



## City of Smithville, Missouri

### Board of Aldermen - Work Session Agenda

August 3, 2021


**5:30 p.m. – City Hall Council Chambers \*\*\* Via Videoconference\*\*\***

**NOTICE:** \*Due to the Health Officer's orders for safety, public meetings and public comment during public meetings will require modification. The City of Smithville is committed to transparent public meetings and will continue this commitment during the COVID-19 crisis. Anyone who wishes to view the meeting may do so in real time as it will be streamed live on the city's FaceBook page through FaceBook Live.

For Public Comment, please email your request to the City Clerk at [ldrummond@smithvillemo.org](mailto:ldrummond@smithvillemo.org) prior to the meeting to be invited via Zoom.

1. Call to Order
2. Discussion of Combined Water and Wastewater Systems Fund
3. Discussion of Reapportionment Process – Ward Boundaries
4. Adjourn



	<div>STAFF REPORT</div>
<b>Date:</b>	August 3, 2021
<b>Prepared By:</b>	Stephen Larson, Finance Director Chuck Soules, Public Works Director
<b>Subject:</b>	CWWS Fund, South Sewer Project Financing
<b>Staff Report:</b>	Finance and Public Works

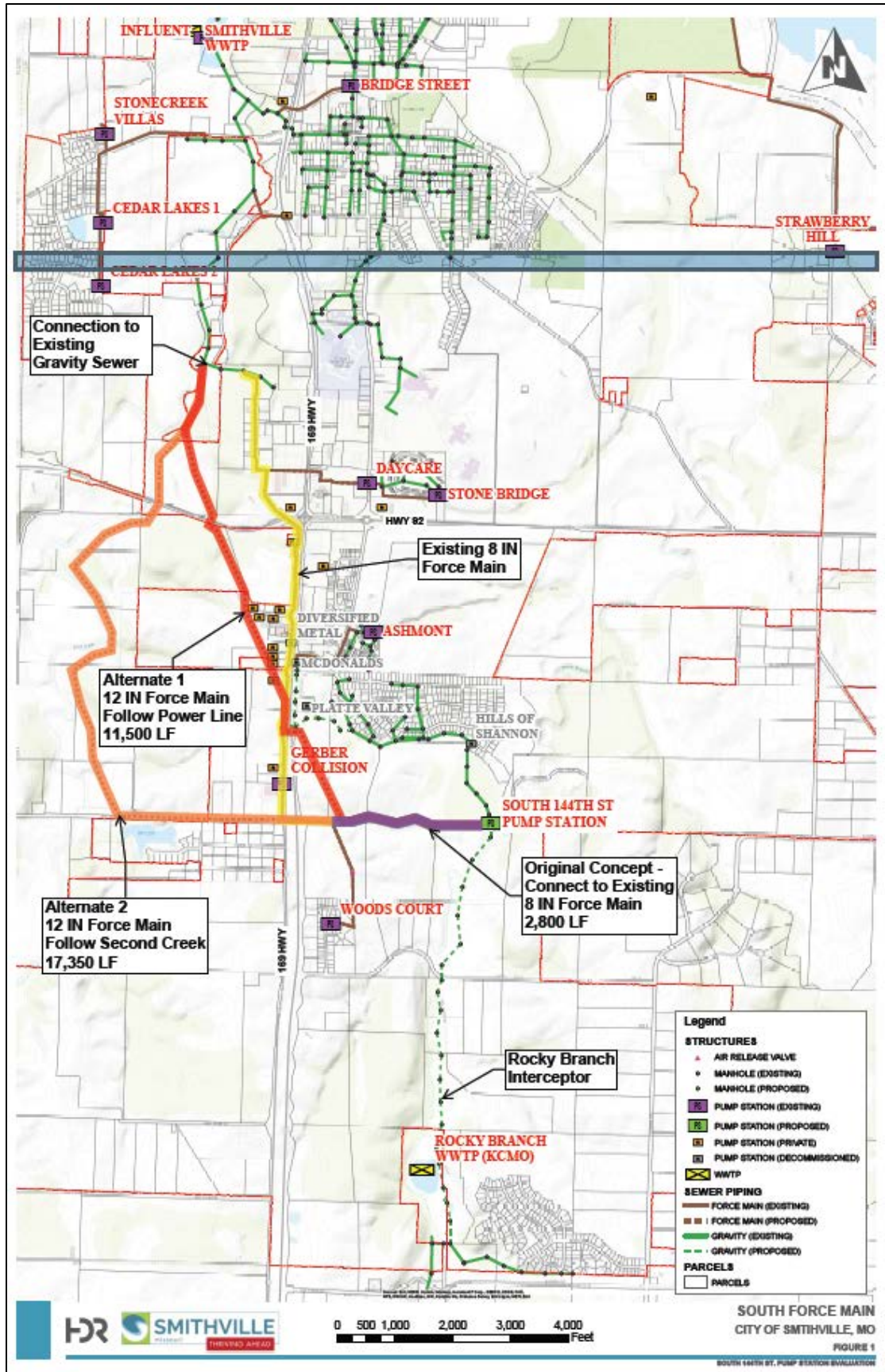
The 2022-2026 Capital Improvement Plan for the CWWS (Combined Water & Wastewater Fund) is a continued strategy to make key water and sewer investments for the City of Smithville. As seen in the grand totals for the CWWS Fund CIP, the next 5 years features water and wastewater projects totaling \$22,075,000 in estimated project cost, 50% of which are slotted in the final outyears of the 5-year plan. These final outyears include a major water plant expansion project and a major wastewater treatment plant expansion project which address the increased need for water production and sewer treatment capacity related to future projected growth in population, housing, and business. As we move closer to these outyears, staff will continue to evaluate the need for these major projects through the growth of the City and limitations on current production and treatment capacity.

In looking at the next 1-2 years of the 2022-2026 CIP, staff is seeking Board direction related to sewer projects on the south end of Smithville, debt issuance and rate increases.

### **South Sewer Project**

At the Board of Alderman meeting held May 18, 2021, the Board received a report and update on the status of the 144<sup>th</sup> Street Lift Station and the South Interceptor (also referred to as the Rocky Branch Interceptor and / or Forest Oaks Interceptor). The report noted that the pressure needed for the 144<sup>th</sup> Street Lift station to overcome head and friction losses would cause several small existing lift stations to become inoperable. HDR developed 2 alternatives, which are shown in Figure 1 on the next page:

**Continue to Page 2 to view Figure 1 (provided by HDR)**



HDR cited two main drivers for the construction of the South Interceptor, which were:

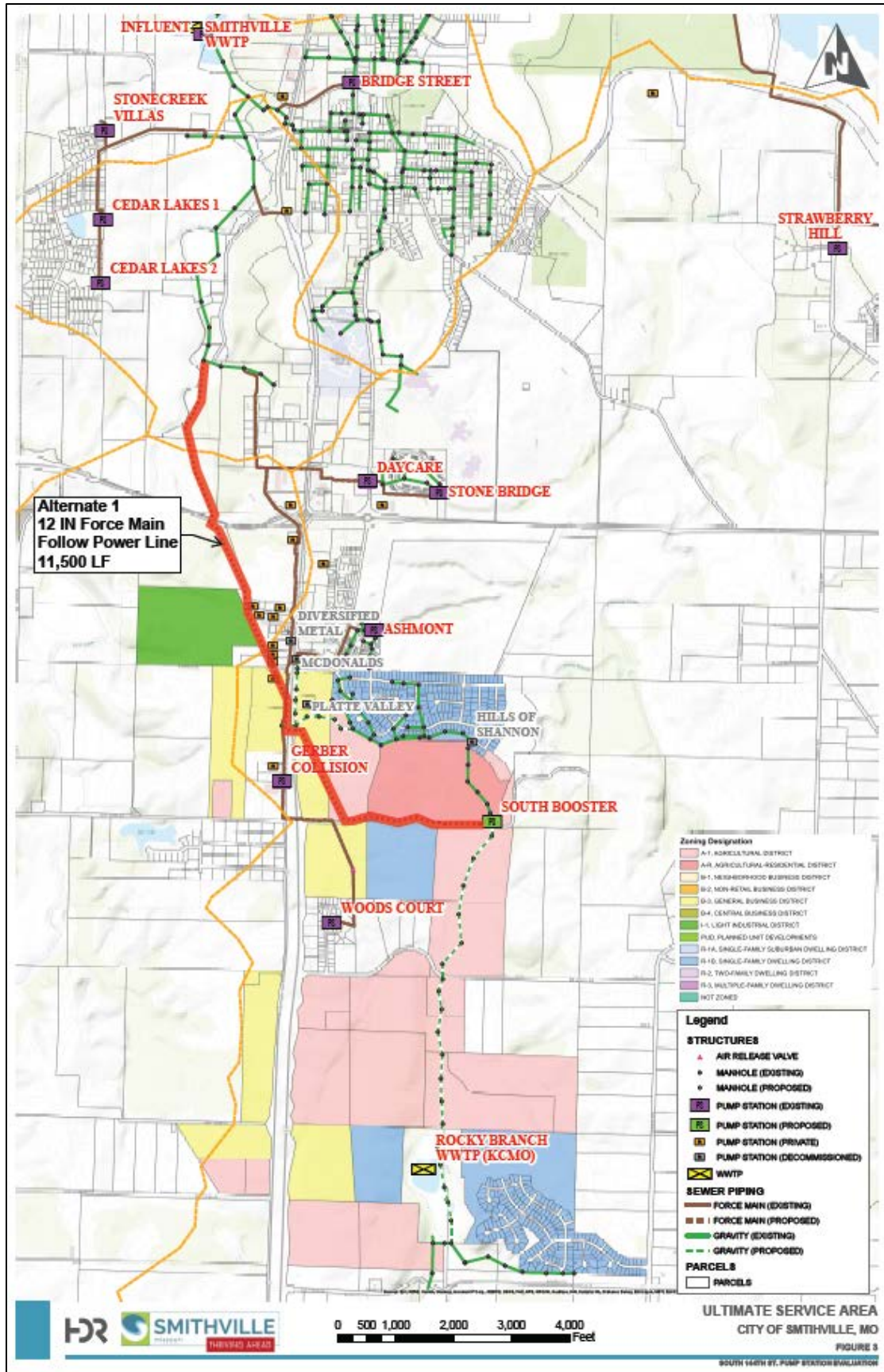
- 1) Replace the aging and substandard existing Hills of Shannon subdivision pump station.
- 2) Allow the wastewater flows from the Forest Oaks Subdivision to be diverted from Kansas City, Missouri's Rocky Branch wastewater treatment plant to Smithville's wastewater treatment plant (which was a more economical solution for Smithville).

