

July 21, 2010

The Honorable David Bower
Mayor of Raytown
10000 East 59th Street
Raytown, MO 64133

Subject: User Charge Analysis Results

Dear Mayor Bower:

Enclosed please find the results of the sewer utility user charge analysis I recently completed for the City.

Before addressing the analysis, I want to say that Jeremy Willmoth and Edwina Long have been wonderful to work with on this project. Both provided data and information quickly and gave me great guidance and background about the City's situation and needs. I know that others behind the scenes assisted as well so I simply want to tell you and the board, you have fine staff supporting you.

The report and analysis model are long, detailed and technical. You, the board and others should read through them but do not obsess over the details. If you have any questions, please feel free to give me a call. It will be much easier for me to talk you through issues than it would be for you to study the charts to find the answers on your own. To facilitate that discussion, I will visit with you in person to go over the analysis results and my recommendations. I look forward to that meeting.

Before or even long after that meeting I want you and your staff to feel free to just give me a call anytime you have a question about the analysis, my recommendations or even things that may not be related to the analysis at all. A year from now you may need to call me, and that is just fine. If I can help you simply on the phone or by e-mail, I will do so. There will be no charge because that is just part of my service to get your rates set where they need to be. If the issue of concern requires substantial analysis we can then talk about if and how you would like me or someone else to help you. Whether I help you with the issue or I find someone else who is more appropriate to help you, I want to make sure you get and keep strong and fairly structured rates.

Finally, I am sure you know of other cities and districts that need rate setting assistance. I hope you will tell them about me. I get almost all of my business by referrals from past clients and I hope to be able to trace several future clients back to my work with Raytown.

Best regards,
Carl Brown Consulting, LLC



Carl E. Brown
President

Enclosures

Sewer Rate Analysis Report City of Raytown, Missouri

Prepared July 21, 2010

Carl Brown, President
Carl Brown Consulting, LLC

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Purpose

This report and the accompanying analysis are intended to help City staff prepare proposed rate and fee revisions and to help the Board to better understand the situation surrounding the sewer utility and what should be done about it.

This report is part of a package that includes the following:

- A cover letter,
- This narrative report that details the findings and recommendations, and
- The analysis itself, entitled “Raytown, MO Winter Average Billing Scenario.” This is a Microsoft Excel-based model that depicts what will happen if you adjust rates and fees in the ways described.

Summary

To make it easy for decision-makers to see what they need to do, this report starts with the analysis results and proceeds “backwards” to the considerations that contributed to those results. Thus, specific recommendations appear first. General recommendations, observations and important considerations follow. The analysis, which is simply a printout of the spreadsheet model, concludes the report package.

As you set and later reset your rates I suggest you follow the guidance I give in my book, “How to Get Great Rates.” I sent a copy to Jeremy Willmoth at the start of the project. You may also want to download the “Replacement Scheduler©” spreadsheet, at no charge, from <http://www.gettinggreatrates.com/ggrn/store/products.asp> and use it for future equipment replacement scheduling.

The utility is operating at a fairly steady state and your reserves are strong.

Three primary issues were addressed in the analysis:

- The rate structure was examined to assure that rates are based upon the costs to serve customers proportionately.
- The analysis includes basic plans for equipment replacement and capital improvements, importantly including these costs in the rates. Capital improvement costs will be a major driver for future rates.
- It is assumed that, based upon discussions City staff have had with the Little Blue Valley Sewer District and the City of Kansas City, your treatment service providers, and based upon other information City staff have, fees paid to the treatment providers are projected to go up by an average of 10 percent per year for the next 10 years. Treatment is the system's single largest expense so this will markedly push user rates higher over the years.

Action Items

(Use the following as a checklist of rate setting “to-do” tasks.)

The following actions are required to achieve the results predicted by the analysis model called “Raytown, MO Winter Average Billing Scenario.”

Effective on or near September 1, 2010:

1. Set the minimum charge for all customers at \$12.28. Include the first 1,000 gallons of use with the minimum charge.
2. Set the unit charge for all customers at \$6.92/1,000 gallons for all volume used over the 1,000 gallon/month usage allowance. For residential customers base each customer's bill on the average volume they used during four winter months. For those residential customers that do not have the four winter months of usage for averaging, bill them based upon their actual monthly use, but cap their bills at the average bill amount for all winter averaged residential users. Bill all other customers (primarily commercial) based upon actual monthly usage with no cap. These rates are shown in Chart 14.
3. Assuming financial performance was well predicted by the analysis, effective on the one-year anniversary of the initial rate adjustments, and every year thereafter until a new analysis determines otherwise, raise all rates and fees by 6.0 percent. This rate of increase is shown near the top of Chart 1A. Otherwise, use the technique described in Chapter 9 of the book, “How to Get Great Rates” to determine future inflationary increases.

Action Items not Related to the Results of the Analysis

(Use the following as a checklist of general “to-do” tasks.)

Consider these recommendations regardless of how you may adjust your rates:

1. Start adopting management strategies that are included in what is most commonly called, “advanced asset management.” These strategies can yield better service and reduced costs for utilities, especially those looking to build new facilities or replace

existing facilities soon. Visit the “ToolShed” at <http://carlbrownconsulting.com/> for more information on asset management or call me to discuss how the City might move into asset management.

2. This may seldom if ever be an issue in Raytown but you should consider “paying” developers to install over-sized water and sewer lines and other equipment when such installations will facilitate future development or redevelopment more economically.
 - To illustrate, you may have a developer who would need to install a ten inch collection line to serve the needs of their development. However, other properties in the area that would use that same line when they are redeveloped later may require it to be sixteen inches in diameter. In that case you and the initial developer would determine the additional cost of installing the nominally oversized line and the City would reimburse the developer for that portion of the cost. (The incrementally higher cost of installing a larger line is small but the value of having that line in place and ready for use when needed is very large.) That reimbursement may be in the form of a discount on the developer’s connection fees.
 - Later, when other developments use the sixteen inch line you would charge those developer(s) their proportionate share of the cost to make that line available for their use. In addition, you may, and I suggest that you do, charge an additional amount or percentage to serve as reimbursement for the City’s expenses to finance the upsizing and to cover risk. These costs are substantial. In that way, lines and other systems would be built in the most economical fashion possible. Plus, the City could recoup its investment in up-sized lines and facilities, and cover its risks of loss.
 - Be careful about how this cost sharing may affect your cash flow. I strongly suggest you set up a separate fund to which you will deposit connection and developer fees and from which you will pay for system upsizing. Manage this fund so it will fully cash flow itself and maintain a reserve over expected disbursements of at least 50 percent. The first time you do this I will be glad to advise you.
3. Consider reformatting your financial statements so they include calculations for operating and coverage ratios. This will make it very easy for decision-makers to quickly gauge the financial health of the system. You may want to use the financial statements template called, “GettingGreatRatesLater©,” available at <http://www.gettinggreatrates.com/ggrn/store/products.asp>.
4. Before you officially propose or adopt new rate language, you may mail or e-mail the rate chart, ordinance or agreement to me and, as a part of this project, I will verify that your language will effectuate the intended rate adjustments.
5. City staff performs services for developers and others. This may include review and approval of water and sewer system expansion plans and connection applications. For all such services you should determine their full costs and set fees and charges to fully recover those costs. Those funds should be deposited into the general system fund and used to pay the personnel and other expenses incurred by the utility for providing these services.
4. Have me conduct a full rate analysis when your actual financial performance and my projections diverge significantly, but not longer than five years from now to make sure your rates remain adequate for the system and fair to your ratepayers. At the time you begin planning for the next round of capital improvements would be a good time for the next analysis. In addition, before embarking on capital improvements and funding

acquisition, have me study your options in depth so you can maximize your funding success and minimize your costs.

6. Check with your attorney for language and legality of all charges and issues discussed.

Principles

I use several guiding principles when I help systems set their utility rates, fees and policies. As you read this report and the analysis, keep in mind that my recommendations to you 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.
2. In addition to functioning in a business-like manner, a utility has a responsibility to its customers to nearly 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 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, those customers that cost the utility the most should pay the most in fees.
4. If adjusting a rate, fee or policy will turn currently "good" customers into "bad" customers, 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 water bills. That may cause more of them to pay late or not pay at all. That may trigger the City's processes of having the City's attorney write threatening 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 actually go down.

Discussion of Significant Issues

Winter Average Billing

Winter average billing is the rate structure the City has now. Sewer bills for residential users are calculated by averaging several winter months of water use (December through March) and applying the unit charge rate to that average volume for each customer. Therefore, each residential user's monthly bill is unique to their volume of use and it will remain the same until new usage data is gathered to recalculate bills. Where it can be used this is the fairest of the simple rate strategies. It charges users for the volume of water they generally return to the sewer system. It generates a predictable revenue stream for the utility and it makes the sewer bill predictable for residential users.

Winter average billing cannot be done with residential customers who do not have data from which to make the calculations. These include customers in brand new homes, which are not common in Raytown, and those where the homeowner or occupant has recently changed. Winter average billing is also seldom used for commercial customers because their winter average water use may be a very poor indicator of their year-round sewer use.

There was thought of examining rates where residential users would be billed based upon their water use each month. While residential sewer billing based upon monthly water use through the year is very convenient for bill calculation purposes, it has a serious flaw. That is, water customers that use lots of water, generally in the summertime to water lawns and such, do not put that water back down the sewer. Thus, billing based upon actual flow in the summertime will overcharge these customers. The positives of winter average billing of residential customers far outweigh the negatives so I recommend you stay with winter average billing of residential customers.

Rate Structure, Minimum and Unit Charges

Currently the City charges all customers the same minimum charge and the same unit charge. This is the simplest rate structure and I recommend retaining it for these reasons:

- All other things being equal, simple is better than complex.
- The system has long been built out. Therefore, most capital costs have already been paid for. Recapture of capital costs is one of the major reasons for having variable minimum charges so that need has essentially passed.
- Sewer usage is primarily for residential purposes. If there was an excessive volume of commercial or especially industrial sewer usage, variable minimum and/or unit charges and surcharges could make sense.
- Capital improvements that will come in the future should primarily be to serve existing customers, not new ones.

The analysis model assumed retaining the current simple rate structure.

As to the level at which the proposed minimum and unit charges were set, the following methodology was used:

- All costs associated with owning and operating the system were categorized as “fixed,” “variable” or some mix of fixed and variable. Fixed costs are those related to the fact that someone is a customer. The simplest example of a fixed cost is the stamp it takes to mail everyone’s bill. It takes the same amount of postage whether a customer uses a lot or a little of the sewer service. Variable costs are related to flow. Electricity to run the lift stations is a good example of a fixed cost. This delineation of costs is set out in Chart 18 in the column called “% of This Cost That is Fixed.” About one-third of the system’s costs are fixed and two-thirds are variable. Well established systems such as yours commonly have a fixed vs. variable cost split like this. It is worth noting that as your treatment costs (your largest costs) rise your variable cost percentage will rise, and as your debt service (second largest cost) rises your fixed cost percentage will rise. In future years the fixed vs. variable cost split will change. (Once your overall rates have risen 25 percent or so you should have a new rate analysis done to reset the relationship between fixed and variable costs.)
- At the bottom of Chart 18 you will see a section called “Cost Calculations.” In this section are the results of calculations of the fixed and variable costs for the system reduced to a single user. (Based upon this calculation your current minimum charge is too high, your unit charge is too low and your rates overall are moderately too low.) The mathematical relationship between the cost streams represented by these two costs is then used to project the rates needed going forward.

- Projecting forward from Chart 18, the initially adjusted rates are set out in Chart 3A. Thus, while the proposed rates are higher than the customer costs shown in Chart 18, the fixed and variable components are in the same proportion.

This methodology is further described in chapters 4 and 6 of the book, “How to Get Great Rates.” I gave a copy of this book to Mr. Willmoth.

Initial and Future Rate Adjustments

Surprisingly, your rates need only moderate adjustment right now to be both adequate and fairly structured. Those changes are detailed elsewhere in this report but they break down like this. The total monthly bill paid by your lowest volume residential customers needs to go down. Their bills are heavily influenced by the minimum charge. The bill to all other residential customers needs to go up slightly. Bills need to go up more to most commercial customers because their average volume use is much higher than the average residential use. All in all, monthly bills for most customers will change only slightly.

In subsequent years, all rates will need to rise to track with rising treatment costs, debt payments, future system improvement costs and general inflation in the costs to run the system.

New Customers

The City is essentially built out, therefore, while I am sure you have a connection and/or impact fee schedule for new customers, this analysis disregarded these fees. Connection and impact fees will not generate significant revenue unless there is an extensive redevelopment which will significantly increase sewer usage.

For billing purposes, the City categorizes any residential customer that does not have winter months from which to develop winter average rates as a “new” customer. Primarily this covers new occupants of existing homes. The City bills such customers based upon the current rates applied to their actual use each month or the average residential customer’s winter averaged bill, whichever is less each month. Once a new residential customer goes through a winter season those months of water use are then used to calculate their winter average bill amount and they are billed that amount monthly until the next bill calculation is done. This is a very practical and reasonably fair way to handle new customers and should be continued.

User Fee Losses Due to Population Loss

The City has been losing population for many years. In the most recent eight year period of census data this rate of loss is 0.9 percent per year on a simple interest basis. This will probably lower sewer user charge fees collected but the loss will not be exactly equal to the population loss rate. However, if a home is redeveloped for a use (generally commercial) that results in more sewer volume, user fees from that property will actually go up. To be conservative, this analysis assumed that sewage volume production will trend with population decline.

The number of connections should stay fairly stable or fall slowly. It is assumed that when, for example, a home is razed it will usually be replaced with an apartment, a convenience store or some other use with a sewer connection. The analysis model assumes a connection loss rate of 0.25 percent per year and the corresponding minimum charge loss is included in the “Actual and Estimated User Fee Collections” figures near the top of Chart 1A of the analysis.

