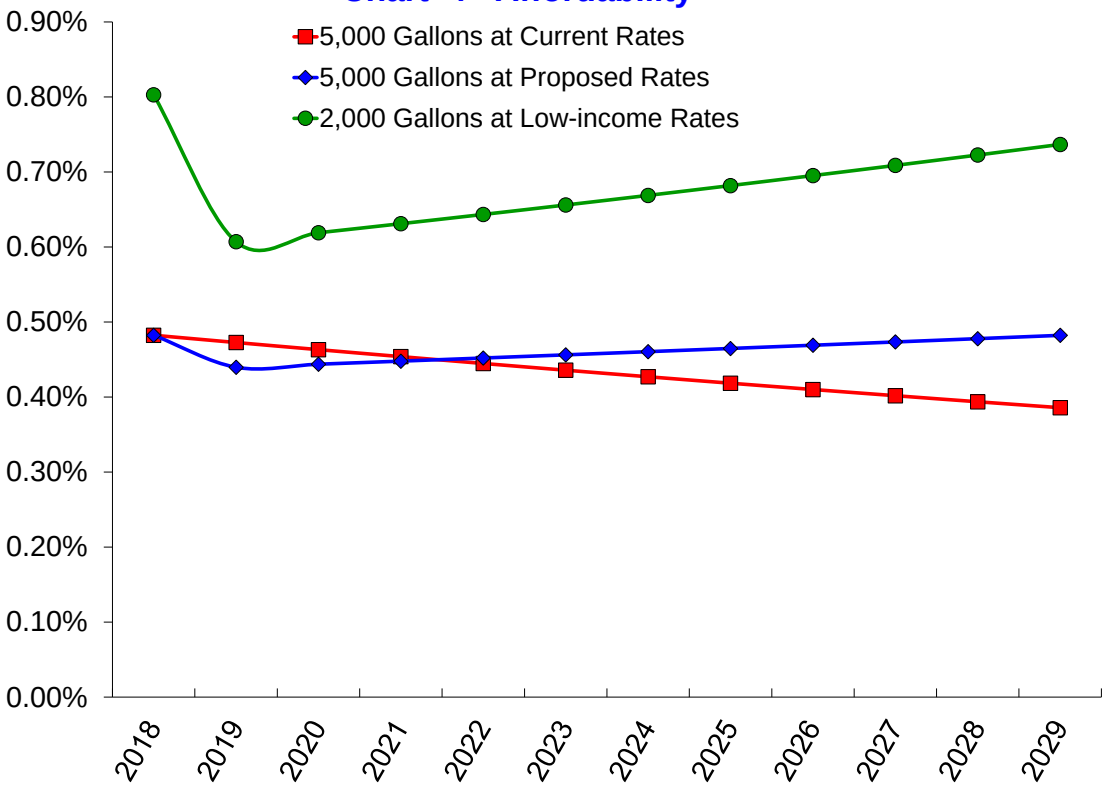

Chart 5 - Working Capital vs Goal

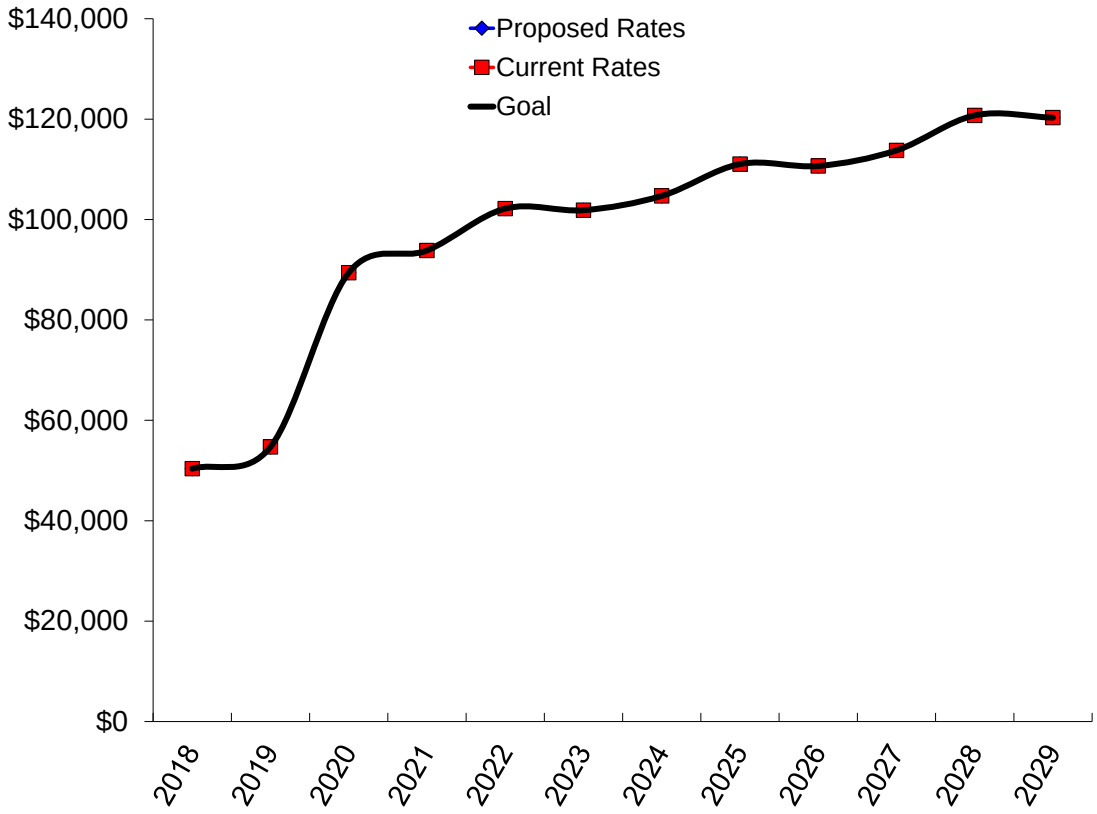

Chart 6 - Value of Cash Assets Before Inflation