After further review of **Alternate #1** and **Alternate #2**, as presented in Figure 1 on Page 2, staff has made the following findings:

- A. The cost to treat the sanitary sewage from Forest Oaks each year is about \$123,458. The monthly payment to treat the sewage is made to Kansas City, MO. The City collects approximately \$89,978 each year from the residents in the Forest Oaks subdivision. The estimated cost for the construction of the South Inceptor is approximately \$1.8 million. The payback for this project, at \$1.8 million, is over 50 years ( $\$1.8 \text{ million} / \$33,000 \text{ per year} = 54 \text{ years}$ ). While the payback is certainly well in the future, the construction of the south interceptor would pave the road for development in south Smithville. However, the new 144<sup>th</sup> Street Lift Station would cause several other pumps to become inoperable.
- B. **Alternate #1** (West Bypass of 144<sup>th</sup> Street Lift Station) would allow the 144<sup>th</sup> Street Lift Station to be constructed. This project would also allow the Hills of Shannon force main to be converted to a gravity sewer line which would eliminate the Hills of Shannon lift station. Alternate #1 will also provide for potential development in south Smithville through the extension of a line south (see green dotted line on Figure 2 on next Page). Some of the alignment of Alternate #1 follows a utility easement. Staff has contacted Evergy and is discussing the City's ability to utilize a portion of the easement to avoid easement acquisition.

**Continue onto Page 4 to view Figure 2 (provided by HDR)**





- C. **Alternate #2** (see in Figure 1 on Page 2) follows Second Creek west of Highway 169 in west Smithville. This option is longer, more expensive, and will require significant easement acquisition.

After reviewing these options, staff's recommendation is to proceed with the construction of the 144<sup>th</sup> Street Lift Station and the construction of **Alternate #1** (West Bypass of 144<sup>th</sup> Street Lift Station). The plans are nearly completed for the 144<sup>th</sup> Street Lift Station with an estimated construction cost of \$1.5 million. Alternate #1 is estimated to cost approximately \$2.5 million, which includes engineering, easement/ROW, and construction costs. Staff would also request Board authorization to have HDR prepare an engineering services agreement, project scope, and fee for Alternate #1. This request would be presented to the Board for approval.

Given the recommendation above, the 2022-2026 CIP has undergone edits and changes to projects planned for the 5-year period. In FY2022, the CIP features a budget of **\$500,000** for engineering and easement/right-of-way costs for the West Bypass of 144<sup>th</sup> Street Lift Station. In looking at the upcoming CWWWS cashflow graph for FY2022, staff anticipates having the financial capability to pay cash for the engineering/ROW while still retaining a required reserve amount above 20% of the CWWWS operating budget.

In FY2023, the CIP features **\$1,500,000** for the construction of the 144<sup>th</sup> Street Lift Station and **\$2,000,000** for the construction of the West Bypass of 144<sup>th</sup> Street Lift Station. Together, the total project cost is \$4 million with engineering of \$500,00 and construction of the bypass and lift station at \$3.5 million. Due to the costs of this project, the City is not projected to be in an appropriate financial position to pay cash for the West Bypass of 144<sup>th</sup> Street Lift Station. As indicated by the CWWWS Fund 5-year cashflow model, paying cash (\$3.5 million) for this project would meaning incurring a severe deficit in the fund in FY2023 (nearly \$1.3 million deficit). Staff also discussed the possibility of using sewer impact cash for this project. However, with major plant expansion projects on the horizon, such as the wastewater treatment plant expansion project, staff is proposing to continue to buildup fund balance for sewer impact cash as a strategy to support funding that project.

Staff is seeking Board direction on the desired course of action regarding south sewer improvements.

### **Debt Issuance**

Funding this project would require issuing debt. Debt issuance has been anticipated for the last several years in association with the scope of projects identified. Staff has been working with Piper Sandler, the City's financial advisory services provider, to explore financing options. One conversation involved exploring alternative financing options, such as the State Revolving Fund (SRF), a subsidized low interest loan program which is facilitated through the State. The SRF does offer some advantages, but also has disadvantages. The SRF can offer lower interest rates on the issuance of debt. However, when applicants submit projects for funding through the SRF, all submitted projects are prioritized for available funding and are listed in the annual SRF "Intended Use Plan". The

Department of Natural Resources (DNR) also reviews plans and applications for water and sewer projects, which would further delay the project to completion. This is one primary disadvantage as funding is not guaranteed once an application is submitted due to this prioritization process. In addition, SRF requires voter approved revenue GO Bonds (General Obligation), so the process has this additional burden.

Staff also discussed issuing a COP (Certificate of Participation) to finance the West Bypass of 144<sup>th</sup> Street Lift Station project. This is the recommended financing route. The City issued a COP (Series 2018) for pay for the Wastewater Plant Upgrade and South Interceptor project. While a COP issuance may carry a slightly higher interest rate than a SRF loan, the COP carries much more flexibility and less limitations on the timeline of starting the project. At this point, staff is in the process of developing a debt service (amortization) schedule applicable for project costs of \$3.5 million.

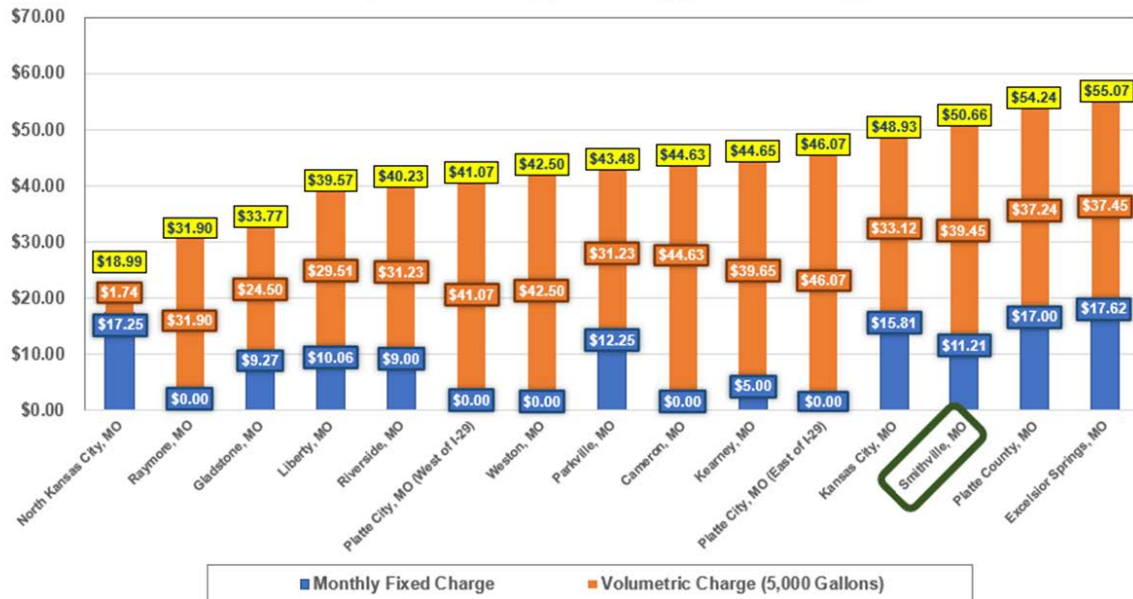
Staff seeks Board direction regarding a preferred financing option or either SRF or issuing a COP.

### **Utility Rates**

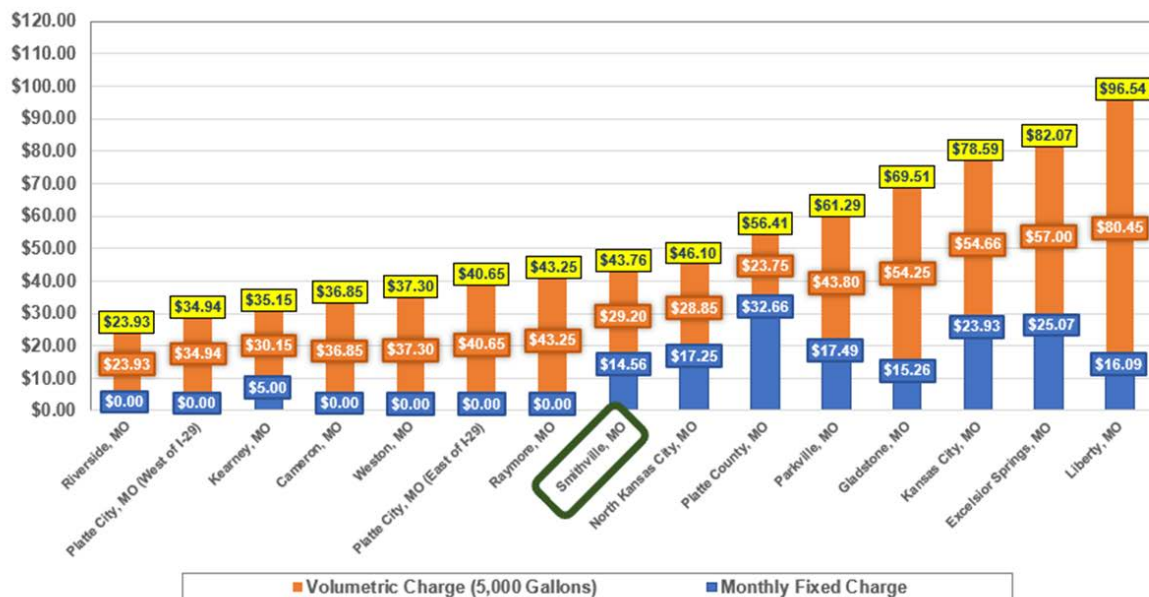
Once Piper Sandler produces a debt service schedule, staff would be ready to input the debt service schedule into the CWWS Forecast and evaluate revenue needs via utility rate analysis. This process involves updating the utility rate study which forecasts revenues, expenses, and helps staff determine the necessary rate structure to pay for future operating and capital costs. In November 2018, Rafetelis Financial Consultants, LLC presented a utility rate study, which included a five-year plan for recommended water and sewer structure changes and rate increases. The City has continued to implement the recommendations of the rate study which has provided necessary revenue to pay for previous COP issuances (such as the Series 2018).