Volume usage for the residential class of users is expected to go down by roughly the population loss rate. The basic assumption is that the number of residential connections will stay about the same but the number of people being served by those connections will go down, lowering the average use through each residential connection. Because volume (unit) charges

account for 57 percent of the total fees paid by the residential class, total fee loss should be approximately 0.5 percent (0.9% times 0.57%). That works out to \$26,876 per year on a full-year basis and the cumulative loss will grow by that amount each year. This is depicted near the bottom of Chart 1A in the analysis model.

Reserves

The City has restricted and unrestricted sewer reserves. Restricted reserves include accumulated funds for making the next debt payment and cash drawn down from State Revolving Fund (SRF) loans for capital improvements that are on-going. These funds must and will be spent down soon for their purposes. Unrestricted reserves may be spent for any sewer system needs. In the analysis I arbitrarily assigned \$100,000 of this balance to an equipment replacement reserve. I recommend that the City maintain at least three types of reserves:

- Unrestricted reserves (often called “operating or working capital reserves”) to pay operating costs during unusual swings in operating costs and revenues,
- Restricted reserves (often called “capital improvement reserves”) to pay that portion of capital improvements that will not be paid with loan and/or grant proceeds, and to make debt payments, and
- Equipment replacement reserves to pay for equipment replacement and refurbishment.

While you do not necessarily need to have these funds in separate accounts, you should at least account for them separately. The analysis shows what will happen to these reserves over the next 10 years at the proposed rates and if the rates are not changed.

In the analysis I set a goal for your working capital plus capital improvement reserves 10 years from now measured in inflated dollars (last line of Chart 4) as follows. To your 2009 starting balances for unrestricted reserves and the replacement fund I added \$1 million. This amounted to not quite half of your current total reserves but the difference is in restricted reserves which are funds dedicated to debt service or proceeds from SRF loans. These funds will be spent down for their purposes and should not be used when comparing your current fund balances with future fund balances. The roughly \$3 million in total future reserves will give the utility a strong cushion and enable the City to do some of the smaller capital improvements with cash, relieving you of the headache and cost of borrowing funds for small, time-sensitive projects. An excellent example of such a project is when a road needs to be disturbed for other reasons and you have an aging sewer line under or crossing that road, you can move up its replacement to coincide with the road work, minimizing road repaving and traffic disturbance.

Depreciation and Capital Improvements

Depreciation is a real event. Built facilities wear out with use and age with time, reducing and eventually eliminating their value and function. However, that wear out and aging process does not occur in a straight line as most depreciation schedules depict. Facilities usually function well for the first 75 percent or more of their useful lives and then they start a rapid decline. In addition, depreciation is “backwards looking” in that it considers the value of the system when it was initially built rather than considering the future cost to build a new system that would serve users as they desire in the future plus satisfy additional functions required by tighter environmental and health standards.

Sewer utilities are made up of core components such as lines and treatment plants. These components wear and age slowly. Their useful lives define the maximum useful life of the utility as a whole.

Sewer utilities are also made up of secondary components that age and especially wear out with use more rapidly. These include pumps, motors and other mechanical parts that move. All of these parts are replaceable or can be refurbished to extend the useful life of the system as a whole.

Depreciation financially models the aging and breakdown process. It is a useful concept and it is even required to adhere to generally accepted accounting principles. However, almost never is depreciation actually funded by placing those funds into an account to be available to pay for a new system or components when they are needed. Thus, it has limited value for municipal system rate setting. The better course is to do capital improvement planning and set aside some amount each year to pay for a planned part of the expected capital improvements as they come due. You should plan on accumulating 10-20 percent of the expected future costs in cash to pay upfront costs for engineering, funding acquisition and the like.

Core components are generally funded as capital improvements, paid for initially with loan and perhaps grant proceeds, with loans retired in subsequent years by debt payments. This process works well because it generally has users pay for facilities dedicated to them during the time they get benefit from them. Paying for such components over time also generally works well because rarely do such components unexpectedly break down and need immediate replacement. Core components and other capital improvements to be paid for with your system's rates and fees have been scheduled in capital improvement plans, which are a part of the analysis.

This analysis assumes the City will do a \$10 million (in current dollars) SRF funded project in 2014. After that your debt service will nearly double, which will erode your reserves. I have set initial and future inflationary rate increases taking this new debt service into account to gently "glide" your reserves to a reasonable level in 10 years. However, when the new debt service starts you may want to raise rates slightly more than the modeled percentage to slow this decline. This event is several years out. It should not seriously impact rates and you should have a new rate analysis done at that time to prepare for it anyway. Therefore, you need not be overly concerned about it right now.

Equipment Replacement

Secondary components wear out. That process is fairly predictable generally but it is not so predictable for individual equipment items. Pumps, motors, rolling stock and other moving parts can fail one to several years earlier than expected and require immediate replacement to keep the system functioning. Problems may result if the system does not have reserves to pay for replacements. For this reason it is prudent to schedule equipment replacements, refurbishments and the like and set aside funds ahead of time to pay for these expenses when they occur.

You already have operating reserves, some of which can be used for equipment replacements. To make the utility more financially sound, you should dedicate a set level of funds every year (called the "annual annuity") for replacement of the utility's equipment. When such replacements are done they should be paid for from reserves in this fund. This will enable you to handle equipment replacements when they are needed without disrupting the utility's general budget or "borrowing" reserves from another fund, causing future problems when that fund is needed for its designated purpose.

In the analysis Chart 17 calculates the annual annuity needed for the replacements depicted in Chart 17A. Please be aware, most of these replacements were drawn from your 2009 budget and that does not include all equipment replacements that should appear in this chart over a 20-year period. You should download the replacement scheduling spreadsheet (free) from <http://www.gettinggreatrates.com/ggrn/store/products.asp> and enter your expected equipment

replacement and refurbishment needs to develop a more exact annual annuity. As your replacement needs change or you refine what they are you can update data in the schedule and develop a new, more appropriate annual annuity amount.

Waste Water Treatment Costs

The fees charged to the City by Kansas City and the Little Blue Valley Sewer District for waste water treatment should be based upon the actual flow of waste water delivered to each. However, these fees are based upon the water that passes through each of your customer's water meters. Your usage data revealed that approximately two-thirds of your users are residential, billed on winter average use. As compared to actual monthly use by new residential customers, two-thirds of the water used by residential customers goes down the sewer and one-third does not. Most of that is probably used for lawn watering. Therefore, a high percentage of the water flow that the sewer system is being billed for by Kansas City and Little Blue Valley is not actually going to their treatment plants. This might be causing your treatment bill, your largest operating expense, to be higher than it should be. In addition, without knowing your actual sewer flows you cannot conveniently track your inflow and infiltration rate. I recommend that next time the City discusses billing with the treatment providers you discuss changing the billing basis from customer water meter readings to a sewer flow meter reading. This would require installation of a sewer flow meter in the line to each treatment provider but it would yield benefits in the information you would gain and it might lower your treatment costs.

In addition, it is worth restating that fees paid to the treatment providers are projected to go up by an average of 10 percent per year for the next 10 years. Treatment is the system's single largest expense so this will markedly push user rates higher over the years.

General Discussion of the Analysis Model

Charts 1A and 1B cover projected user data and future rates, incomes and costs at a fair level of detail. Rates and fees have been modeled at levels that will maintain strong working capital and other reserves.

Chart 2 covers capital improvement projects, new debt service and the like. At the bottom of this chart is the running balance for this reserve.

Chart 3 covers rate and fee adjustments. It shows the test year rates and revenues that will be generated while those rates are still in force. It also shows the proposed rates and the revenues those rates will generate during the remainder of the modeling year. Therefore, the modeling year will produce "blended" rate revenues. Some will be at the old rates and some at the proposed rates. In this chart the "General Customer Class" is composed of your winter average billed residential customers. The data for these customers is shown for each of the four winter months used to calculate their bills. It shows this use as the average customer during each of those months. The proposed rates are in a structure that is called, "proportional to use," as described in the definitions section. The important thing about proportional to use rates is that this structure is required by the State Revolving Fund (SRF) loan program, so these rates will keep the City in close compliance with this requirement.

Chart 4 covers financial indicators and fund balances. (Find definitions for these accounts in the document called, "Terms Used in This Report...") Note that near the bottom of the chart there are several fund balances shown. Unrestricted (usually called "working capital"), restricted (usually called "capital improvement reserves") and current position balances will change through the years. The last line on this chart is the most useful balance for you to track. This line

shows the inflation-adjusted purchasing power of your reserves, not including equipment replacement reserves. This balance will fall slowly for the reasons previously discussed.

The line graph charts 5 through 12 depict financial health indicators under the proposed rates and make it easier to spot trends. (See the definitions page to learn what each of the indicators tells you.) In particular, Chart 8 depicts the affordability of your current and the proposed rates. Your current affordability index is 1.13 and it will rise to 1.24 after the proposed rates are adopted. (The national average is around 1.0 percent.) The proposed rates affordability index will be slightly less affordable but still moderate. This is not so much an indication that your rates will be higher than average but that the average rates around the country are too low and they will come up to meet or exceed yours.

Chart 13 depicts your rates before and after the adjustments. This chart depicts the more important changes brought about by rate adjustments.

Note: If you copy only one chart as a handout for the public attending your rate setting meeting, Chart 13 is the most useful chart for them to view.

General Background

I made assumptions and estimates where necessary for the analyses. Using sensitivity tests and my experience in performing over 150 rate analyses, I am confident these assumptions are adequate for your rate setting purposes at this time.

Notable assumptions and issues include these:

- The analyses use the test year of January 1, 2009 through December 31, 2009. This is the one-year period from which actual cost, revenue, usage and other data were gathered. The test year is the starting point for the analysis. Costs, revenues and all other data will change in future years based upon inflation, growth, the proposed rates and fees and many other things. Essentially the analysis seeks “best fit” rates to satisfy many issues facing the system. Therefore, you cannot look at the analysis charts several years out and view financial predictions like they are accounting records. Future costs, revenues and other data are predictions and estimates only.
- I assumed that you will continue to bill on a monthly basis using winter averaged bills for residential customers and actual monthly usage for all other customers with the cap for new residential customers. I also assumed that you will continue the “circuit breaker discount” program for seniors in its present form.
- I assumed that future operating costs will rise at varying inflation rates, as shown in Chart 1B. Some costs, like electricity, will rise due to inflation and due to additional use caused by customer growth.

Closing

Your sewer system’s current position is strong and rates are only moderately too low. You will be able to get the rates in good shape with relatively small initial adjustments for most users. Future increases, however, will be somewhat grinding primarily because of the rapid treatment cost increases that are being discussed by the city of Kansas City and the Little Blue Valley Sewer District.

You now should do those things listed in the Action Items sections above.

Raytown, MO, Winter Average Billing Scenario

This scenario model assumes Clean Water SRF funding for a substantial project in 2014. Rates will rise initially, and in future years, to pay all required costs and maintain strong reserves.

This analysis contains detailed information on the system's financial outlook that assumes adjusting rates and fees as proposed. It also compares this outlook with what you should expect if you do not make any adjustments. To effectuate the outcome depicted in this analysis you must do and be aware of the following.

- On or near September 1, 2010, the minimum charge to all users will be set at \$12.28, which will include 1,000 gallons of use.

- The unit charge will be set at \$6.92/1,000 gallons after the allowance.

- Residential bills will be based upon winter average use for existing customers and actual monthly use for commercial and new residential customers. New residential customers' bills will be capped at the average system-wide residential use rate.

- On or about the anniversary of the initial rate adjustments, all rates and fees will be increased by 6.0 percent each year.

Base line data appears in the four tables at the end of this report.

July 20, 2010

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Terms Used in This Report and for Rate Setting Generally

CBGreatRates© Version 4.9

| | |
|--|--|
| 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. |
| Capacity Charge, also commonly called an 'Impact Fee' or 'Availability Charge' | A charge that buys a new customer system capacity. This is a charge levied on a new customer that recovers all or part of the capital costs to build capacity to be able to serve that customer's actual or potential demand. This charge may be a few thousand dollars for a residential customer to many thousands of dollars for a large industrial customer. |
| Capital Improvement Plan or Program (CIP) | Anticipated capital improvements. These are the more expensive items such as water towers, treatment plants and lines, that generally require bond or grant funding. They do not include equipment replacement items. |
| 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 all other costs, revenues, current rates, number of users and their use of the system, growth rates and all other 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 the 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 | A charge that buys a new customer connection to the system. This charge is levied on a new customer to recover all or part of the costs a system incurs in the course of connecting the new customer to the system. This may include labor costs for staff or others on-site; equipment sold by the system to the new customer for making the connection; equipment, tools and supplies used by system staff for making the connection; and the like. This charge may be a few hundred dollars for a residential customer to thousands of dollars for a large industrial customer. |
| Conservation (Inclining) Rates | Unit charges that go up as the volume used goes up |
| Cost to Produce | There are several ways to define 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. In a proportional to use rate structure, this will be the unit charge. |
| 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. |
| Coverage Ratio (CR) | Incomes and reserves 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 a 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 |
| Incremental Rate Adjustments | Rate increases done during years between comprehensive rate analyses. The goal of these rate increases is to keep the system's income and reserve levels on track with the system's financial needs. Such increases are usually small, in the two to five percent per year range. |
| Infrastructure | Hard assets, such as water towers, treatment plants and lines needed to provide service to customers connected to the system |
| 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 be more expensive to operate and maintain, yielding a higher life-cycle cost. |
| Operating Ratio (OR) | Current incomes and undedicated reserves minus current expenses, not including debt. An OR of 1.0 is "break even." Most systems should have an OR of 1.25 or higher. |
| Potential Demand | The volume of service that a user could demand for a short period of time at full volume use |
| 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. |
| 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 |
| Tap Fee, also called a 'Hook up Fee' | A charge that gives a new customer the <u>right</u> to connect to the system. This fee may include the costs of administering the connection program, such as staff time to 'sign up' new customers, get them into the system's billing program, do an inspection of the service connection to assure that it meets the system's standards and the like. This charge is usually minimal for a residential customer and maybe a few thousand dollars for a large industrial customer. Capacity and connection fees are commonly added to tap fees and the total fee is just called a 'tap' fee. |
| Test Year | The one year period from which data was gathered to be the basis of the rate analysis |
| User Fee, User Charge | Fees assessed to customers for use of the system. Does not include tap, capacity or connection fees or other charges assessed when a property is first connected to the system. |
| 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." |
| Working Capital Goal | The desired percentage above "break even" for the operating fund. Small systems (a few hundred connections) generally should target 35 percent or greater. Larger systems can target less, down to a minimum of about 20 percent for systems with 5,000 or more connections. |

Raytown, MO, Winter Average Billing Scenario

Financial Highlights

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This analysis package examines a "proposed rates scenario" that depicts what will happen under the adjusted rates and other changes recommended for the system. The results of this scenario are compared to the results you can expect if you do not adjust rates at all during the 10 years following the test year.