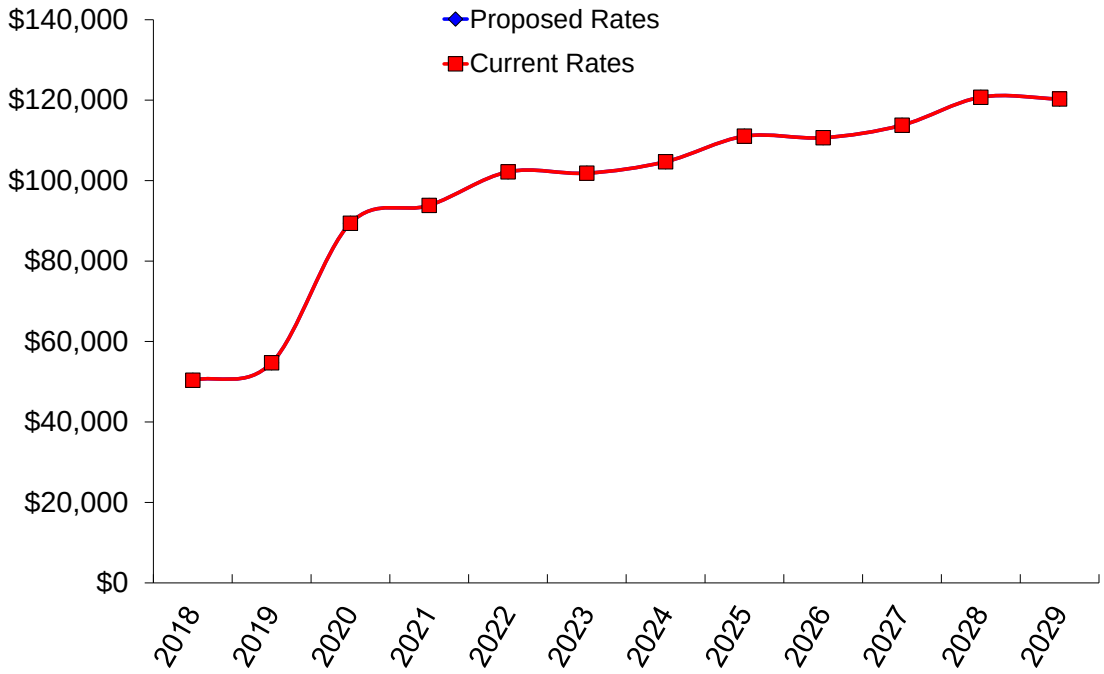

Chart 7 - Value of Cash Assets After Inflation

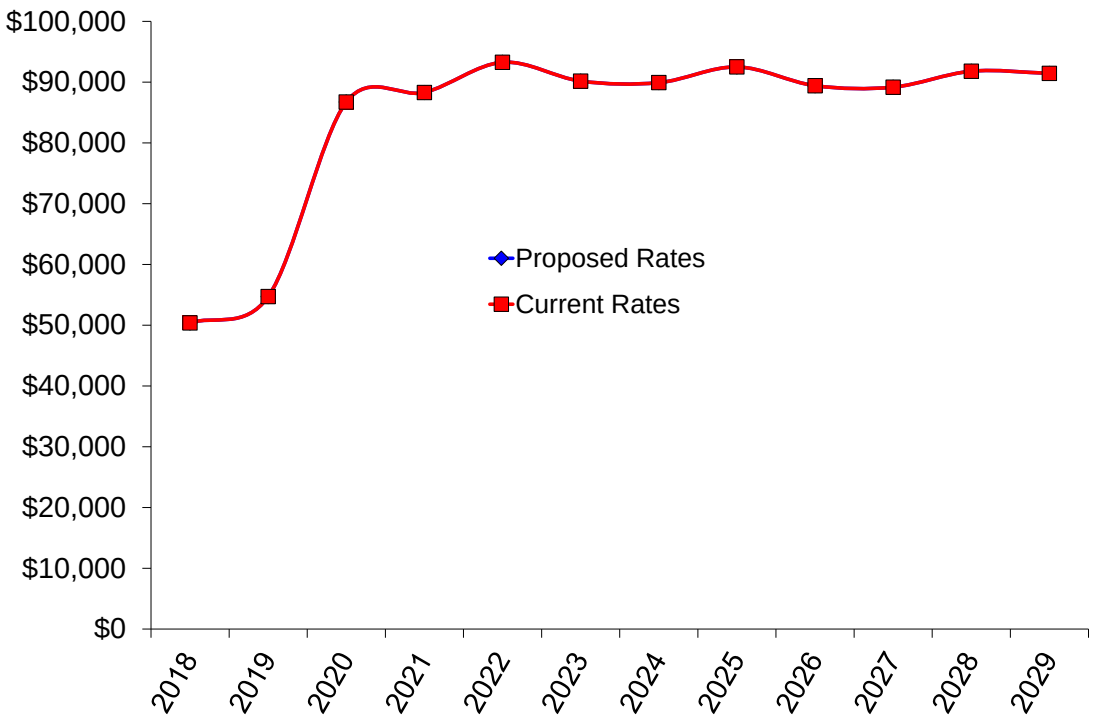

Chart 8 - Sum of All Reserves