In addition, Finance staff has worked to create utility rate comparison charts for City of Smithville comparable cities. Charts have been completed for water rates, sewer rates, and water/sewer impact fees. Please see next page for those charts:

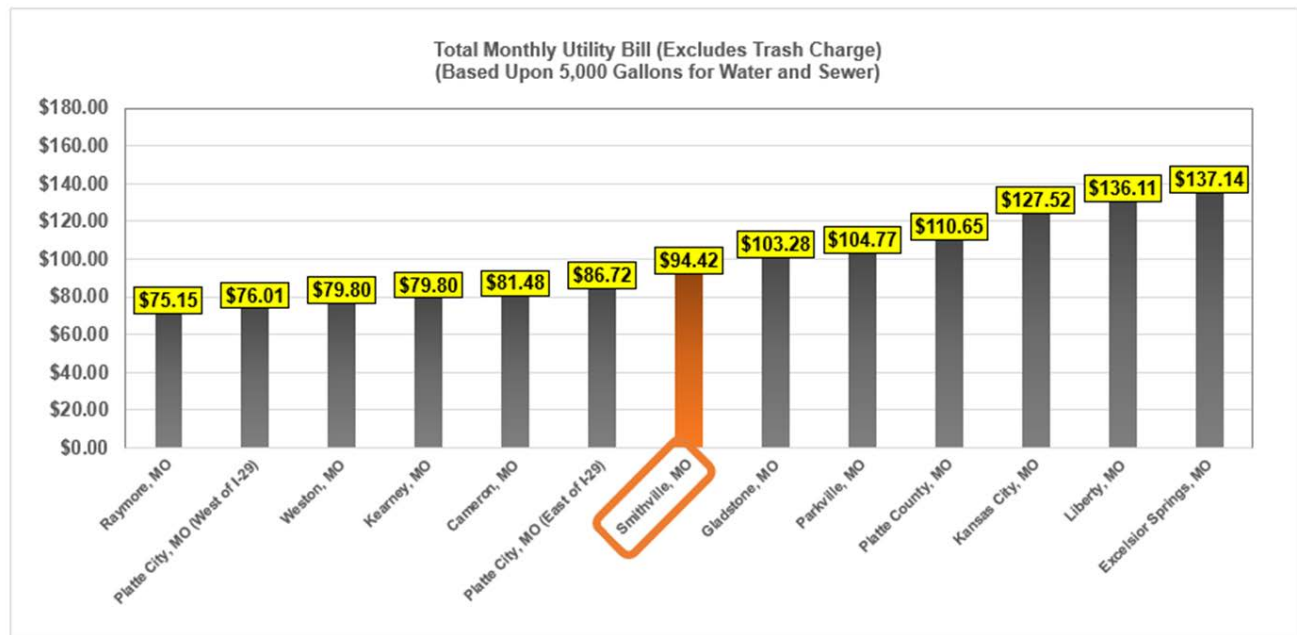
Residential (3/4") Water Rate Comparison Based Upon 5,000 Gallons Used in Month  
(Volumetric Charge, Fixed Charge, and Total Charge)



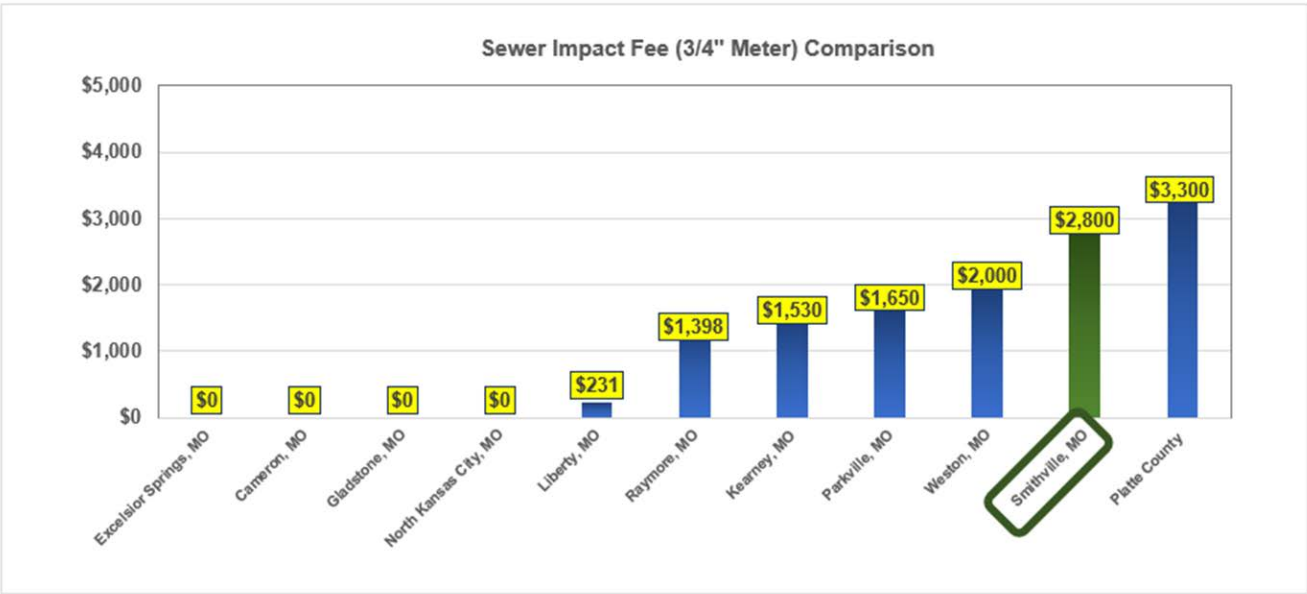
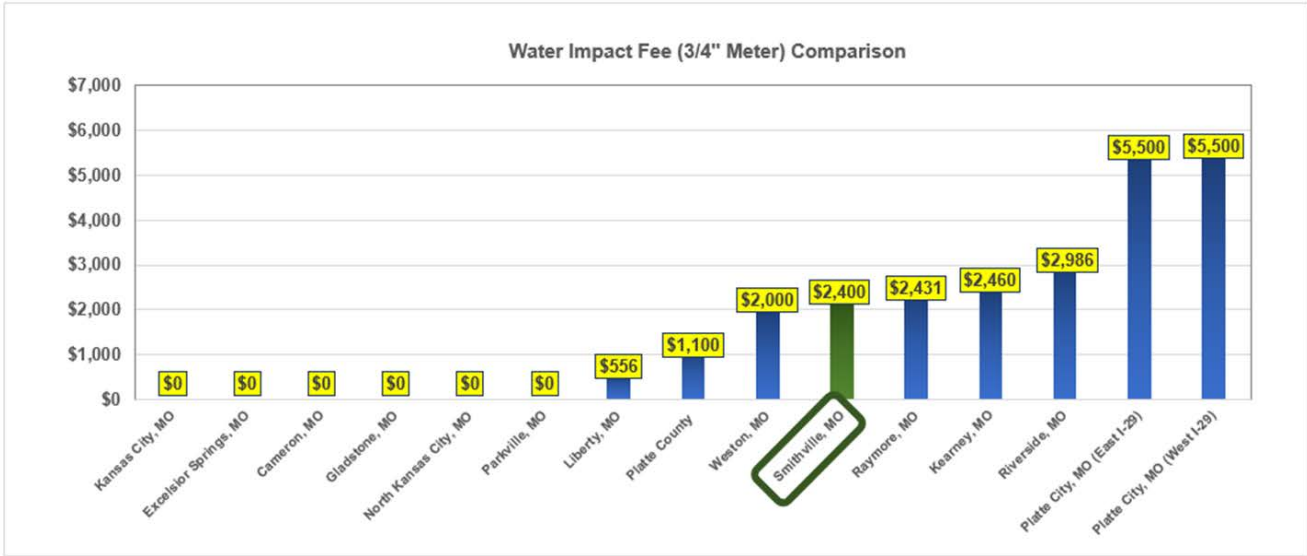
Residential (3/4") Sewer Rate Comparison Based Upon 5,000 Gallons Used in Month  
(Volumetric Charge, Fixed Charge, and Total Charge)







Continue onto Page 9 to view more comparison charts



Currently, Finance staff are working on inputting financial data from the proposed FY2022 CWWS Fund budget into the utility rate model. The latest utility rate model features a 5% increase to the water volume and water fixed charges and a 10% increase to wastewater volume and wastewater fixed charges. As staff continues to update the model with the 2022-2026 CIP, account growth trends and operating expenses, proposed rate changes will be presented to the Board.

**Requested Action**

Staff seeks Board direction on the preferred alternative to address south sewer needs and preferred financing method (COP or SRF). With this information, staff will work with Piper Sandler to develop the debt schedules and update the rate structure information and will present rate change recommendations to the Board.