In the following table you can see several key financial benchmarks made possible by the proposed rates. The first column below is the test year, the year from which historical data was used to build the model. The second is the year following the test year - the year during which initial rate adjustments will go into effect. The last two columns are the fifth and tenth years following the test year.

| | Results for Years Ending on | | | |
|---|-----------------------------|-------------|-------------|--------------|
| | 12/31/09 | 12/31/10 | 12/31/14 | 12/31/19 |
| Rate revenues collected | \$4,960,069 | \$5,304,171 | \$7,147,586 | \$9,446,115 |
| Sum of incomes | \$5,444,220 | \$5,723,283 | \$7,288,449 | \$9,638,182 |
| Sum of operating costs | \$3,649,688 | \$4,115,249 | \$5,907,274 | \$8,644,701 |
| Net income gain or loss (-) | \$1,794,532 | \$1,608,034 | \$1,381,175 | \$993,481 |
| Capital improvement reserves | \$5,426,878 | \$6,243,034 | \$5,386,720 | \$2,527,710 |
| Replacement reserves | -\$275,531 | -\$36,201 | \$718,535 | \$1,370,370 |
| Current position* | \$6,428,738 | \$7,647,171 | \$8,172,801 | \$6,923,725 |
| *All current incomes plus reserves minus all current obligations | | | | |
| Increase or decrease (-) in current position due to this analysis | \$0 | \$135,882 | \$5,675,029 | \$24,780,792 |

Return on Investment

| | | | |
|---|------|-------|--------|
| Return on investment due to this analysis | N.A. | 1838% | 76762% |
|---|------|-------|--------|

Return rate is based upon the following investments:

| | |
|---|----------------|
| Fees to Carl Brown Consulting | \$6,893 |
| Estimated value of city staff time and incidentals to assemble needed information | \$500 |
| Total Investment | \$7,393 |

With the exception of tables that depict test year data, all other tables and charts depict the financial performance made possible by the modeled rate changes. The easiest way to grasp the financial future of the system is to view the line graphs. Another table shows the bills your users are paying now compared to the bills they would pay under the proposed rates scenario.

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Raytown, MO, Winter Average Billing Scenario

Chart 1A - User Base and Operating Incomes

These charts depict starting balances, incomes and expenses during the test year, this year and for the next 10 years.

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

| | Infla./De- flation (-) Factor | Year Starting 1/1/09 | Year Starting 1/1/10 | Year Starting 1/1/11 | Year Starting 1/1/12 | Year Starting 1/1/13 | Year Starting 1/1/14 | Year Starting 1/1/15 | Year Starting 1/1/16 | Year Starting 1/1/17 | Year Starting 1/1/18 | Year Starting 1/1/19 |
|--|-------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| User Base | | | | | | | | | | | | |
| Average Users for the Year | | 13344 | 13344 | 13311 | 13277 | 13244 | 13211 | 13178 | 13145 | 13112 | 13079 | 13047 |
| Users Added (Lost) During the Year | | 0 | -33 | -33 | -33 | -33 | -33 | -33 | -33 | -33 | -33 | -33 |
| User Growth (Loss) Rate | | 0.00% | -0.25% | -0.25% | -0.25% | -0.25% | -0.25% | -0.25% | -0.25% | -0.25% | -0.25% | -0.25% |
| Average <u>Effective</u> Rate Increases in Future Years | | N.A. | 6.9% | 14.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% |
| Adjusted, Then Annually Readjusted Minimum Charge/Billing Period for Uniform Rates | | N.A. | \$12.28 | \$13.02 | \$13.80 | \$14.63 | \$15.51 | \$16.44 | \$17.42 | \$18.47 | \$19.57 | \$20.75 |
| Adjusted, Then Annually Readjusted Unit Charge/Billable Volume Unit for Uniform Rates | | N.A. | \$6.92 | \$7.33 | \$7.77 | \$8.24 | \$8.73 | \$9.26 | \$9.81 | \$10.40 | \$11.03 | \$11.69 |
| Operating Incomes | | | | | | | | | | | | |
| Actual and Estimated User Fee Collections | NA | \$4,960,069 | \$5,304,171 | \$6,046,486 | \$6,393,252 | \$6,759,905 | \$7,147,586 | \$7,557,500 | \$7,990,922 | \$8,449,202 | \$8,933,763 | \$9,446,115 |
| Penalties | NA | \$134,332 | \$134,332 | \$153,132 | \$162,320 | \$172,059 | \$182,383 | \$193,326 | \$204,925 | \$217,221 | \$230,254 | \$244,070 |
| Unrestricted Reserves Interest Earned or Paid | NA | \$75,862 | \$25,548 | \$28,807 | \$33,790 | \$35,761 | \$38,488 | \$41,351 | \$44,532 | \$48,061 | \$51,792 | \$55,929 |
| Circuit Breaker Discount | NA | -\$21,193 | -\$22,663 | -\$25,835 | -\$27,317 | -\$28,883 | -\$30,540 | -\$32,291 | -\$34,143 | -\$36,101 | -\$38,172 | -\$40,361 |
| SRF Invested Balance Earnings | NA | \$308,972 | \$308,972 | \$154,486 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Miscellaneous Revenue | NA | \$1,630 | \$1,743 | \$1,987 | \$2,106 | \$2,232 | \$2,366 | \$2,508 | \$2,659 | \$2,818 | \$2,987 | \$3,166 |
| Returned Items | NA | \$975 | \$975 | \$975 | \$975 | \$975 | \$975 | \$975 | \$975 | \$975 | \$975 | \$975 |
| Administrative Charge | NA | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 | \$3,080 |
| Income Reduction Due to Bill Capping | NA | -\$19,508 | -\$27,155 | -\$28,784 | -\$30,511 | -\$32,342 | -\$34,282 | -\$36,339 | -\$38,519 | -\$40,831 | -\$43,280 | -\$45,877 |
| Unit Charge Fee Loss Due to Population Loss | -0.9% | \$0 | -\$5,720 | -\$18,141 | -\$19,230 | -\$20,383 | -\$21,606 | -\$22,903 | -\$24,277 | -\$25,734 | -\$27,278 | -\$28,914 |
| Total Regular Income | | \$5,444,220 | \$5,723,283 | \$6,316,193 | \$6,518,466 | \$6,892,404 | \$7,288,449 | \$7,707,206 | \$8,150,153 | \$8,618,692 | \$9,114,122 | \$9,638,182 |

Raytown, MO, Winter Average Billing Scenario

Chart 1B - Operating Costs and Net Income

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

Infla./De-
flation (-)
Factor

| | | Year Starting 1/1/09 | Year Starting 1/1/10 | Year Starting 1/1/11 | Year Starting 1/1/12 | Year Starting 1/1/13 | Year Starting 1/1/14 | Year Starting 1/1/15 | Year Starting 1/1/16 | Year Starting 1/1/17 | Year Starting 1/1/18 | Year Starting 1/1/19 |
|---|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| (Note: Some future costs will experience inflation. Those costs that go up as use goes up are also increased by the growth rate in users and the percentage by which that cost is variable as reported in Chart 4.) | | | | | | | | | | | | |
| Administration Salaries, Benefits, Travel, etc. | 3.0% | \$141,379 | \$314,576 | \$348,018 | \$358,458 | \$369,212 | \$380,289 | \$391,697 | \$403,448 | \$415,552 | \$428,018 | \$440,859 |
| Billing, Office Expense, Insurance | 5.0% | \$238,653 | \$250,586 | \$263,115 | \$276,271 | \$290,085 | \$304,589 | \$319,819 | \$335,809 | \$352,600 | \$370,230 | \$388,741 |
| Arbitrage | 0.0% | \$137,838 | \$137,838 | \$68,919 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Bad Debt, On/Off Expenses | 3.0% | \$38,669 | \$39,829 | \$41,024 | \$42,254 | \$43,522 | \$44,828 | \$46,172 | \$47,558 | \$48,984 | \$50,454 | \$51,968 |
| LBVSD Treatment Costs | 10.0% | \$1,606,788 | \$1,767,467 | \$1,944,214 | \$2,138,635 | \$2,352,498 | \$2,587,748 | \$2,846,523 | \$3,131,175 | \$3,444,293 | \$3,788,722 | \$4,167,594 |
| KCMO Treatment Costs | 10.0% | \$751,889 | \$827,078 | \$909,785 | \$1,000,764 | \$1,100,840 | \$1,210,924 | \$1,332,017 | \$1,465,218 | \$1,611,740 | \$1,772,914 | \$1,950,206 |
| Operations Salaries, Benefits, Travel, etc. | 5.0% | \$512,266 | \$537,880 | \$564,774 | \$593,012 | \$622,663 | \$653,796 | \$686,486 | \$720,810 | \$756,851 | \$794,693 | \$834,428 |
| Minor Equip & Rental, Sanita Sup, Bldg Maint, Misc. | 5.0% | \$12,536 | \$13,163 | \$13,821 | \$14,512 | \$15,237 | \$15,999 | \$16,799 | \$17,639 | \$18,521 | \$19,447 | \$20,419 |
| Fuel | 5.0% | \$13,366 | \$14,034 | \$14,736 | \$15,473 | \$16,246 | \$17,058 | \$17,911 | \$18,807 | \$19,747 | \$20,735 | \$21,771 |
| Vehicles & Equipment, Maint | 5.0% | \$50,616 | \$53,147 | \$55,804 | \$58,595 | \$61,524 | \$64,600 | \$67,830 | \$71,222 | \$74,783 | \$78,522 | \$82,448 |
| Sewer Repair Supplies | 5.0% | \$13,691 | \$14,376 | \$15,094 | \$15,849 | \$16,642 | \$17,474 | \$18,347 | \$19,265 | \$20,228 | \$21,239 | \$22,301 |
| Electric for Lift Stations | 3.0% | \$2,714 | \$2,795 | \$2,879 | \$2,966 | \$3,055 | \$3,146 | \$3,241 | \$3,338 | \$3,438 | \$3,541 | \$3,647 |
| Gas & Water | 3.0% | \$7,906 | \$8,144 | \$8,388 | \$8,639 | \$8,899 | \$9,166 | \$9,441 | \$9,724 | \$10,015 | \$10,316 | \$10,625 |
| Annual Payment to Replacement Fund | 0.0% | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 | \$442,746 |
| Mobilephone / Pager | 5.0% | \$1,033 | \$1,084 | \$1,139 | \$1,195 | \$1,255 | \$1,318 | \$1,384 | \$1,453 | \$1,526 | \$1,602 | \$1,682 |
| Sewer Maintenance | 5.0% | \$4,986 | \$5,235 | \$5,497 | \$5,772 | \$6,060 | \$6,363 | \$6,681 | \$7,015 | \$7,366 | \$7,734 | \$8,121 |
| Transfer to Self-Ins | 5.0% | \$10,259 | \$10,772 | \$11,311 | \$11,876 | \$12,470 | \$13,093 | \$13,748 | \$14,435 | \$15,157 | \$15,915 | \$16,711 |
| Sewer Mitigation Exp | 5.0% | \$105,099 | \$110,353 | \$115,871 | \$121,665 | \$127,748 | \$134,135 | \$140,842 | \$147,884 | \$155,278 | \$163,042 | \$171,194 |
| User Charge Analysis Services & Staff Time | 5.0% | \$0 | \$6,893 | \$0 | \$0 | \$7,600 | \$0 | \$0 | \$8,378 | \$0 | \$0 | \$9,237 |
| Adjustment for Replacements Done From Op Acct | 0.0% | -\$442,746 | -\$442,746 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total Operating Costs | | \$3,649,688 | \$4,115,249 | \$4,827,135 | \$5,108,683 | \$5,498,302 | \$5,907,274 | \$6,361,685 | \$6,865,927 | \$7,398,827 | \$7,989,873 | \$8,644,701 |
| Net Income (or Loss) | | \$1,794,532 | \$1,608,034 | \$1,489,058 | \$1,409,783 | \$1,394,102 | \$1,381,175 | \$1,345,521 | \$1,284,227 | \$1,219,865 | \$1,124,249 | \$993,481 |
| Working Capital Goal 35% | In Dollars, That is: | \$1,277,391 | \$1,440,337 | \$1,689,497 | \$1,788,039 | \$1,924,406 | \$2,067,546 | \$2,226,590 | \$2,403,074 | \$2,589,589 | \$2,796,455 | \$3,025,645 |

Raytown, MO, Winter Average Billing Scenario
 Chart 2 - Capital Improvement Program

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This chart depicts the capital improvements needed for the next 10 years and how they will be paid for. Costs reflect inflation.