## CWWS Fund & Proposed 5 Year CIP



**SMITHVILLE**  
missouri

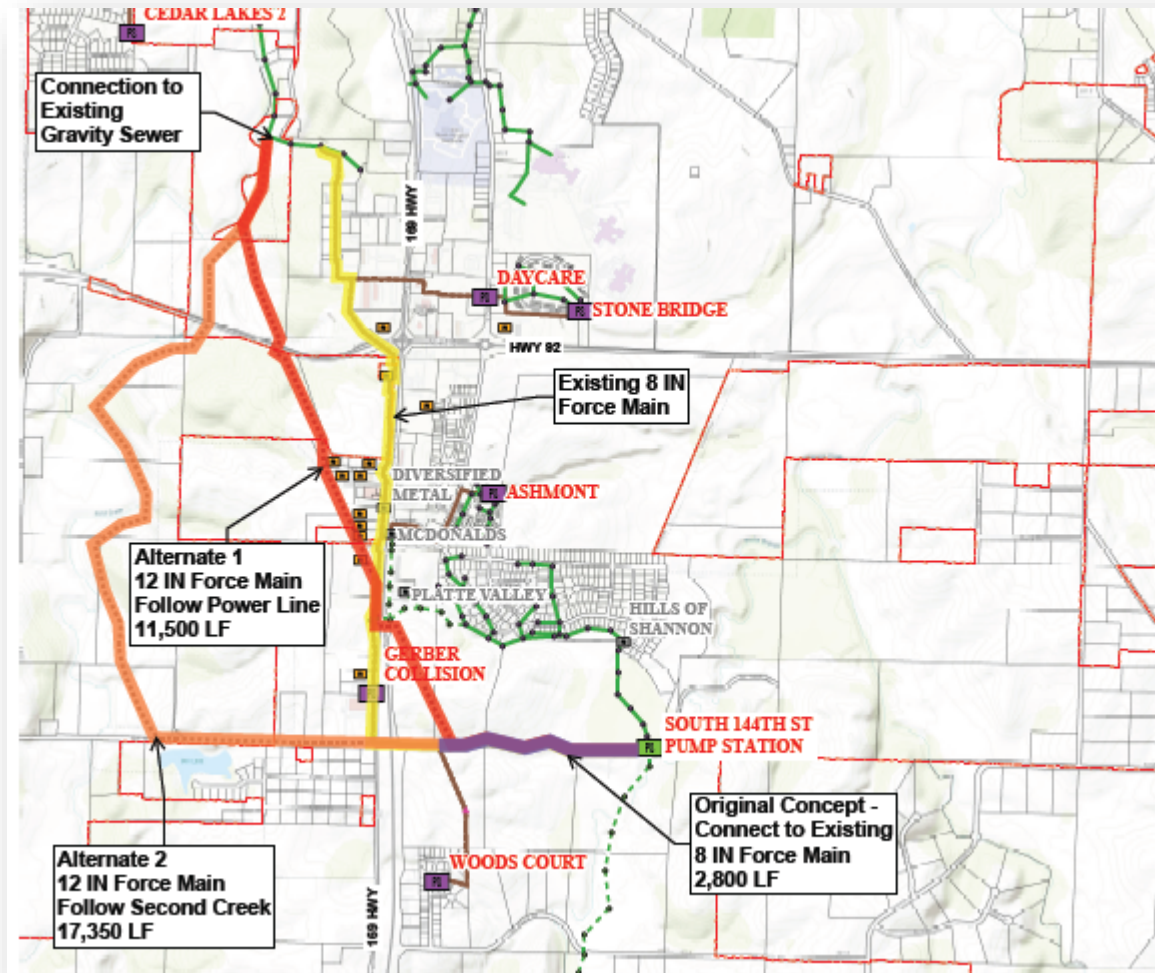




# Combined Water and Wastewater Fund

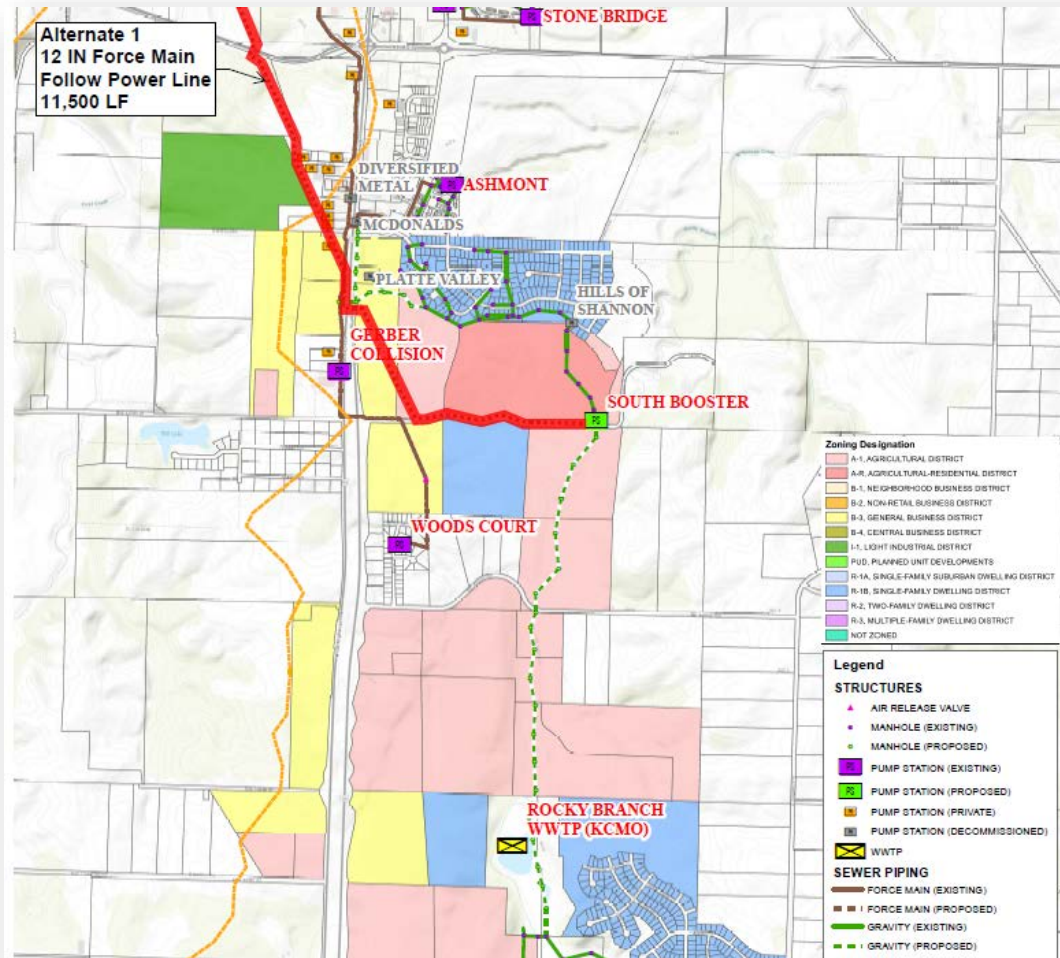
# CWWS FUND

## South Sewer CIP Project

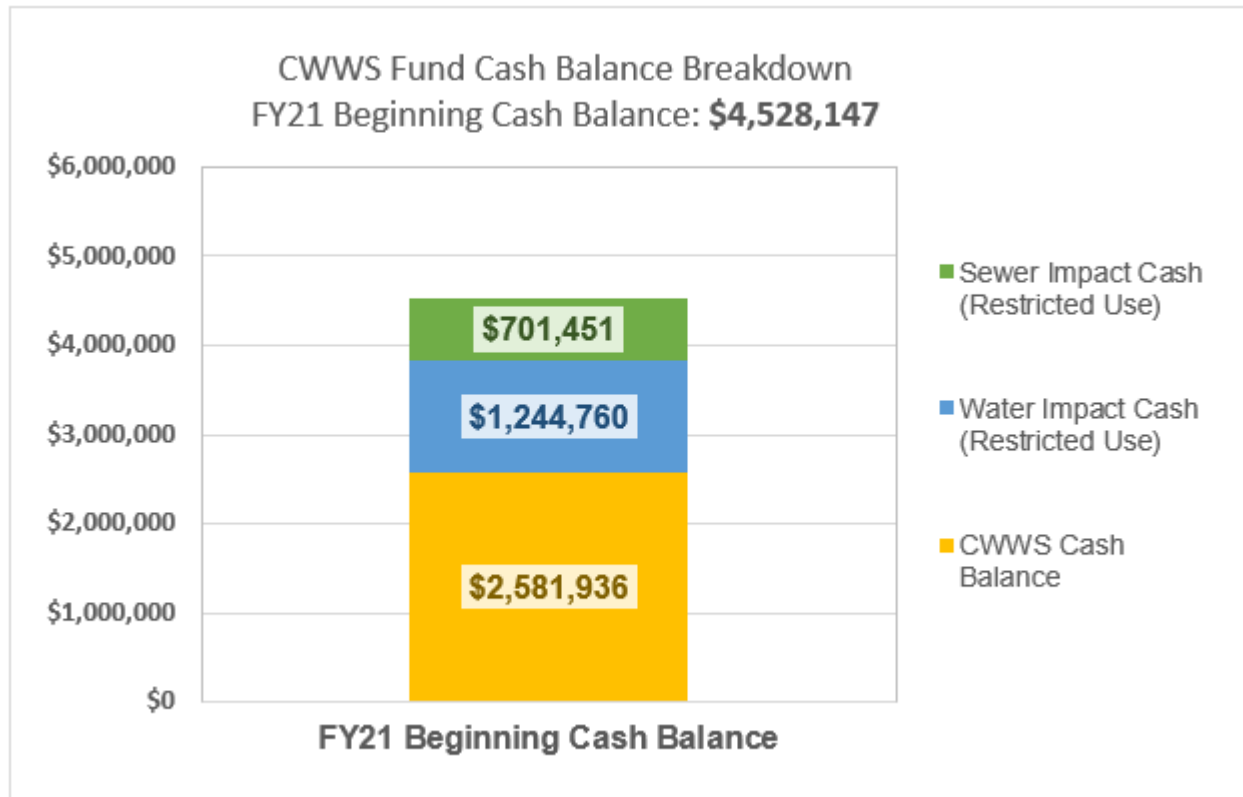


# CWWS FUND

## South Sewer CIP Project



# Combined Water/Wastewater FY21 Beginning Cash Balance Breakdown



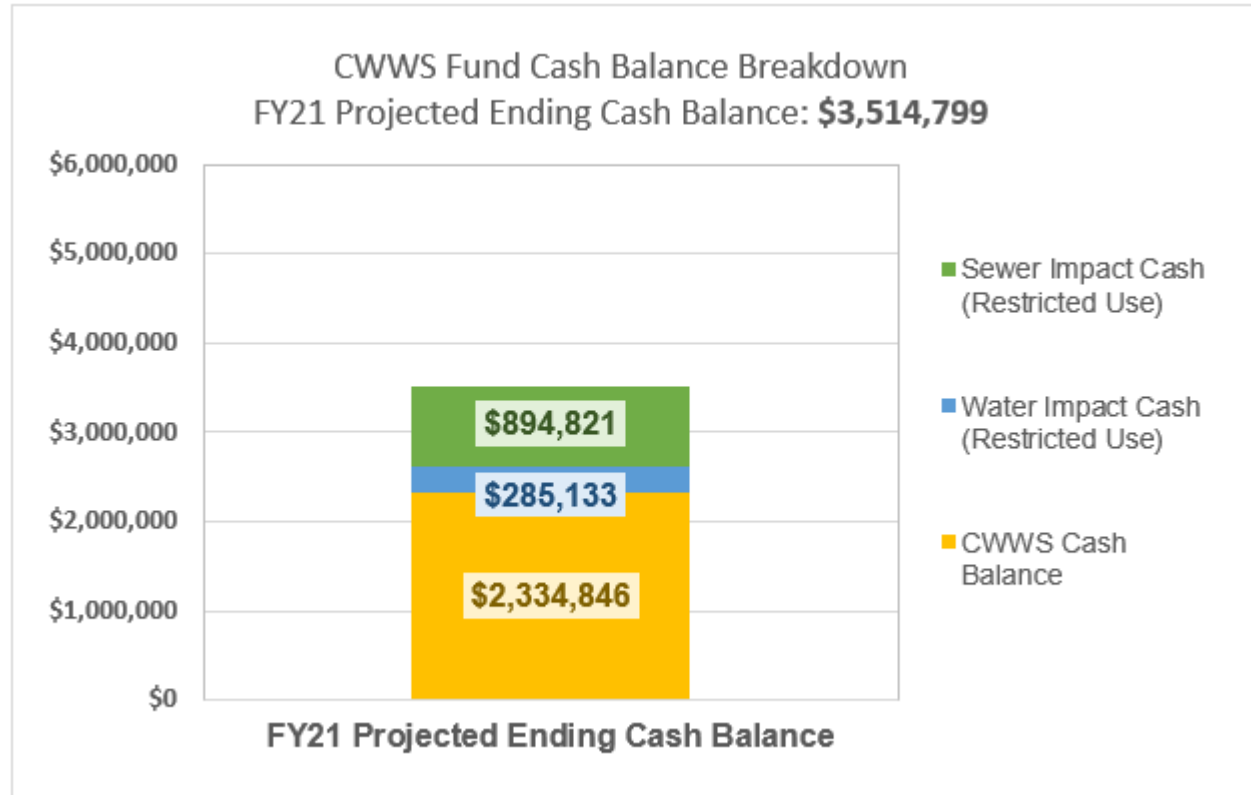
Ending cash balance for CWWS found on **Page 12** of 2020 Financial Statements provided by Auditor



# Combined Water/Wastewater Fund FY21 Fund Balance Projection

Combined Water/Wastewater Fund	FY21 Original Budget	FY21 Projected	Delta
Beginning Cash Balance (FY21 Actual)	\$2,902,646	\$4,528,147	\$1,625,501
Revenues	\$4,808,890	\$4,896,983	
Expenditures	\$6,127,260	\$5,910,331	
Ending Cash Balance	\$1,584,276	\$3,514,799	\$1,930,523

# Combined Water/Wastewater FY21 Projected Ending Cash Balance Breakdown



# COMBINED WATER & WASTEWATER SYSTEM FUND

## Proposed 5 Year CIP

Capital Improvement Project	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Vehicle & Equipment Replacement Fund Transfer	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Finish Raw Water Pump & Campground Station ( <b>Engineering</b> )	\$100,000	-	-	-	-
4th Street and 4th Terrace ( <b>Engineering</b> )	\$60,000	-	-	-	-
4th Street and 4th Terrace ( <b>Construction</b> )	\$300,000	-	-	-	-
Floating Aerator	\$200,000	-	-	-	-
Water Plant Lagoon Cleaning	\$150,000	-	-	-	-
HVAC System (Wastewater Plant)	\$20,000	-	-	-	-
GIS/Asset Management (Cost Split 50/50 With CWWWS)	\$50,000	-	-	-	-
UV Lights (Wastewater Plant)	\$40,000	-	-	-	-
Utility Rate Study Update (Impact fees/User Charges)	\$25,000	-	-	-	-
Woods Court Lift Station Rehab	\$40,000	-	-	-	-
West Bypass 144th Street Lift Station ( <b>Engineering &amp; Right of Way</b> )	\$500,000	-	-	-	-

# COMBINED WATER & WASTEWATER SYSTEM FUND

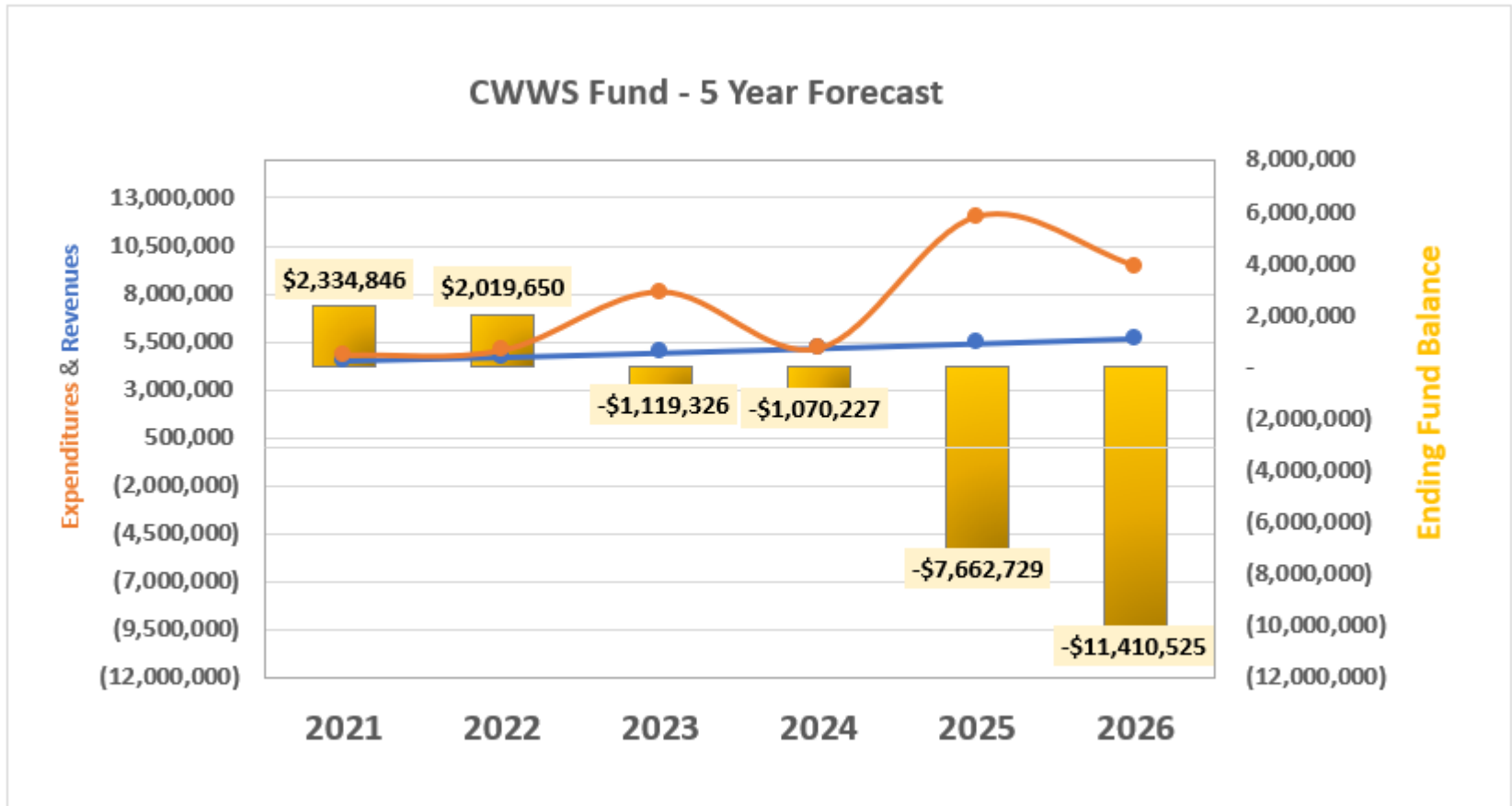
## Proposed 5 Year CIP (Continued)

Capital Improvement Project	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
144th Street Lift Station ( <b>Construction</b> )	-	\$1,500,000	-	-	-
West Bypass 144th Street Lift Station ( <b>Construction</b> )	-	\$2,000,000	-	-	-
River Crossing (12" Waterline) ( <b>Engineering</b> )	-	\$100,000	-	-	-
Tower Interconnect at Amory/169	-	\$20,000	-	-	-
Water Plant Expansion ( <b>Engineering</b> )	-	\$1,000,000	\$1,000,000	-	-
River Crossing (12" Waterline) ( <b>Construction</b> )	-	-	\$500,000	-	-
Interconnect Mains at 144th/169 Highway	-	-	\$20,000	-	-
Maple Lane (12" Waterline) ( <b>Engineering</b> )	-	-	\$50,000	-	-
Highway 92 & Commercial Waterline ( <b>Engineering</b> )	-	-	\$50,000	-	-
Maple Lane (12" Waterline) ( <b>Construction</b> )	-	-	-	\$250,000	-
Highway 92 & Commercial Waterline ( <b>Construction</b> )	-	-	-	\$200,000	-
144th Street to Forest Oaks Gravity Line ( <b>Construction</b> )	-	-	-	\$3,000,000	-
Water Plant Expansion ( <b>Construction</b> )	-	-	-	\$5,000,000	\$5,000,000
Wastewater Treatment Plant Expansion ( <b>Phase I &amp; II Engineering</b> )	-	-	-	-	\$800,000
<b>Grand Total (Net Cost)</b>	<b>\$1,505,000</b>	<b>\$4,640,000</b>	<b>\$1,640,000</b>	<b>\$8,470,000</b>	<b>\$5,820,000</b>

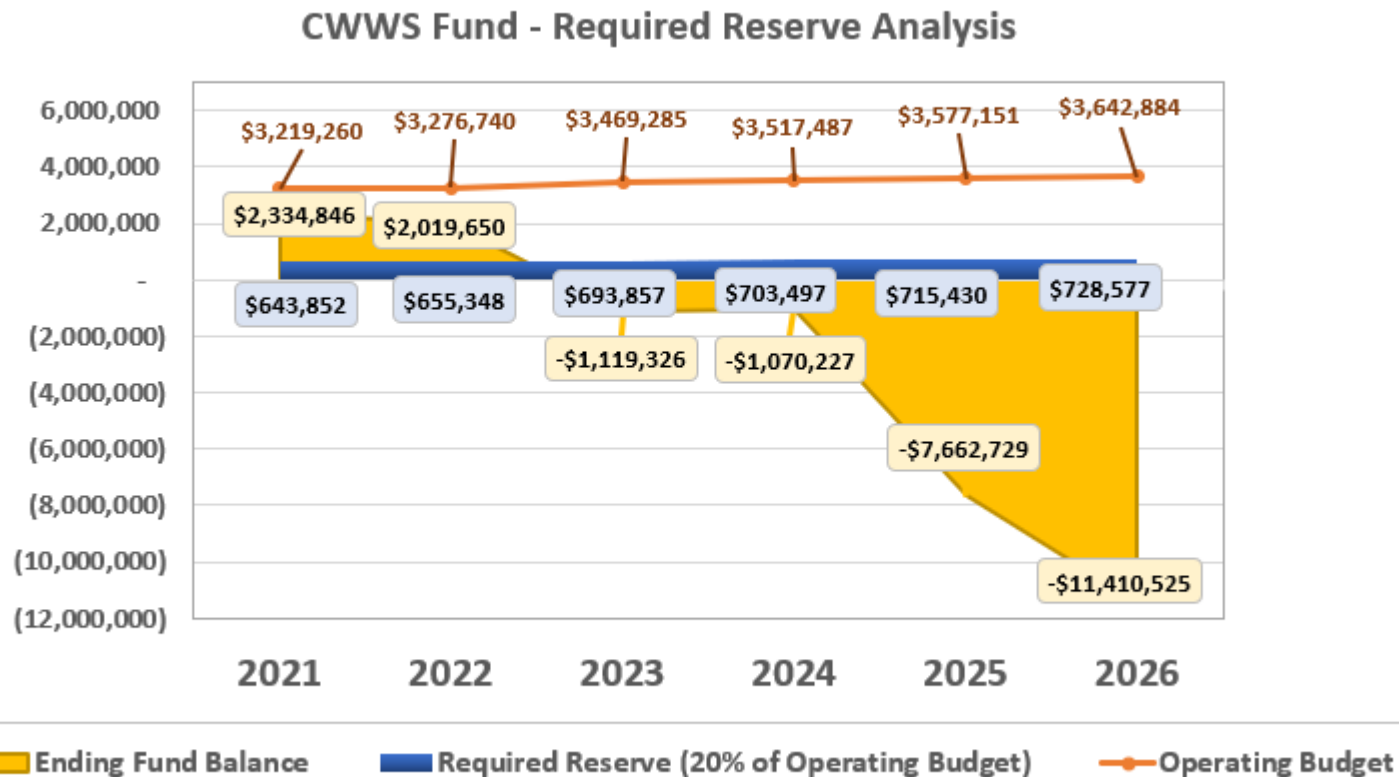


# CWWS FUND

## CWWS Cash – 5 Year Forecast



# CWWS Fund (CWWS Cash) 5 Year Required Reserve Analysis



# COMBINED WATER & WASTEWATER SYSTEM FUND

## Pending 5 Year CIP

Capital Improvement Project	Cost Estimate
F Highway Water Line Replacement	\$300,000
Quincy Waterline Replacement ( <b>Engineering &amp; Construction</b> )	\$600,000
Main Street Waterline (River Crossing to Liberty) ( <b>Engineering &amp; Construction</b> )	\$250,000
Helvey Park 12" Waterline ( <b>Engineering &amp; Construction</b> )	\$700,000
169 Waterline (Commercial to SW Tower) ( <b>Engineering &amp; Construction</b> )	\$700,000
Owens Branch Gravity Line #1*	\$2,000,000
Owens Branch Gravity Line #2*	\$2,000,000
Owens Branch Gravity Line #3*	\$2,500,000
Wastewater Treatment Plant Expansion ( <b>Construction</b> )	\$4,000,000
<b>Grand Total (Net Cost)</b>	<b>\$13,050,000</b>