| | Year Starting 1/1/09 | This Year Year Starting 1/1/10 | Next Year Year Starting 1/1/11 | 3rd Year Year Starting 1/1/12 | 4th Year Year Starting 1/1/13 | 5th Year Year Starting 1/1/14 | 6th Year Year Starting 1/1/15 | 7th Year Year Starting 1/1/16 | 8th Year Year Starting 1/1/17 | 9th Year Year Starting 1/1/18 | 10th Year Year Starting 1/1/19 |
|---|---|--------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| CIP Spending Plan | | | | | | | | | | | |
| Capital Improvements to be Paid With Debt | | | | | | | | | | | |
| Future SRF Projects | \$0 | \$0 | \$0 | \$0 | \$0 | \$11,698,586 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total Capital Improvements to be Paid With Debt | \$0 | \$0 | \$0 | \$0 | \$0 | \$11,698,586 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Capital Improvements to be Paid With Cash | | | | | | | | | | | |
| Manhole Rehab and Wild | \$2,325 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| SRF Project Construction Completion | \$0 | \$0 | \$1,674,454 | \$1,674,454 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total Cap Imprvmts to be Paid With Cash | \$2,325 | \$0 | \$1,674,454 | \$1,674,454 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total CIP Planned Spending | \$2,325 | \$0 | \$1,674,454 | \$1,674,454 | \$0 | \$11,698,586 | \$0 | \$0 | \$0 | \$0 | \$0 |
| CIP Funding Plan | | | | | | | | | | | |
| CIP/Impact Account Carryover Plus Transfers in | \$6,232,097 | \$6,871,966 | \$7,482,932 | \$6,547,399 | \$5,501,721 | \$6,055,185 | \$6,573,197 | \$6,173,306 | \$5,663,338 | \$5,013,442 | \$4,178,712 |
| CIP/Impact Account Interest Earned (or Paid) | \$0 | \$217,075 | \$249,721 | \$209,446 | \$169,759 | \$192,686 | \$215,469 | \$202,623 | \$185,200 | \$163,842 | \$136,577 |
| Loan 5th Year | \$0 | \$0 | \$0 | \$0 | \$0 | \$11,698,586 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total CIP Fund Sources | \$6,232,097 | \$7,089,041 | \$7,732,654 | \$6,756,845 | \$5,671,480 | \$17,946,456 | \$6,788,666 | \$6,375,928 | \$5,848,538 | \$5,177,285 | \$4,315,289 |
| New Debt Payment Plan | | | | | | | | | | | |
| | Payments for future loans assume 100 percent financing for projects, term of: 20 years and 2.00% interest | | | | | | | | | | |
| Payments on Existing Loans | \$802,894 | \$846,007 | \$822,042 | \$838,405 | \$854,331 | \$861,151 | \$1,007,655 | \$1,030,493 | \$1,037,032 | \$1,047,417 | \$1,072,132 |
| Payment Schedule on Loan 5th Year | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$715,447 | \$715,447 | \$715,447 | \$715,447 | \$715,447 |
| Total Debt Obligations | \$802,894 | \$846,007 | \$822,042 | \$838,405 | \$854,331 | \$861,151 | \$1,723,102 | \$1,745,940 | \$1,752,479 | \$1,762,864 | \$1,787,579 |
| Total CIP Spending Plus Debt Repayment | \$805,219 | \$846,007 | \$2,496,496 | \$2,512,859 | \$854,331 | \$12,559,736 | \$1,723,102 | \$1,745,940 | \$1,752,479 | \$1,762,864 | \$1,787,579 |
| Restricted Reserves Balance | \$5,426,878 | \$6,243,034 | \$5,236,157 | \$4,243,986 | \$4,817,149 | \$5,386,720 | \$5,065,564 | \$4,629,988 | \$4,096,059 | \$3,414,421 | \$2,527,710 |
| Net CIP Spending This Year | \$805,219 | \$846,007 | \$2,496,496 | \$2,512,859 | \$854,331 | \$861,151 | \$1,723,102 | \$1,745,940 | \$1,752,479 | \$1,762,864 | \$1,787,579 |

Notes: This plan assumes the on-going SRF projects will be paid out of already drawn down funds in 2011 and 2012. A major improvement project in 2014, estimated at \$10 million in current dollars, will be funded with a Clean Water SRF loan at 2.0% interest for 20 years.

Raytown, MO, Winter Average Billing Scenario

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Chart 3A - Rate Adjustments and Incomes for the Modeling Year 1/1/10 Through 12/31/10

These charts depict how rates will be adjusted and the outcomes from those adjustments made during the analysis modeling year.

9/1/10 Date when fees will first be collected at adjusted rates

Compare the rates here with the adjusted rates in the table below. Rates are "proportional to use" when there is no usage allowance, the minimum charge is \$12.28 and the unit charge is \$6.92 per 1,000 Gallons

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

Proposed User Rates and Blended User Rate Revenues for the Modeling Year

| Class Bottom | Class Top | Revenues at Test Year Rates | New Minimum Charge Base Rates ¹ | New Minimum Charge Usage Allowance (1,000 Gallons) | New Unit Charge This Class per 1,000 Gallons | Revenues at Proposed Rates | Total Blended Revenues Projected for Modeling Year |
|---|-----------|-----------------------------|--|--|--|----------------------------|--|
| General Customer Class Users | | | | | | | |
| Use per Billing Cycle in Gallons | | | | | | | |
| 0 | 999 | \$369,992 | \$12.28 | 1.000 | \$6.92 | \$152,092 | \$522,085 |
| 1,000 | 1,999 | \$114,380 | \$12.28 | 1.000 | \$6.92 | \$50,880 | \$165,260 |
| 2,000 | 2,999 | \$176,227 | \$12.28 | 1.000 | \$6.92 | \$88,274 | \$264,501 |
| 3,000 | 3,999 | \$205,964 | \$12.28 | 1.000 | \$6.92 | \$110,556 | \$316,521 |
| 4,000 | 4,999 | \$217,926 | \$12.28 | 1.000 | \$6.92 | \$122,339 | \$340,265 |
| 5,000 | 5,999 | \$199,650 | \$12.28 | 1.000 | \$6.92 | \$115,671 | \$315,320 |
| 6,000 | 6,999 | \$181,182 | \$12.28 | 1.000 | \$6.92 | \$107,463 | \$288,644 |
| 7,000 | 7,999 | \$154,581 | \$12.28 | 1.000 | \$6.92 | \$93,425 | \$248,006 |
| 8,000 | 8,999 | \$135,965 | \$12.28 | 1.000 | \$6.92 | \$83,372 | \$219,337 |
| 9,000 | 9,999 | \$121,984 | \$12.28 | 1.000 | \$6.92 | \$75,706 | \$197,690 |
| 10,000 | 10,999 | \$65,412 | \$12.28 | 1.000 | \$6.92 | \$41,032 | \$106,445 |
| 11,000 | 11,999 | \$51,328 | \$12.28 | 1.000 | \$6.92 | \$32,474 | \$83,803 |
| 12,000 | 12,999 | \$43,593 | \$12.28 | 1.000 | \$6.92 | \$27,775 | \$71,368 |
| 13,000 | 13,999 | \$36,997 | \$12.28 | 1.000 | \$6.92 | \$23,726 | \$60,723 |
| 14,000 | 14,999 | \$31,105 | \$12.28 | 1.000 | \$6.92 | \$20,057 | \$51,162 |
| 15,000 | 15,999 | \$26,073 | \$12.28 | 1.000 | \$6.92 | \$16,894 | \$42,967 |
| 16,000 | 16,999 | \$21,890 | \$12.28 | 1.000 | \$6.92 | \$14,247 | \$36,137 |
| 17,000 | 17,999 | \$18,551 | \$12.28 | 1.000 | \$6.92 | \$12,120 | \$30,671 |
| 18,000 | 18,999 | \$13,747 | \$12.28 | 1.000 | \$6.92 | \$9,012 | \$22,759 |
| 19,000 | 19,999 | \$12,321 | \$12.28 | 1.000 | \$6.92 | \$8,102 | \$20,422 |
| 20,000 | 29,999 | \$52,529 | \$12.28 | 1.000 | \$6.92 | \$34,856 | \$87,385 |
| 30,000 | 39,999 | \$12,322 | \$12.28 | 1.000 | \$6.92 | \$8,310 | \$20,632 |
| 40,000 | 49,999 | \$1,374 | \$12.28 | 1.000 | \$6.92 | \$934 | \$2,308 |
| 50,000 | 59,999 | \$1,161 | \$12.28 | 1.000 | \$6.92 | \$794 | \$1,956 |
| 60,000 | 69,999 | \$1,243 | \$12.28 | 1.000 | \$6.92 | \$851 | \$2,094 |
| 70,000 | 79,999 | \$0 | \$12.28 | 1.000 | \$6.92 | \$0 | \$0 |
| 80,000 | 99,999 | \$0 | \$12.28 | 1.000 | \$6.92 | \$0 | \$0 |
| Special Customer Class Users | | | | | | | |
| New Customers | | \$343,849 | \$12.28 | 1.000 | \$6.92 | \$188,993 | \$532,842 |
| All Mthly Billed Customers | | \$1,278,270 | \$12.28 | 1.000 | \$6.92 | \$818,142 | \$2,096,412 |
| Rate Revenues at Current Rates | | \$3,889,616 | Rate Revenues at Adjusted Rates | | | \$2,258,098 | |
| Total Blended Rate Revenues for the Year ² | | | | | | | \$6,147,714 |

Note 1: If meter size-based minimum charges are being used, the amounts shown in this column are for fixed operating costs only. See the Meter Size-based Minimum Charges chart for the full minimum charges to assess to each meter or connection size class.

Note 2: Blended Rate Revenues for the one-year period 1/1/10 through 12/31/10 assume the following:
 8.0 months at the old user charge rates and 4.0 months at the new user charge rates.

Raytown, MO, Winter Average Billing Scenario
 Chart 3B - Rate Statistics

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This chart shows the equitability of your rates as set in the Rate Setting Chart.

If your rates are absolutely proportional to use on a volumetric basis, your % of usage and % of revenues figures will be the same within all the classes. That is not possible if you have any minimum charge.

Normally, the % of usage figure will be lower than the % of revenue for the lower volume classes. That will switch for the higher volume classes. 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. Consider this.

Your average residential and general customer uses 3,583 Gallons per billing cycle.

Compare the % of Usage and % of Revenue for this volume of use, and others, in the chart below to get an idea of how proportional to actual volume use the rates are as proposed in this analysis.

| Class Bottom | Class Top | % Users | % Usage | % Rev at Current Rates | % Rev at Proposed Rates |
|----------------------------------|-----------|---------|---------|------------------------|-------------------------|
| Use per Billing Cycle in Gallons | | | | | |
| General Customer Class Users | | | | | |
| 0 | 999 | 23.1% | 0.2% | 9.5% | 6.7% |
| 1,000 | 1,999 | 6.3% | 1.7% | 2.9% | 2.3% |
| 2,000 | 2,999 | 7.6% | 3.5% | 4.5% | 3.9% |
| 3,000 | 3,999 | 7.3% | 4.8% | 5.3% | 4.9% |
| 4,000 | 4,999 | 6.5% | 5.5% | 5.6% | 5.4% |
| 5,000 | 5,999 | 5.2% | 5.3% | 5.1% | 5.1% |
| 6,000 | 6,999 | 4.2% | 5.1% | 4.7% | 4.8% |
| 7,000 | 7,999 | 3.2% | 4.5% | 4.0% | 4.1% |
| 8,000 | 8,999 | 2.5% | 4.0% | 3.5% | 3.7% |
| 9,000 | 9,999 | 2.1% | 3.7% | 3.1% | 3.4% |
| 10,000 | 10,999 | 1.0% | 2.0% | 1.7% | 1.8% |
| 11,000 | 11,999 | 0.7% | 1.6% | 1.3% | 1.4% |
| 12,000 | 12,999 | 0.6% | 1.4% | 1.1% | 1.2% |
| 13,000 | 13,999 | 0.5% | 1.2% | 1.0% | 1.1% |
| 14,000 | 14,999 | 0.4% | 1.0% | 0.8% | 0.9% |
| 15,000 | 15,999 | 0.3% | 0.9% | 0.7% | 0.7% |
| 16,000 | 16,999 | 0.2% | 0.7% | 0.6% | 0.6% |
| 17,000 | 17,999 | 0.2% | 0.6% | 0.5% | 0.5% |
| 18,000 | 18,999 | 0.1% | 0.5% | 0.4% | 0.4% |
| 19,000 | 19,999 | 0.1% | 0.4% | 0.3% | 0.4% |
| 20,000 | 29,999 | 0.4% | 1.8% | 1.4% | 1.5% |
| 30,000 | 39,999 | 0.1% | 0.4% | 0.3% | 0.4% |
| 40,000 | 49,999 | 0.0% | 0.0% | 0.0% | 0.0% |
| 50,000 | 59,999 | 0.0% | 0.0% | 0.0% | 0.0% |
| 60,000 | 69,999 | 0.0% | 0.0% | 0.0% | 0.0% |
| 70,000 | 79,999 | 0.0% | 0.0% | 0.0% | 0.0% |
| 80,000 | 99,999 | 0.0% | 0.0% | 0.0% | 0.0% |
| Special Customer Class Users | | | | | |
| New Customers | | 11.1% | 8.3% | 8.8% | 8.4% |
| All Mthly Billed Customers | | 16.3% | 40.8% | 32.9% | 36.2% |
| Totals | | 100.0% | 100.0% | 100.0% | 100.0% |

Raytown, MO, Winter Average Billing Scenario

Chart 4 - Indicators

This chart depicts the affordability of future rates, the financial health of the system and the ending balances in various accounts for 10 years.

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| | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting | Year Starting |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1/1/09 | 1/1/10 | 1/1/11 | 1/1/12 | 1/1/13 | 1/1/14 | 1/1/15 | 1/1/16 | 1/1/17 | 1/1/18 | 1/1/19 |
| Capacity Indicators | | | | | | | | | | | |
| Equivalent Average Monthly Bill Actually Paid by All Customers Throughout the Year | \$30.98 | \$33.12 | \$37.85 | \$40.13 | \$42.53 | \$45.09 | \$47.79 | \$50.66 | \$53.70 | \$56.92 | \$60.34 |
| Equivalent Final Monthly Bill for a 5,000 gal per Month Residential User | \$39.35 | \$46.87 | \$53.43 | \$56.64 | \$60.04 | \$63.64 | \$67.46 | \$71.50 | \$75.79 | \$80.34 | \$85.16 |
| Annual Median Household Income (AMHI) | \$41,949 | \$43,207 | \$44,504 | \$45,839 | \$47,214 | \$48,630 | \$50,089 | \$51,592 | \$53,140 | \$54,734 | \$56,376 |
| Affordability Index for Proposed Rates | 1.13% | 1.30% | 1.44% | 1.48% | 1.53% | 1.57% | 1.62% | 1.66% | 1.71% | 1.76% | 1.81% |
| Affordability Index is the percent of AMHI needed by a 5,000 gallon per month residential user to pay their bill. Rates near 1.0% are common in the U.S. and are generally considered affordable. Federal grant agencies generally will not consider awarding grants if this indicator is less than 2.0%. | | | | | | | | | | | |
| Estimated Operating Ratio for Proposed Rates | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 | 1.35 |
| 1.0 is break even for Operating Ratio. Below 1.0 indicates operating in the "red." Generally, the operating ratio should be at least 1.15 for larger systems and 1.30 or more for smaller systems. | | | | | | | | | | | |
| Estimated Coverage Ratio for Proposed Rates | 9.01 | 10.04 | 9.67 | 8.49 | 9.45 | 10.49 | 5.65 | 5.58 | 5.49 | 5.18 | 4.87 |
| Coverage Ratio applies only to years with debt service. 1.0 is break even. Generally, the coverage ratio should be at least 1.25. | | | | | | | | | | | |
| Reserves | | | | | | | | | | | |
| | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on | Balance Ending on |
| | 12/31/09 | 12/31/10 | 12/31/11 | 12/31/12 | 12/31/13 | 12/31/14 | 12/31/15 | 12/31/16 | 12/31/17 | 12/31/18 | 12/31/19 |
| Unrestricted Reserves | \$1,277,391 | \$1,440,337 | \$1,689,497 | \$1,788,039 | \$1,924,406 | \$2,067,546 | \$2,226,590 | \$2,403,074 | \$2,589,589 | \$2,796,455 | \$3,025,645 |
| Restricted Reserves | \$5,426,878 | \$6,243,034 | \$5,236,157 | \$4,243,986 | \$4,817,149 | \$5,386,720 | \$5,065,564 | \$4,629,988 | \$4,096,059 | \$3,414,421 | \$2,527,710 |
| Replacement Fund | -\$275,531 | -\$36,201 | \$205,007 | \$245,453 | \$481,600 | \$718,535 | \$728,266 | \$956,702 | \$1,184,538 | \$1,155,251 | \$1,370,370 |
| Current Position (sum of all Reserves) | \$6,428,738 | \$7,647,171 | \$7,130,662 | \$6,277,478 | \$7,223,155 | \$8,172,801 | \$8,020,419 | \$7,989,764 | \$7,870,186 | \$7,366,128 | \$6,923,725 |
| Working Capital + CIP | \$6,704,269 | \$7,683,371 | \$6,925,655 | \$6,032,025 | \$6,741,555 | \$7,454,266 | \$7,292,154 | \$7,033,063 | \$6,685,648 | \$6,210,876 | \$5,553,355 |
| Working Capital + CIP Balances Discounted for Inflation | \$6,704,269 | \$7,683,371 | \$6,648,628 | \$5,559,114 | \$5,964,496 | \$6,331,255 | \$5,945,823 | \$5,505,185 | \$5,023,914 | \$4,480,462 | \$3,845,887 |