\*CIP need is necessitated by population growth/expansion

# WATER IMPACT FEES

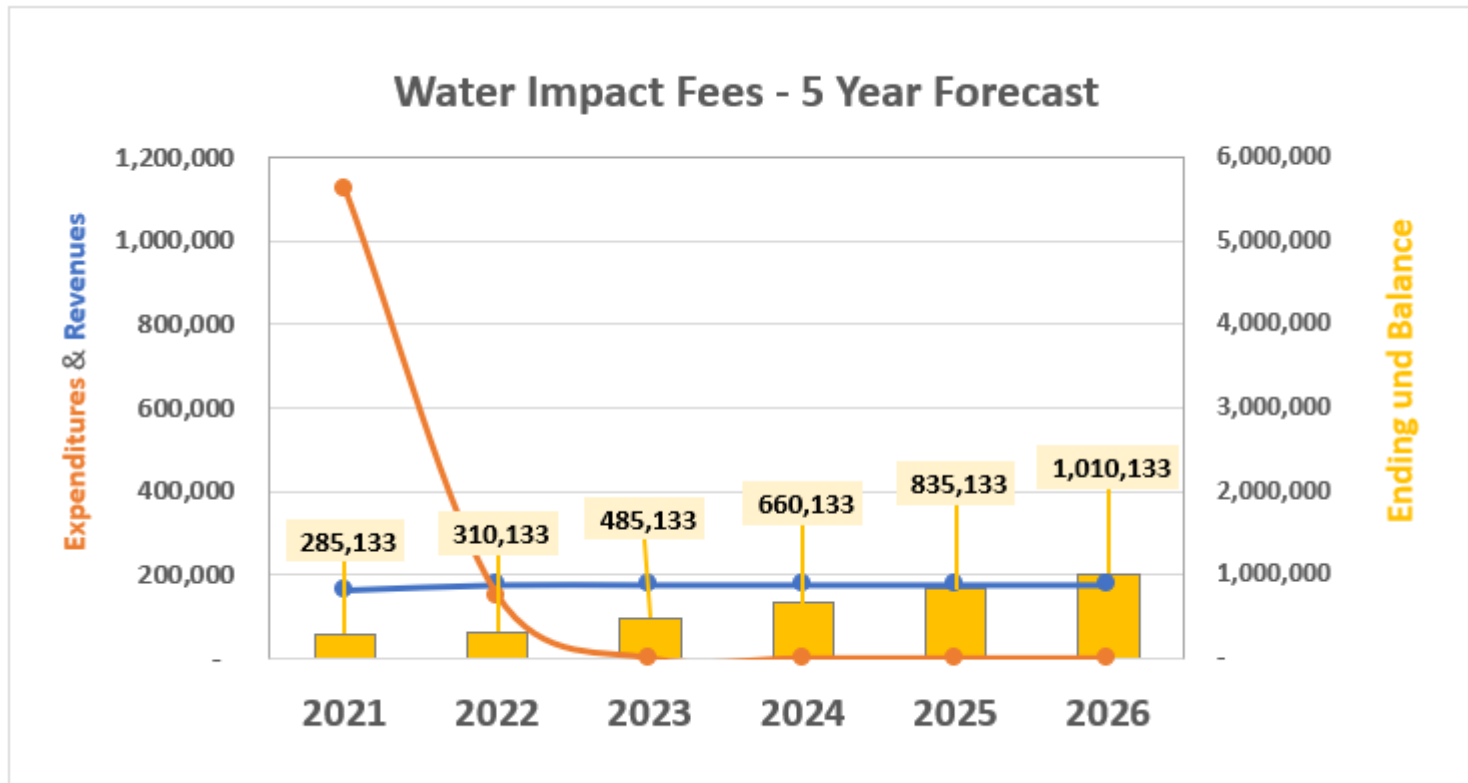
## Proposed 5 Year CIP

Capital Improvement Project	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Loop System at Diamond Crest	\$150,000	-	-	-	-
Grand Total (Net Cost)	\$150,000	-	-	-	-



# WATER IMPACT FEES

## 5 Year Water Impact Cash Forecast



Projected ending balance for Water Impact Cash presumes expenditures of \$1,000,000 for the Raw Water Pump Station, Valve Vault, Zebra Mussel Control.

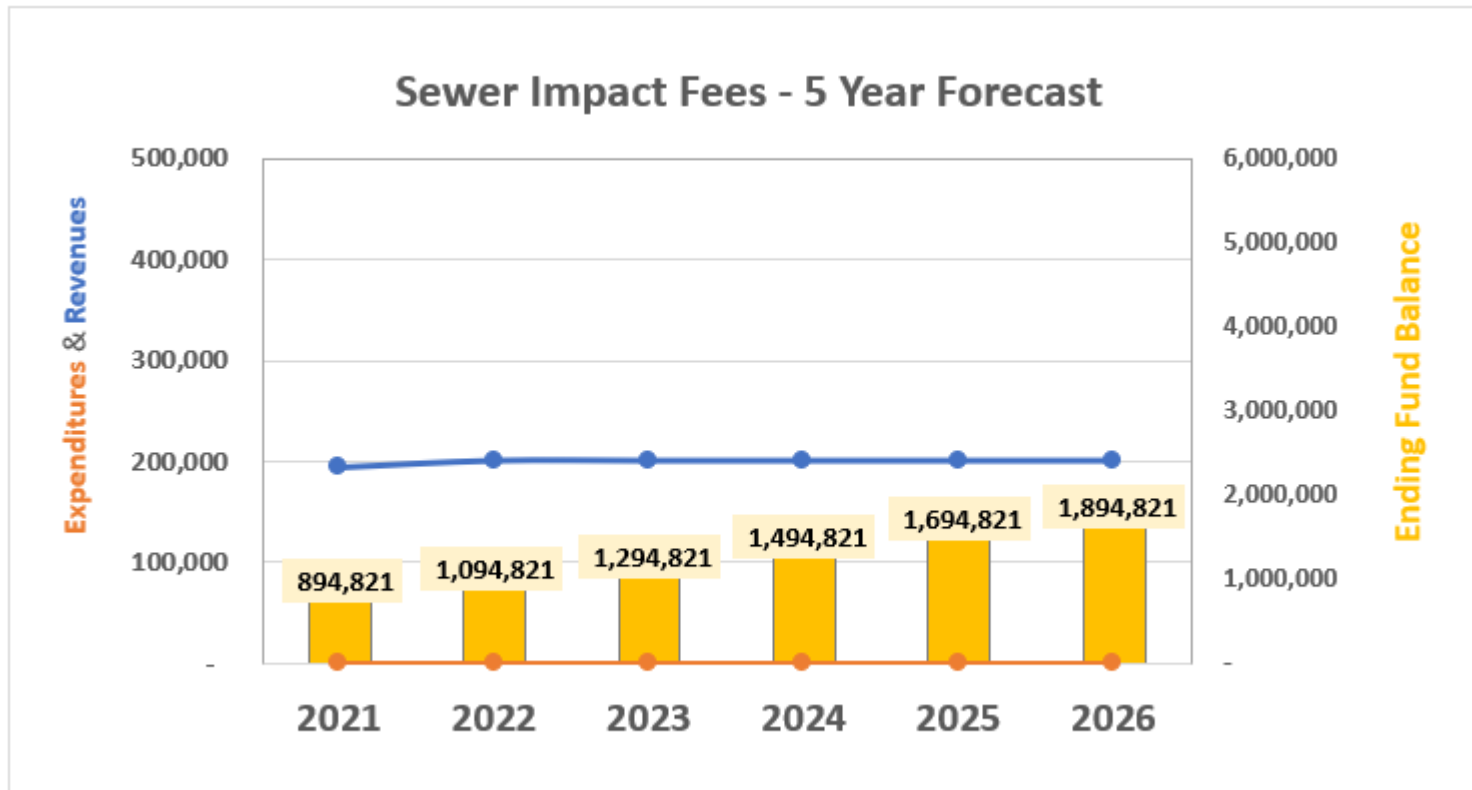
# SEWER IMPACT FEES

## Proposed 5 Year CIP

Capital Improvement Project	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
None	-	-	-	-	-
Grand Total (Net Cost)	-	-	-	-	-

# SEWER IMPACT FEES

## 5 Year Sewer Impact Cash Forecast



Long term strategy for Sewer Impact Cash is to build fund balance for major growth necessitated projects (such as the Wastewater Plant Expansion project) with engineering and construction planned in 5+ years.

# Combined Water/Wastewater Financing Options: SRF vs. COP

Financing Options	Pros and Cons
<b>SRF</b> (State Revolving Fund)	<b>Pro:</b> Slightly lower interest rate <b>Con:</b> Subject to prioritization of projects through application process and limitations on project timeline.
<b>COP</b> (Certificate of Participation)	<b>Pro:</b> Greater flexibility on issuing debt in conjunction with project timeline. No application process. <b>Con:</b> Slightly higher interest rate