Chart 5 - Operating Ratio

Raytown, MO

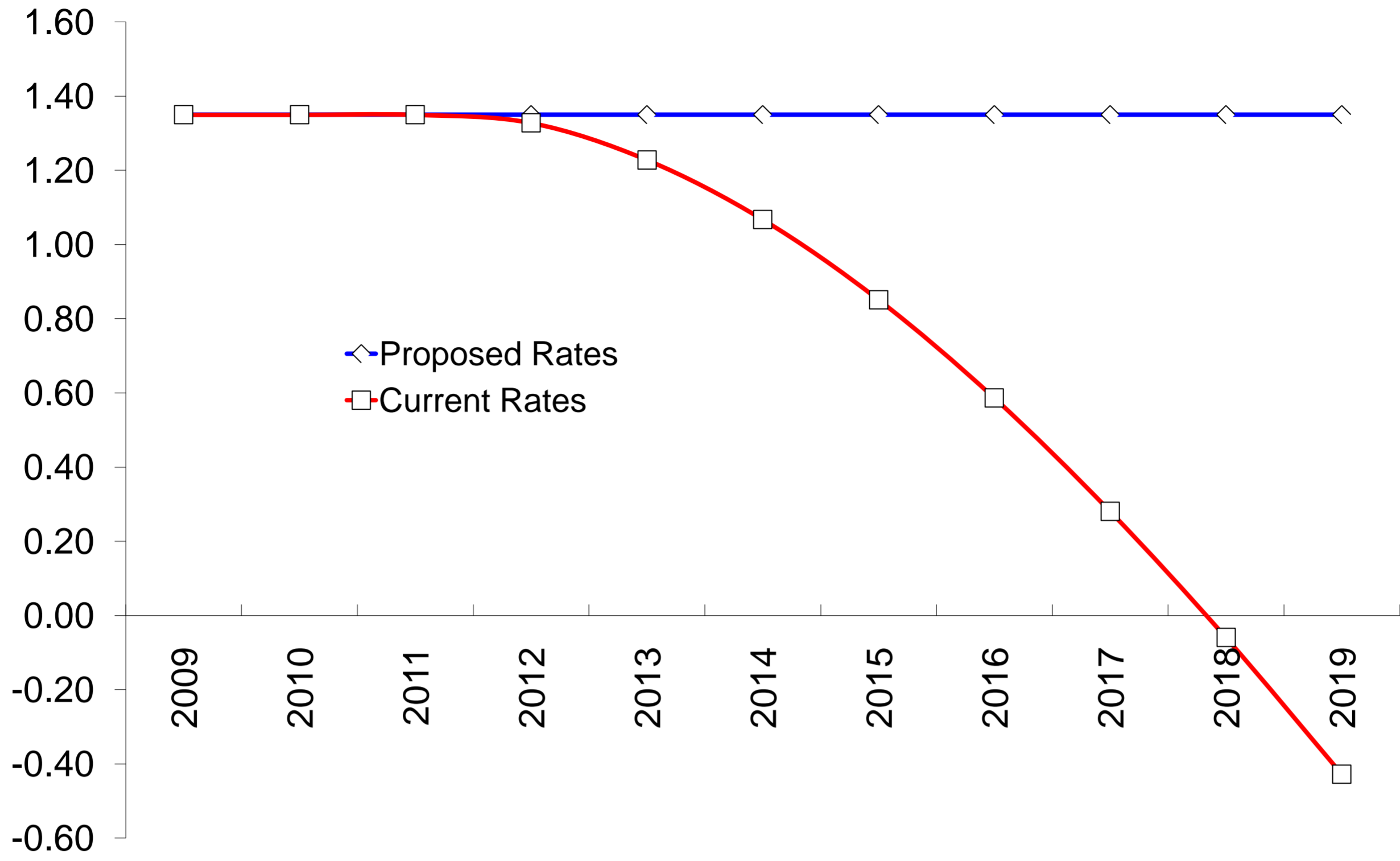


Chart 6 - Coverage Ratio

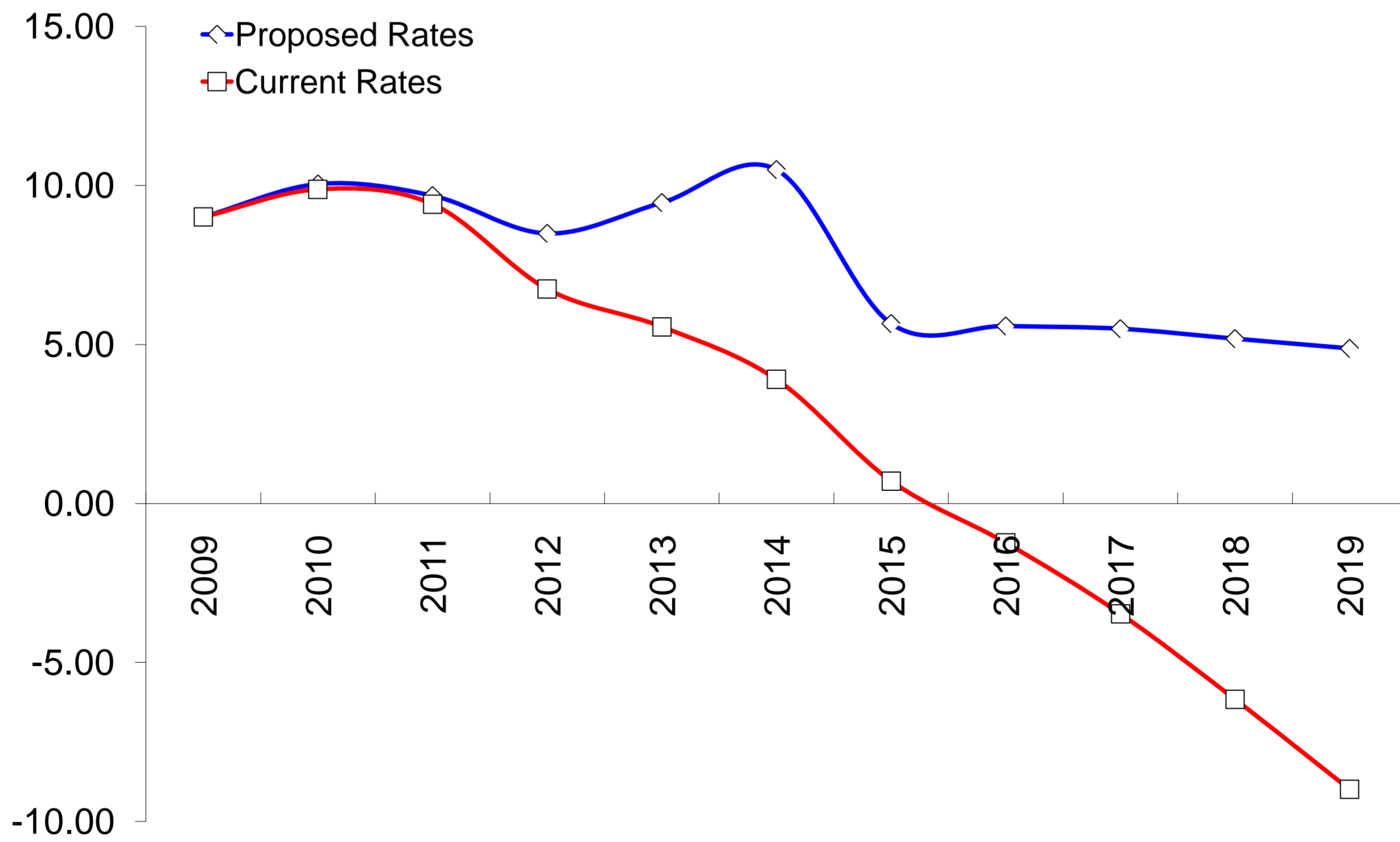


Chart 7 - 5,000 Gal Residential User's Bill

Raytown, MO

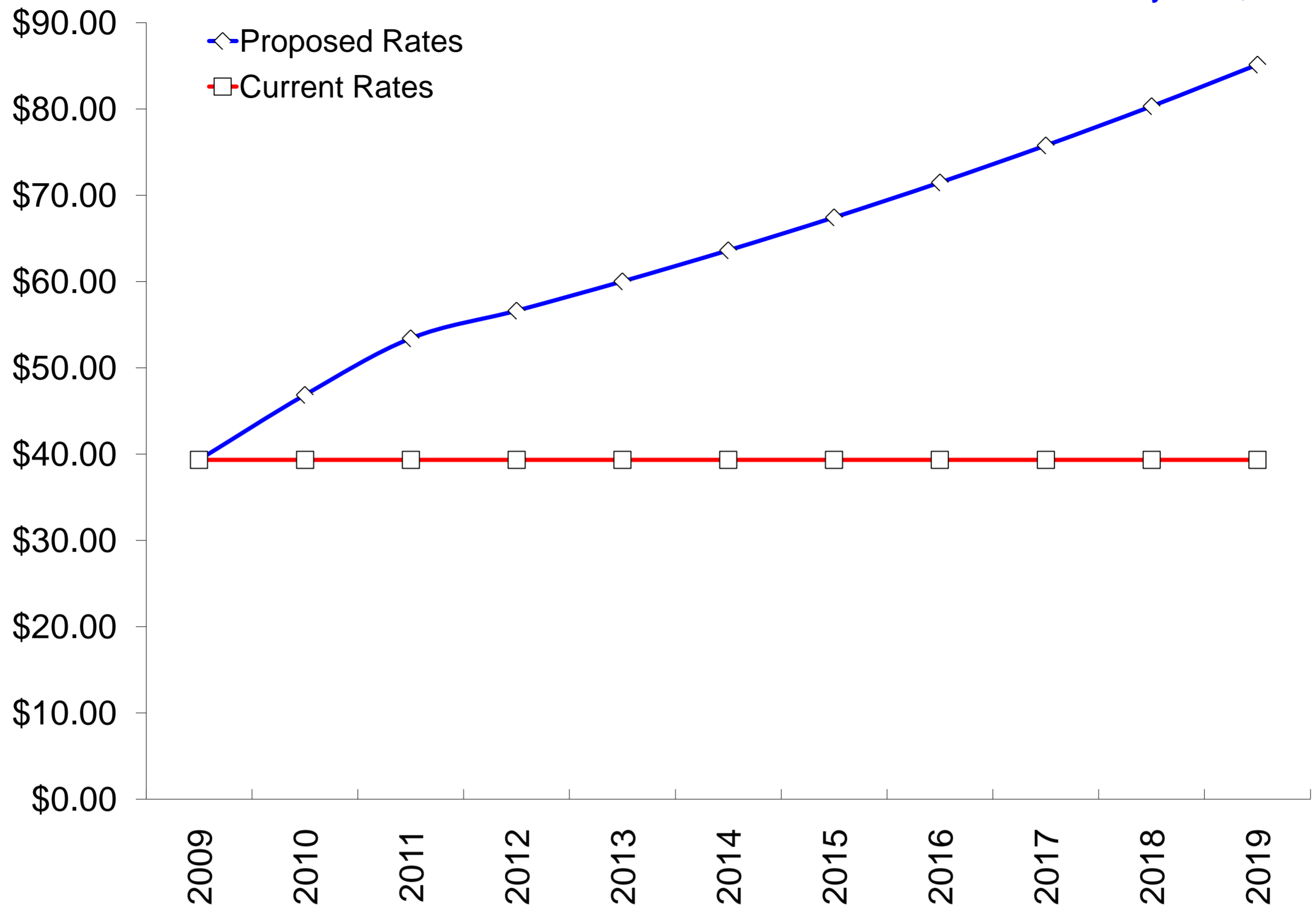


Chart 8 - Affordability Index

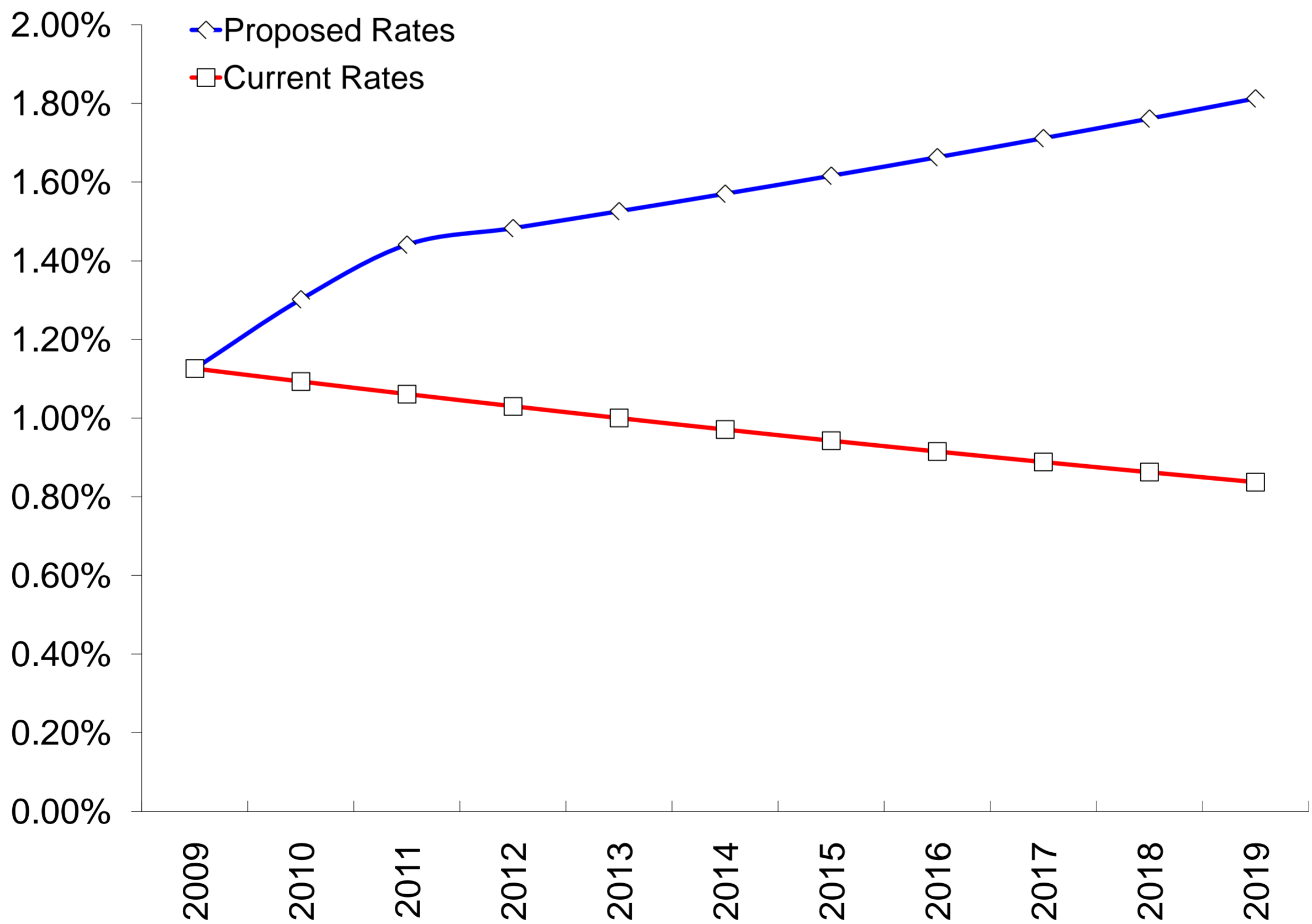


Chart 9 - Working Capital

Raytown, MO

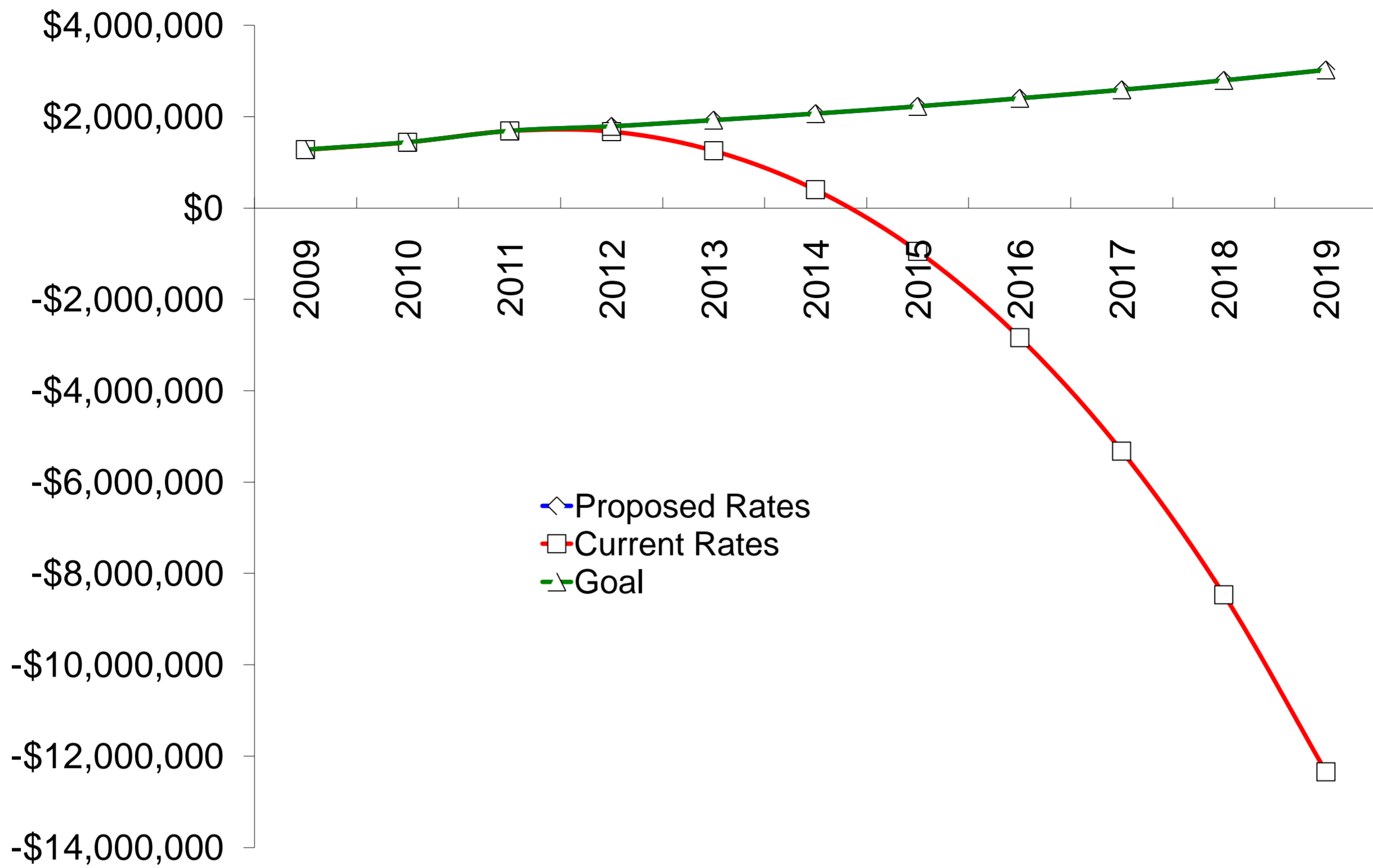


Chart 10 - Working Capital and CIP Reserves Discounted for Inflation

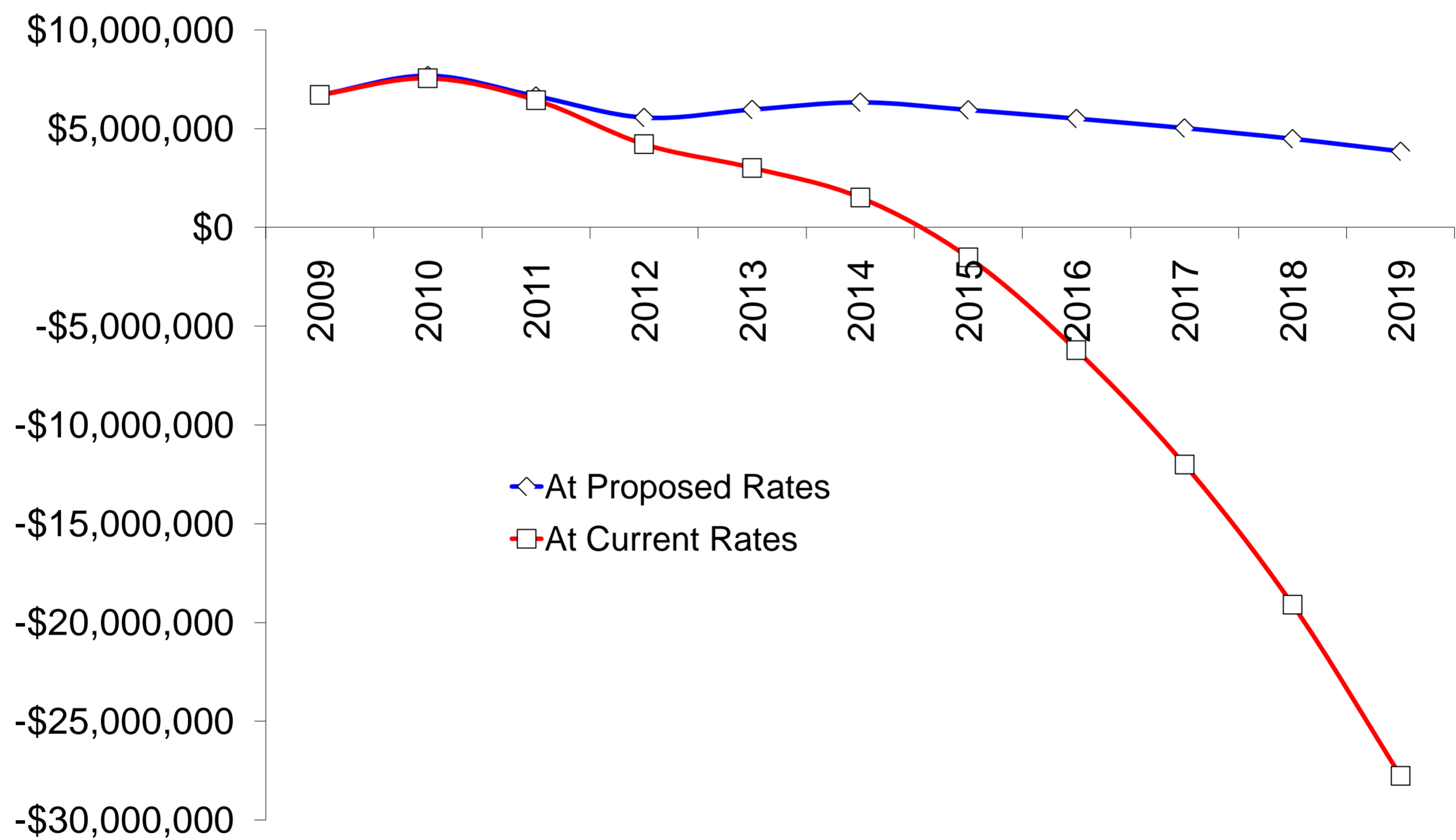


Chart 11 - Use & Revenues

Raytown, MO

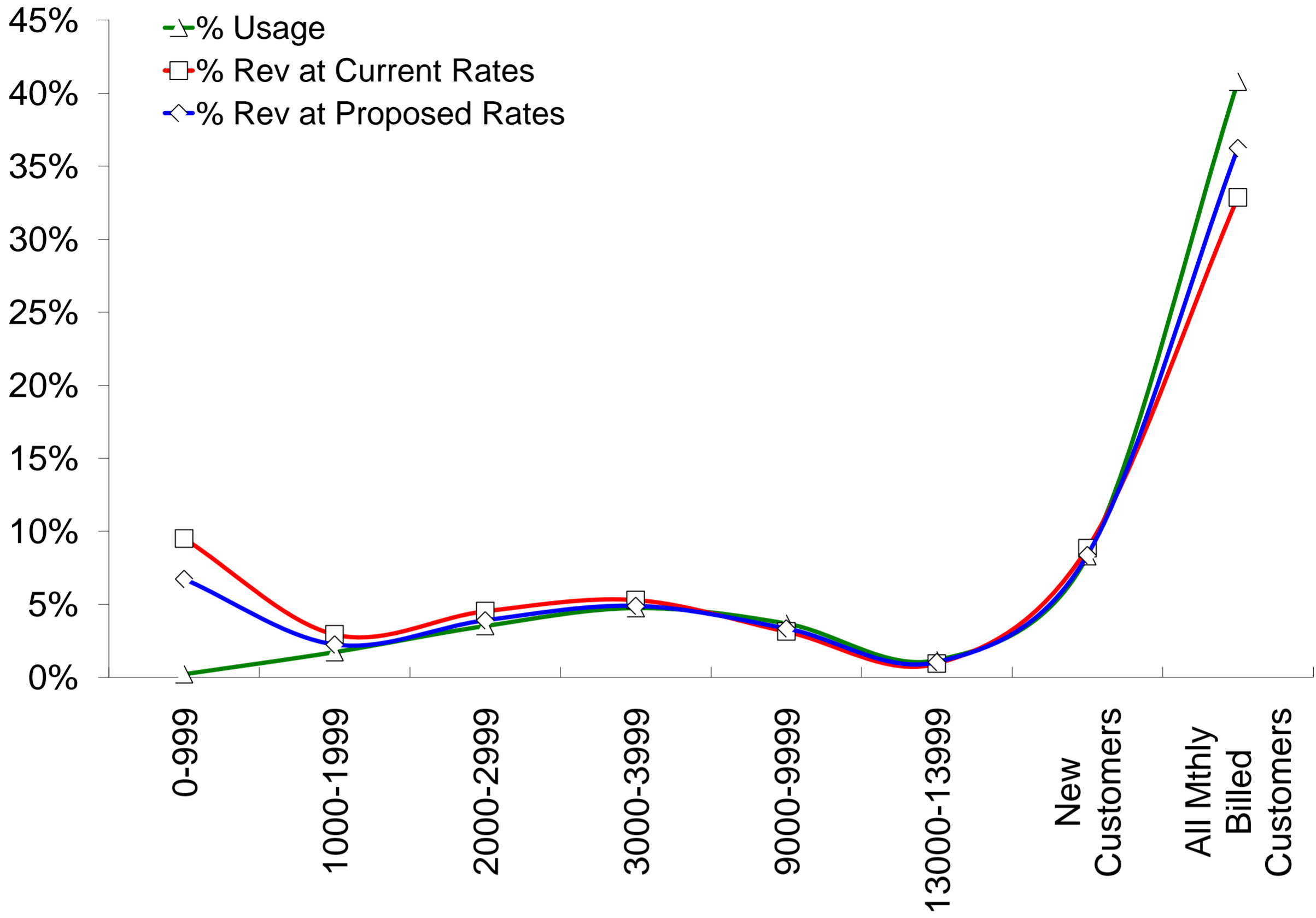
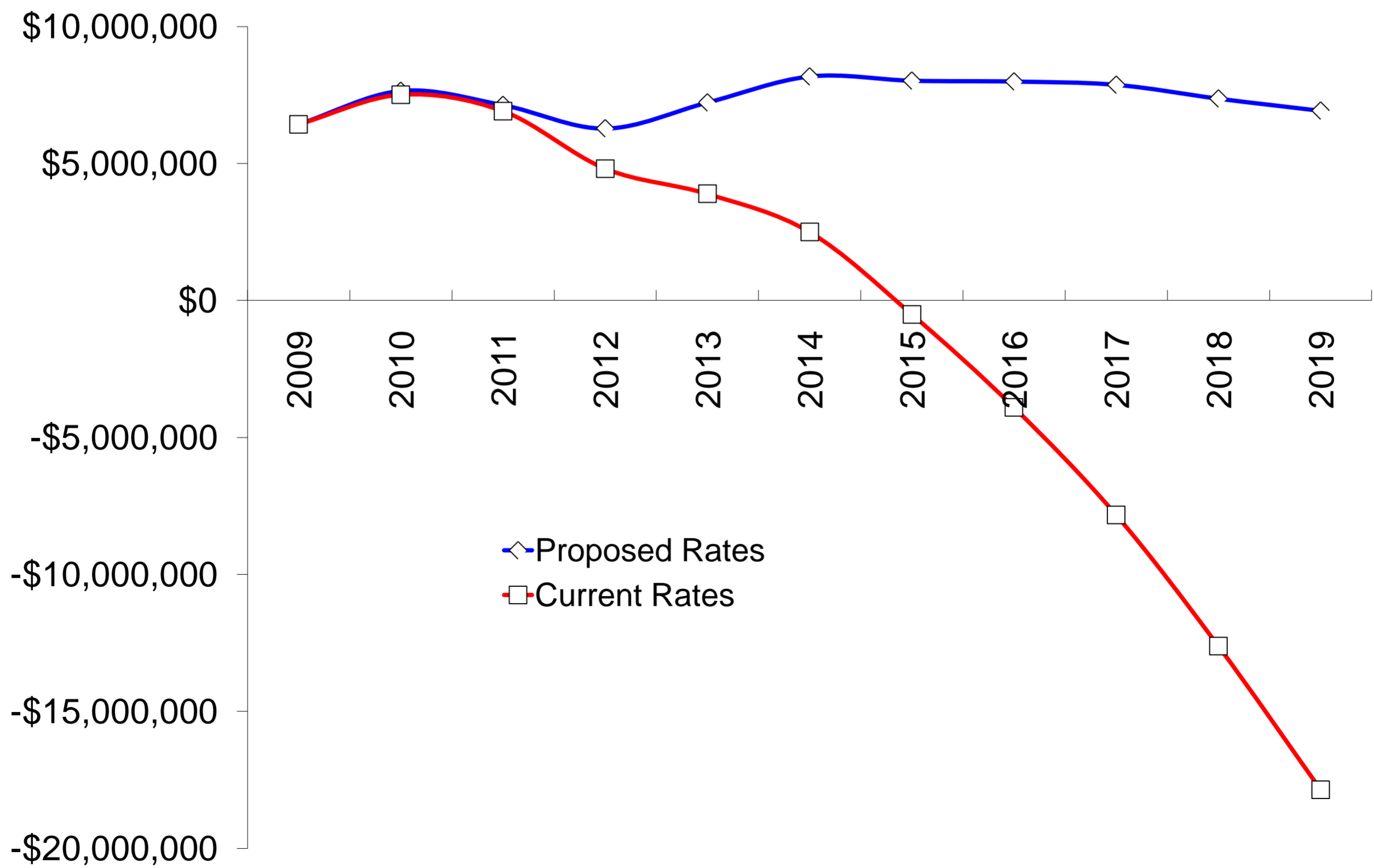


Chart 12 - Current Position



Raytown, MO, Winter Average Billing Scenario

Chart 13 - Old Rates, New Rates and Changes

This chart compares current and proposed rates.

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| Class Bottom | Class Top | Median or Actual Average use (1,000 Gallons) | Current Average Bill | Proposed Average Bill Starting on 9/1/10 | Bill Increase or (Decrease) After Rate Adjustment |
|----------------------------------|----------------------------|--|----------------------|--|---|
| Use per Billing Cycle in Gallons | | | | | |
| 0 | 999 | 0.048 | \$15.00 | \$12.28 | -\$2.72 |
| 1,000 | 1,999 | 1.401 | \$16.99 | \$15.06 | -\$1.94 |
| 2,000 | 2,999 | 2.371 | \$21.81 | \$21.76 | -\$0.05 |
| 3,000 | 3,999 | 3.343 | \$26.63 | \$28.47 | \$1.84 |
| 4,000 | 4,999 | 4.303 | \$31.40 | \$35.11 | \$3.71 |
| 5,000 | 5,999 | 5.255 | \$36.13 | \$41.69 | \$5.56 |
| 6,000 | 6,999 | 6.201 | \$40.83 | \$48.23 | \$7.41 |
| 7,000 | 7,999 | 7.181 | \$45.69 | \$55.00 | \$9.31 |
| 8,000 | 8,999 | 8.128 | \$50.39 | \$61.54 | \$11.15 |
| 9,000 | 9,999 | 9.091 | \$55.17 | \$68.20 | \$13.03 |
| 10,000 | 10,999 | 10.127 | \$60.31 | \$75.36 | \$15.04 |
| 11,000 | 11,999 | 11.116 | \$65.23 | \$82.20 | \$16.97 |
| 12,000 | 12,999 | 12.069 | \$69.96 | \$88.78 | \$18.82 |
| 13,000 | 13,999 | 13.083 | \$74.99 | \$95.79 | \$20.80 |
| 14,000 | 14,999 | 14.065 | \$79.87 | \$102.58 | \$22.71 |
| 15,000 | 15,999 | 15.052 | \$84.77 | \$109.40 | \$24.63 |
| 16,000 | 16,999 | 16.073 | \$89.84 | \$116.46 | \$26.62 |
| 17,000 | 17,999 | 17.068 | \$94.78 | \$123.34 | \$28.55 |
| 18,000 | 18,999 | 18.070 | \$99.75 | \$130.25 | \$30.50 |
| 19,000 | 19,999 | 19.037 | \$104.56 | \$136.94 | \$32.39 |
| 20,000 | 29,999 | 22.614 | \$122.33 | \$161.68 | \$39.35 |
| 30,000 | 39,999 | 33.469 | \$176.27 | \$236.77 | \$60.50 |
| 40,000 | 49,999 | 44.133 | \$229.27 | \$310.54 | \$81.27 |
| 50,000 | 59,999 | 56.500 | \$290.73 | \$396.09 | \$105.36 |
| 60,000 | 69,999 | 60.600 | \$311.10 | \$424.45 | \$113.35 |
| 70,000 | 79,999 | 75.000 | \$382.66 | \$524.06 | \$141.40 |
| 80,000 | 99,999 | 90.000 | \$457.20 | \$627.83 | \$170.62 |
| Special Customer Class Users | | | | | |
| | New Customers* | 3.803 | \$28.54 | \$31.67 | \$3.13 |
| | All Mthly Billed Customers | 12.748 | \$73.39 | \$93.56 | \$20.17 |

*New residential customer's monthly bills are calculated based upon their actual monthly usage or the average monthly usage for all residential users, whichever is less. (These bills are "capped.")

Raytown, MO, Winter Average Billing Scenario

Chart 13B - Rate Changes in Percent

This chart shows percentage increases and decreases.

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| Effective New All-in Rate/1,000 Gallons | Class Bottom | Class Top | Percent Increase or Decrease (-) After Rate Adjustment |
|---|----------------------------------|-----------|--|
| General Customer Class | | | |
| | Use per Billing Cycle in Gallons | | Users |
| \$254.45 | 0 | 999 | -18% |
| \$10.75 | 1,000 | 1,999 | -11% |
| \$9.18 | 2,000 | 2,999 | 0% |
| \$8.52 | 3,000 | 3,999 | 7% |
| \$8.16 | 4,000 | 4,999 | 12% |
| \$7.93 | 5,000 | 5,999 | 15% |
| \$7.78 | 6,000 | 6,999 | 18% |
| \$7.66 | 7,000 | 7,999 | 20% |
| \$7.57 | 8,000 | 8,999 | 22% |
| \$7.50 | 9,000 | 9,999 | 24% |
| \$7.44 | 10,000 | 10,999 | 25% |
| \$7.39 | 11,000 | 11,999 | 26% |
| \$7.36 | 12,000 | 12,999 | 27% |
| \$7.32 | 13,000 | 13,999 | 28% |
| \$7.29 | 14,000 | 14,999 | 28% |
| \$7.27 | 15,000 | 15,999 | 29% |
| \$7.25 | 16,000 | 16,999 | 30% |
| \$7.23 | 17,000 | 17,999 | 30% |
| \$7.21 | 18,000 | 18,999 | 31% |
| \$7.19 | 19,000 | 19,999 | 31% |
| \$7.15 | 20,000 | 29,999 | 32% |
| \$7.07 | 30,000 | 39,999 | 34% |
| \$7.04 | 40,000 | 49,999 | 35% |
| \$7.01 | 50,000 | 59,999 | 36% |
| \$7.00 | 60,000 | 69,999 | 36% |
| \$6.99 | 70,000 | 79,999 | 37% |
| \$6.98 | 80,000 | 99,999 | 37% |
| Special Customer Class | | | |
| | | | Users |
| \$8.33 | New Customers* | | 11% |
| \$7.34 | All Mthly Billed Customers | | 27% |

Raytown, MO, Winter Average Billing Scenario

Chart 14 - Proposed Rate Chart

All users connected to the municipal system shall pay fees and charges according to the following schedule.