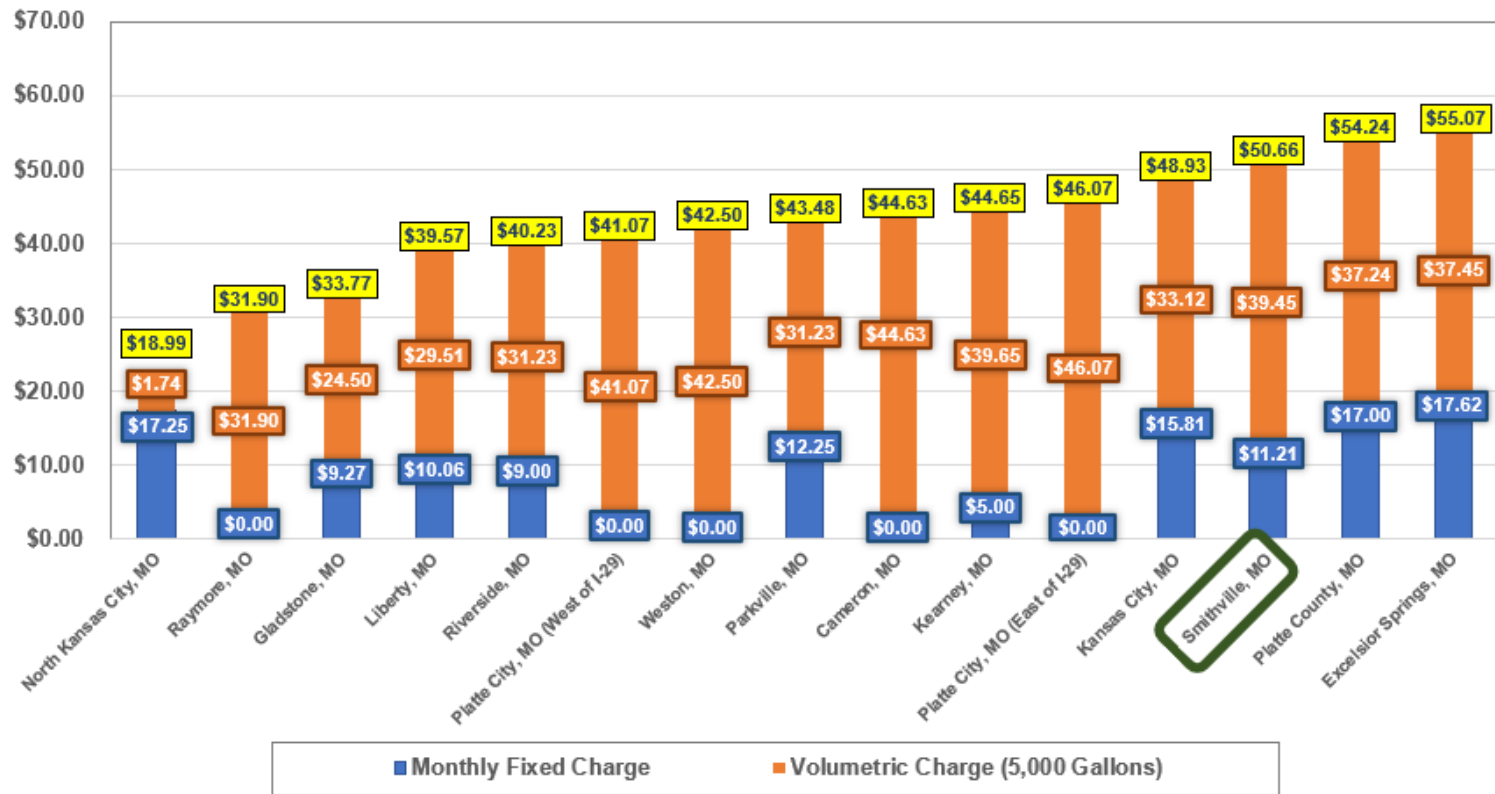
# Utility Rate Comparisons

## 2021 Update

# UTILITY RATE COMPARISON

## 2021 UPDATE - WATER

Residential (3/4") Water Rate Comparison Based Upon 5,000 Gallons Used in Month  
(Volumetric Charge, Fixed Charge, and Total Charge)

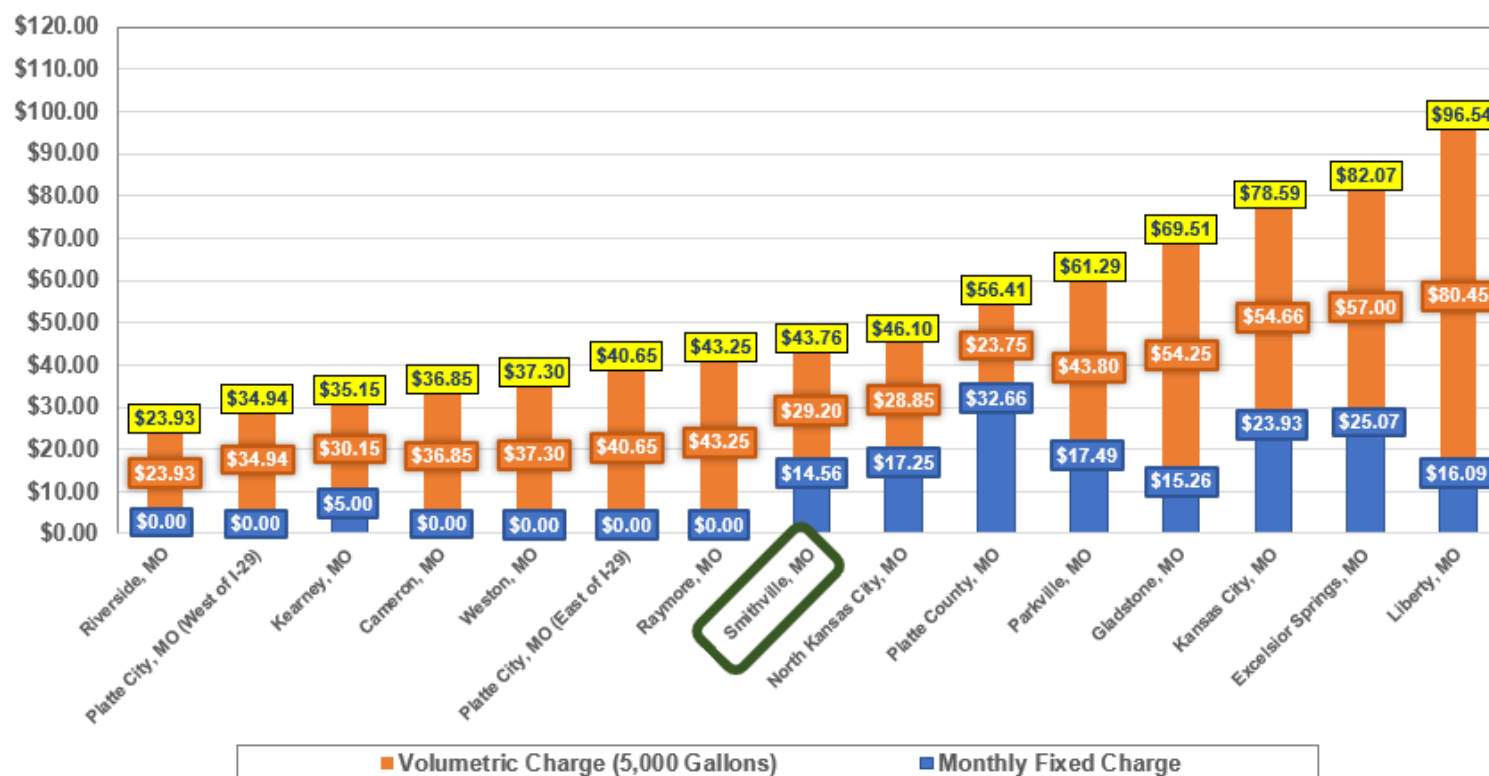




# UTILITY RATE COMPARISON

## 2021 UPDATE - SEWER

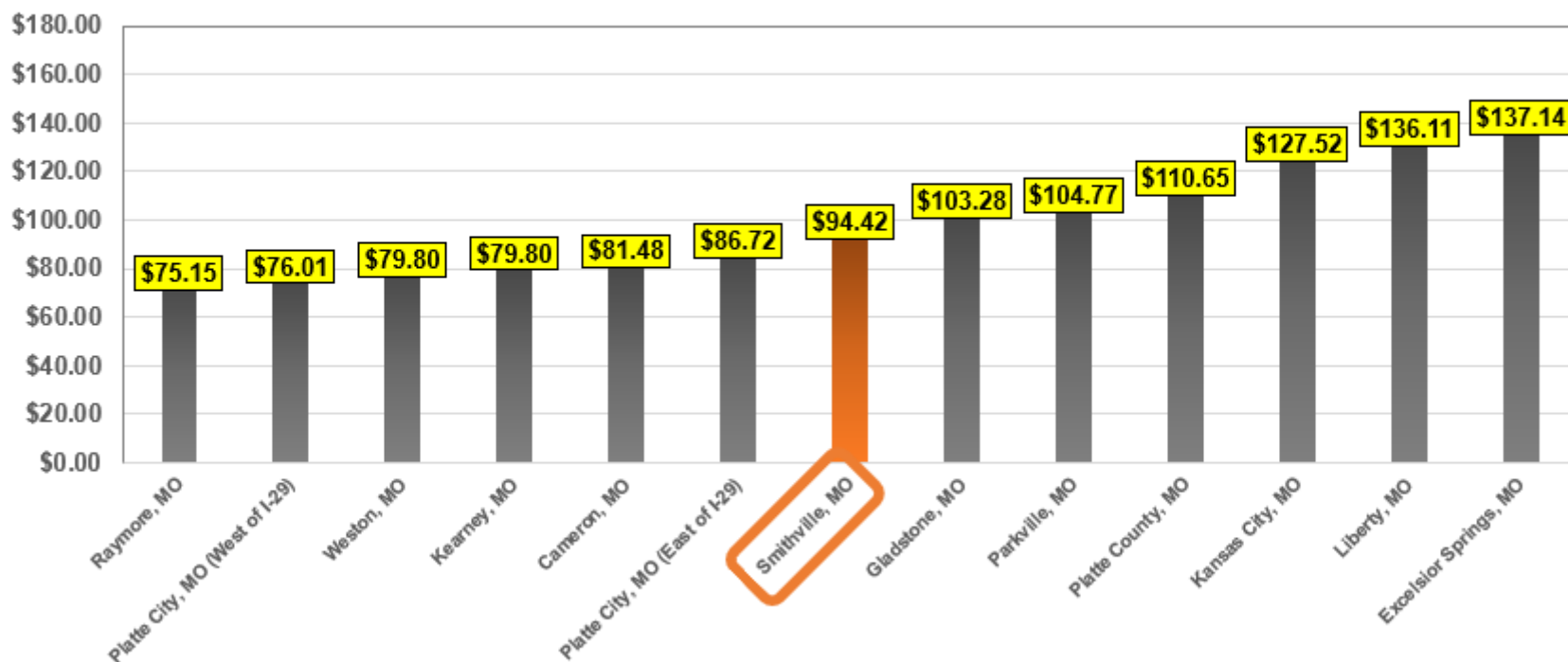
Residential (3/4") Sewer Rate Comparison Based Upon 5,000 Gallons Used in Month  
(Volumetric Charge, Fixed Charge, and Total Charge)



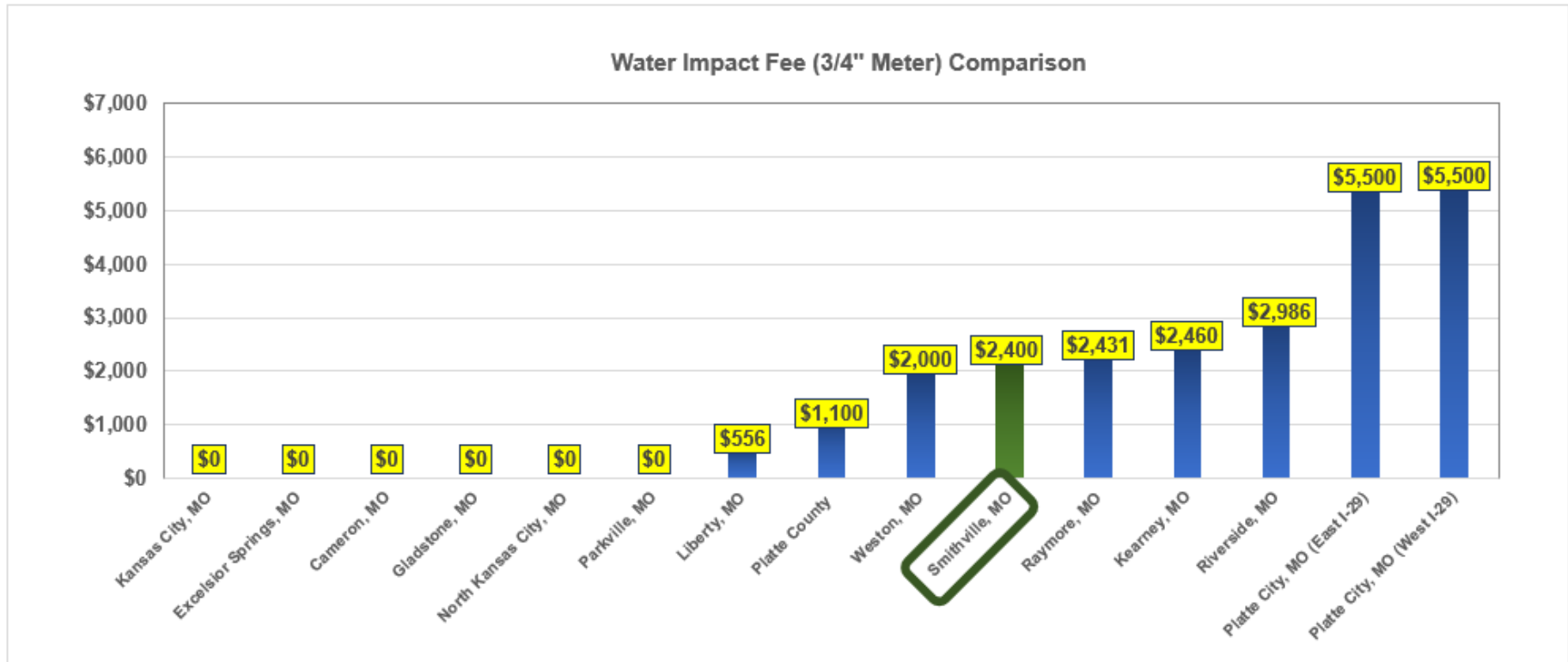
# UTILITY RATE COMPARISON

## 2021 UPDATE – WATER & SEWER

Total Monthly Utility Bill (Excludes Trash Charge)  
(Based Upon 5,000 Gallons for Water and Sewer)

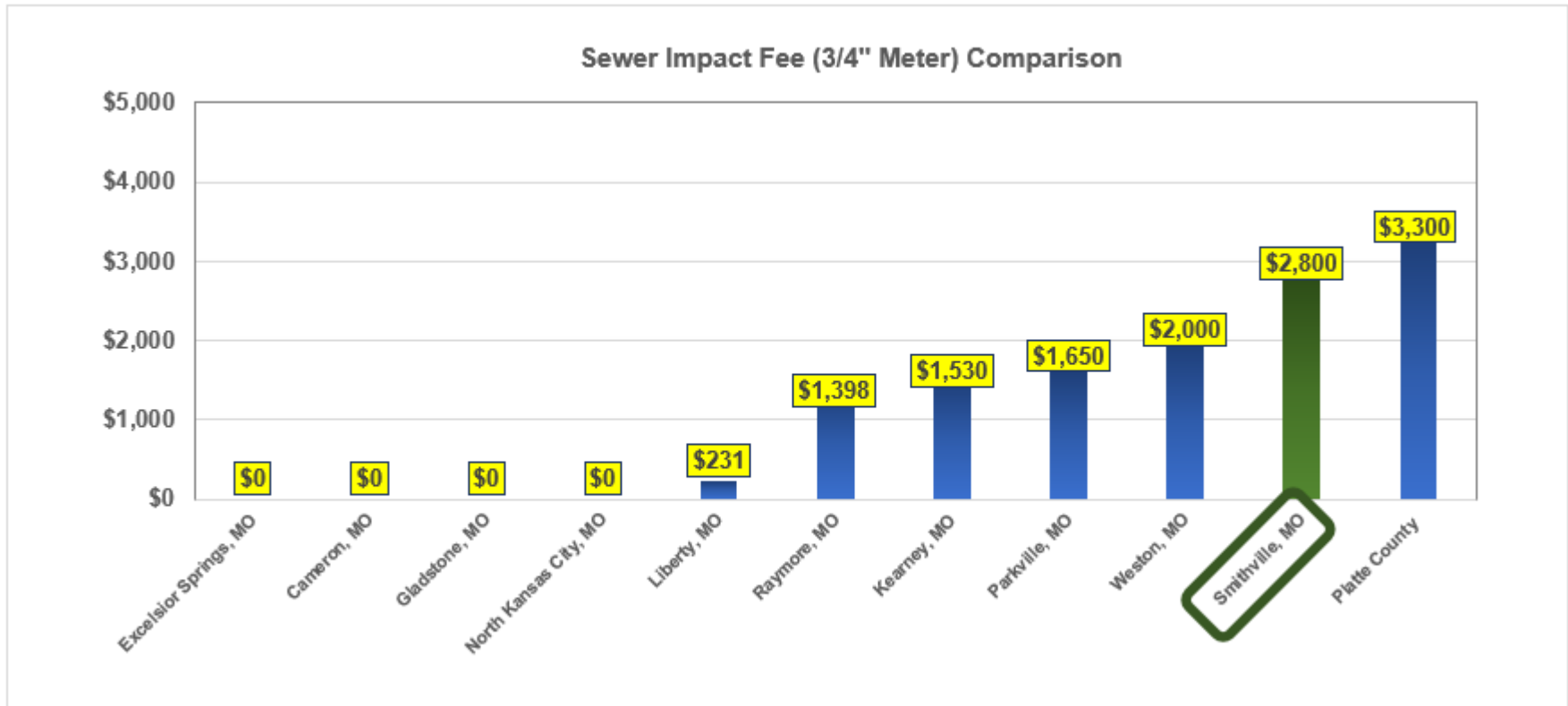


# UTILITY RATE COMPARISON 2021 UPDATE – WATER IMPACT




# UTILITY RATE COMPARISON

## 2021 UPDATE – SEWER IMPACT



# CONCLUSION

- Staff is recommending the selection of **Alternate #1** (West Bypass of 144<sup>th</sup> Street Lift Station) for a south sewer solution. Staff is looking for input or approval from the Board of Alderman for the project.
- Staff is continuing to update the Utility Rate Model to generate the necessary utility rates needed to support debt issuance to pay for project.

	<div>STAFF</div> <div>REPORT</div>
<b>Date:</b>	July 29, 2021
<b>Prepared By:</b>	Jack Hendrix
<b>Subject:</b>	Reapportionment Process

The reapportionment process is used to review the existing Ward boundaries when new Census data is released every 10 years. Court cases have long held that legislative districts within a jurisdiction must be of substantially equal population. The first part of this process is to obtain the current Census data and compare the populations in each ward, as compared to the ideal population – one third of the total population in each of the three wards. The Reapportionment Process also has a general timeline of when things occur to expedite the equalization of districts before the next election occurs.

Generally, the Census data is released to the states on April 1 of the year following the Census (April 2021) and the evaluation and reapportionment process occurs over the following months, with the goal to have a new Ward Boundary Ordinance (if required) in place prior to the time for registering for elections occurs. This year, that registration date begins on December 14, 2021 and it is important that any potential candidate know which ward they can register for ahead of that actual date. This timeline has, obviously been significantly impacted by the COVID-19 pandemic.

The April 1 release date has come and gone and still no Census data has been released. The current estimate is that sometime in September that data will be released for cities to be able to evaluate their current ward boundaries. This effectively gives the Board just October and November to complete the ward boundary review and adjustment in advance of December 14.

The Board may conduct this review and reapportionment process in several ways to evaluate and make recommendations, including appointing an advisory group; creating a public engagement process; or simply direct staff to create one or more proposed drafts of boundary adjustment recommendation. Either option would need to include a Board-created set of standards for the group to follow. When identifying those standards the Board should consider certain standard redistricting criteria.

Those standard criteria include:

- (1) population equality; (must be less than 10% standard deviation between highest and lowest populations)
- (2) compact districts of contiguous territory;



- (3) retention of existing neighborhood boundaries;
- (4) retention of precinct boundaries;
- (5) cohesion of other existing communities of interests;
- (6) desire to retain historic boundaries; and
- (7) consideration of incumbency.

It is important to note that these criteria should be focused on making the resulting wards "substantially equal". City Attorney John Reddoch has provided staff with some legal advice and opinions on the limits of this substantial equality. He expressed specifically that this does not mean absolutely equal. According to John's memo, Courts have recognized a "de minimus" total deviation of not more than 10% between the largest district and the smallest district from the ideal district. An example of that consideration is below:

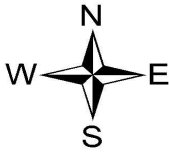
*The most recent MARC population estimates (6/25/21) have Smithville's population at 11,011. The "ideal" district would contain 3,670 citizens. One example of a maximum 10% standard deviation would have 3,487 citizens in the least populated district (5% below ideal) and 3,853 citizens in the most populated district (5% above ideal) for a total of 10%.*

It is important to recognize that starting off with the goal of making the districts with this 10% maximum deviation is not the proper goal, but instead attempt to meet the ideal district for each.

For an historical note, the last reapportionment occurred following the 2010 Census. That process began with identifying the ideal district population ( $8,425/3 = 2,808$ ) and calculating the existing district boundary populations. That calculation resulted in Ward 1 with 2,193; Ward 2 with 3,173 and Ward 3 with 3,059. This meant there was a total deviation of 40% and new districts were required.

To begin that process, the Board asked staff to come up with potential maps that make each ward as near to the ideal population as possible, maintain the unity of sub-division neighborhoods and maintain a balance of residential and commercial in each ward. Staff presented the Board with three initial maps to the Board. Following the Board's initial feedback, staff came back with two new maps for the Board to consider. At the conclusion of that process, the Board directed staff to present an ordinance that created the new Wards. Attached is a map that identifies the 2000 and 2010 Wards and populations for each.

Staff seeks Board direction on what process they want to follow, along with a recommendation of its' goals that follow the standard criteria listed above.



# Ward 2 3173

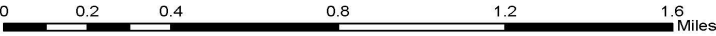
## SMITHVILLE Ward Boundary

### Legend

- vectordata.DBO.city\_poly
- vectordata.DBO.PARCEL\_TS2
- CITY, WARD 2010 Population**
- Smithville, Ward 1 - 2807
- Smithville, Ward 2 - 2808
- Smithville, Ward 3 - 2810



Created by Clay County Assessor  
GIS Mapping  
Date: February, 2012



# Ward 3 3059

# Ward 1 2193