| Class Bottom | Class Top | Median or Actual Average use (1,000 Gallons) | Minimum Charge per Billing Cycle | Minimum Allowance (1,000 Gallons) | Unit Charge This Class per 1,000 Gallons |
|----------------------------------|-----------|--|----------------------------------|-----------------------------------|--|
| Use per Billing Cycle in Gallons | | | | | |
| General Customer Class Users | | | | | |
| 0 | 999 | 0.048 | \$12.28 | 1.000 | \$6.92 |
| 1,000 | 1,999 | 1.401 | \$12.28 | 1.000 | \$6.92 |
| 2,000 | 2,999 | 2.371 | \$12.28 | 1.000 | \$6.92 |
| 3,000 | 3,999 | 3.343 | \$12.28 | 1.000 | \$6.92 |
| 4,000 | 4,999 | 4.303 | \$12.28 | 1.000 | \$6.92 |
| 5,000 | 5,999 | 5.255 | \$12.28 | 1.000 | \$6.92 |
| 6,000 | 6,999 | 6.201 | \$12.28 | 1.000 | \$6.92 |
| 7,000 | 7,999 | 7.181 | \$12.28 | 1.000 | \$6.92 |
| 8,000 | 8,999 | 8.128 | \$12.28 | 1.000 | \$6.92 |
| 9,000 | 9,999 | 9.091 | \$12.28 | 1.000 | \$6.92 |
| 10,000 | 10,999 | 10.127 | \$12.28 | 1.000 | \$6.92 |
| 11,000 | 11,999 | 11.116 | \$12.28 | 1.000 | \$6.92 |
| 12,000 | 12,999 | 12.069 | \$12.28 | 1.000 | \$6.92 |
| 13,000 | 13,999 | 13.083 | \$12.28 | 1.000 | \$6.92 |
| 14,000 | 14,999 | 14.065 | \$12.28 | 1.000 | \$6.92 |
| 15,000 | 15,999 | 15.052 | \$12.28 | 1.000 | \$6.92 |
| 16,000 | 16,999 | 16.073 | \$12.28 | 1.000 | \$6.92 |
| 17,000 | 17,999 | 17.068 | \$12.28 | 1.000 | \$6.92 |
| 18,000 | 18,999 | 18.070 | \$12.28 | 1.000 | \$6.92 |
| 19,000 | 19,999 | 19.037 | \$12.28 | 1.000 | \$6.92 |
| 20,000 | 29,999 | 22.614 | \$12.28 | 1.000 | \$6.92 |
| 30,000 | 39,999 | 33.469 | \$12.28 | 1.000 | \$6.92 |
| 40,000 | 49,999 | 44.133 | \$12.28 | 1.000 | \$6.92 |
| 50,000 | 59,999 | 56.500 | \$12.28 | 1.000 | \$6.92 |
| 60,000 | 69,999 | 60.600 | \$12.28 | 1.000 | \$6.92 |
| 70,000 | 79,999 | 75.000 | \$12.28 | 1.000 | \$6.92 |
| 80,000 | 99,999 | 90.000 | \$12.28 | 1.000 | \$6.92 |
| Special Customer Class Users | | | | | |
| New Customers* | | 3.803 | \$12.28 | 1.000 | \$6.92 |
| All Mthly Billed Customers | | 12.748 | \$12.28 | 1.000 | \$6.92 |

*New residential customer's monthly bills are calculated based upon their actual monthly usage or the average monthly usage for all residential users, whichever is less. (These bills are "capped.")

Chart 15 - Test Year Usage

One-year period being analyzed starts 1/1/2009

This chart shows usage by your customers during the test year.

Date this scenario created 4/27/2010

| Class Bottom | Class Top | Median or Actual Average use (1,000 Gallons) | January-09 | February-09 | March-09 | April-09 | May-09 | June-09 | July-09 | August-09 | September-09 | October-09 | November-09 | December-09 | Average Number Users in Each Class |
|---|-----------|--|-------------------------------------|-------------|----------|----------|--------|---------|---------|-----------|--------------|------------|-------------|-------------|------------------------------------|
| Use per Billing Cycle in Gallons | | | General Customer Class Users | | | | | | | | | | | | |
| 0 | 999 | 0.048 | 3,088 | 3,088 | 3,088 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 3,088 | 3,088 |
| 1,000 | 1,999 | 1.401 | 843 | 843 | 843 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 843 | 843 |
| 2,000 | 2,999 | 2.371 | 1,012 | 1,012 | 1,012 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 1,012 | 1,012 |
| 3,000 | 3,999 | 3.343 | 968 | 968 | 968 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 968 | 968 |
| 4,000 | 4,999 | 4.303 | 869 | 869 | 869 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 869 | 869 |
| 5,000 | 5,999 | 5.255 | 692 | 692 | 692 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 692 | 692 |
| 6,000 | 6,999 | 6.201 | 556 | 556 | 556 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 556 | 556 |
| 7,000 | 7,999 | 7.181 | 424 | 424 | 424 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 424 | 424 |
| 8,000 | 8,999 | 8.128 | 338 | 338 | 338 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 338 | 338 |
| 9,000 | 9,999 | 9.091 | 277 | 277 | 277 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 277 | 277 |
| 10,000 | 10,999 | 10.127 | 136 | 136 | 136 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 136 | 136 |
| 11,000 | 11,999 | 11.116 | 99 | 99 | 99 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 99 | 99 |
| 12,000 | 12,999 | 12.069 | 78 | 78 | 78 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 78 | 78 |
| 13,000 | 13,999 | 13.083 | 62 | 62 | 62 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 62 | 62 |
| 14,000 | 14,999 | 14.065 | 49 | 49 | 49 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 49 | 49 |
| 15,000 | 15,999 | 15.052 | 39 | 39 | 39 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 39 | 39 |
| 16,000 | 16,999 | 16.073 | 31 | 31 | 31 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 31 | 31 |
| 17,000 | 17,999 | 17.068 | 25 | 25 | 25 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 25 | 25 |
| 18,000 | 18,999 | 18.070 | 17 | 17 | 17 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 17 | 17 |
| 19,000 | 19,999 | 19.037 | 15 | 15 | 15 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 15 | 15 |
| 20,000 | 29,999 | 22.614 | 54 | 54 | 54 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 54 | 54 |
| 30,000 | 39,999 | 33.469 | 9 | 9 | 9 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 9 | 9 |
| 40,000 | 49,999 | 44.133 | 1 | 1 | 1 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 1 | 1 |
| 50,000 | 59,999 | 56.500 | 1 | 1 | 1 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 1 | 1 |
| 60,000 | 69,999 | 60.600 | 1 | 1 | 1 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 1 | 1 |
| 70,000 | 79,999 | 75.000 | 0 | 0 | 0 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 0 | 0 |
| 80,000 | 99,999 | 90.000 | 0 | 0 | 0 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 0 | 0 |
| Subtotal: | | | | | | | | | | | | | | | 9,676 |
| | | | Special Customer Class Users | | | | | | | | | | | | |
| New Customers | | 3.803 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 | 1,488 |
| All Mthly Billed Customers | | 12.748 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 | 2,180 |
| Total Users Each Month and Average for the Year | | | 13,344 | 13,344 | 13,344 | 3,668 | 3,668 | 3,668 | 3,668 | 3,668 | 3,668 | 3,668 | 3,668 | 13,344 | 13,344 |

Raytown, MO

Chart 16A - Rates During Test Year

CBGreatRates© Version 4.9

These charts show current rates, starting reserve balances and incomes for the test year.

| Class Bottom | Class Top | Median or Actual Average use (1,000 Gallons) | Base Minimum Charge | Minimum Charge Usage Allowance (1,000 Gallons) | Unit Charge This Class per 1,000 Gallons |
|------------------------------|----------------------------|--|---------------------|--|--|
| General Customer Class Users | | | | | |
| 0 | 999 | 0.048 | \$15.00 | 1.0 | \$4.97 |
| 1,000 | 1,999 | 1.401 | \$15.00 | 1.0 | \$4.97 |
| 2,000 | 2,999 | 2.371 | \$15.00 | 1.0 | \$4.97 |
| 3,000 | 3,999 | 3.343 | \$15.00 | 1.0 | \$4.97 |
| 4,000 | 4,999 | 4.303 | \$15.00 | 1.0 | \$4.97 |
| 5,000 | 5,999 | 5.255 | \$15.00 | 1.0 | \$4.97 |
| 6,000 | 6,999 | 6.201 | \$15.00 | 1.0 | \$4.97 |
| 7,000 | 7,999 | 7.181 | \$15.00 | 1.0 | \$4.97 |
| 8,000 | 8,999 | 8.128 | \$15.00 | 1.0 | \$4.97 |
| 9,000 | 9,999 | 9.091 | \$15.00 | 1.0 | \$4.97 |
| 10,000 | 10,999 | 10.127 | \$15.00 | 1.0 | \$4.97 |
| 11,000 | 11,999 | 11.116 | \$15.00 | 1.0 | \$4.97 |
| 12,000 | 12,999 | 12.069 | \$15.00 | 1.0 | \$4.97 |
| 13,000 | 13,999 | 13.083 | \$15.00 | 1.0 | \$4.97 |
| 14,000 | 14,999 | 14.065 | \$15.00 | 1.0 | \$4.97 |
| 15,000 | 15,999 | 15.052 | \$15.00 | 1.0 | \$4.97 |
| 16,000 | 16,999 | 16.073 | \$15.00 | 1.0 | \$4.97 |
| 17,000 | 17,999 | 17.068 | \$15.00 | 1.0 | \$4.97 |
| 18,000 | 18,999 | 18.070 | \$15.00 | 1.0 | \$4.97 |
| 19,000 | 19,999 | 19.037 | \$15.00 | 1.0 | \$4.97 |
| 20,000 | 29,999 | 22.614 | \$15.00 | 1.0 | \$4.97 |
| 30,000 | 39,999 | 33.469 | \$15.00 | 1.0 | \$4.97 |
| 40,000 | 49,999 | 44.133 | \$15.00 | 1.0 | \$4.97 |
| 50,000 | 59,999 | 56.500 | \$15.00 | 1.0 | \$4.97 |
| 60,000 | 69,999 | 60.600 | \$15.00 | 1.0 | \$4.97 |
| 70,000 | 79,999 | 75.000 | \$15.00 | 1.0 | \$4.97 |
| 80,000 | 99,999 | 90.000 | \$15.00 | 1.0 | \$4.97 |
| Special Customer Class Users | | | | | |
| | New Customers | 3.803 | \$15.00 | 1.0 | \$4.97 |
| | All Mthly Billed Customers | 12.748 | \$15.00 | 1.0 | \$4.97 |

Raytown, MO

Chart 16B - Reserves, Incomes, AMHI

CBGreatRates© Version 4.9

Reserve Starting Balances as of 1/1/09 (Carryover From Prior Year)

\$792,064 Unrestricted Reserves

\$4,922,892 Restricted Reserves

\$0 Other Reserves

\$0 Other Reserves

\$100,000 Replacement Fund

Incomes for 1/1/09 Through 12/31/09

\$4,960,069 User Fees

\$134,332 Penalties

0 New Connections

\$0 Average Connection Fee

\$0 Total Connection Fees

-\$21,193 Circuit Breaker Discount

\$75,862 Interest Earned on Deposits

\$0 Transfers From Capital Improvement Reserves

\$308,972 Other Income SRF Invested Balance Earnings

\$1,630 Other Income Miscellaneous Revenue

\$975 Other Income Returned Items

\$3,080 Other Income Administrative Charge

\$5,463,728 Total Regular Income

The recorded rates and usage predict billable user fees + meter surcharges at:

\$5,748,888

Connection fees dedicated to future capital improvements:

\$0

Annual Median Household Income (AMHI)

\$41,949 AMHI for Raytown, MO for the year 2009, by Census estimate

3.0% Rate of growth in AMHI (assumed)

Raytown, MO, Winter Average Billing Scenario

Chart 17A - Equipment Replacement Details Chart

This schedule depicts detailed equipment replacement and refurbishment during the next 20 years.

CBGreatRates© Version 4.9, Replacement Scheduler© Version 1.4

| Year Beginning | Capital Expenditures During Test Year | Estimated Additional Annual Need | Unscheduled Sewer Replacement | | | | | | | Total Annual Replacement Costs |
|----------------|---------------------------------------|----------------------------------|-------------------------------|-----|-----|-----|-----|-----|-----|--------------------------------|
| 1/1/09 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/10 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/11 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/12 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/13 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/14 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/15 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/16 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/17 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/18 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/19 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/20 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/21 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/22 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/23 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/24 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/25 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/26 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/27 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/28 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/29 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/30 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |
| 1/1/31 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/32 | \$92,395 | \$100,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$192,395 |
| 1/1/33 | \$92,395 | \$100,000 | \$187,136 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$379,531 |

Replacement Scheduler Version 1.4, copyright 2008. The program itself may not be copied but report output may be so long as credit is ascribed to the developer, Carl E. Brown of Carl Brown Consulting, LLC.

Raytown, MO, Winter Average Billing Scenario

Chart 17 - Replacement Schedule

CBGreatRates© Version 4.9, Replacement Scheduler© Version 1.4

This schedule calculates the annual annuity to fund all replacement and refurbishment from the detailed schedule.

4.00% Average Inflation Rate for the Following Sewer System Equipment for the Term of This Replacement Schedule

4.00% Average Interest Rate on Balances Invested for the Term of This Replacement Schedule

4.00% Average Interest Rate on Amounts Borrowed for the Term of This Replacement Schedule

| Year Beginning | Item Description | This Year's Costs in Current Dollars | One-time Transfers From Operating Fund | One-time Transfers to Operating Fund | End of Year Balance in Future Dollars | Minimum Desired End of Year Balance in Future Dollars |
|----------------|--|--------------------------------------|--|--------------------------------------|---------------------------------------|---|
| 1/1/09 | Test year replacements | \$379,531 | \$0 | \$0 | -\$275,531 | \$994,143 |
| 1/1/10 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | -\$36,201 | \$994,143 |
| 1/1/11 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$205,007 | \$1,033,909 |
| 1/1/12 | Total of replacements from detailed replacement schedule | \$379,531 | \$0 | \$0 | \$245,453 | \$1,075,265 |
| 1/1/13 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$481,600 | \$1,118,276 |
| 1/1/14 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$718,535 | \$1,163,007 |
| 1/1/15 | Total of replacements from detailed replacement schedule | \$379,531 | \$0 | \$0 | \$728,266 | \$1,209,527 |
| 1/1/16 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$956,702 | \$1,257,908 |
| 1/1/17 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,184,538 | \$1,308,224 |
| 1/1/18 | Total of replacements from detailed replacement schedule | \$379,531 | \$0 | \$0 | \$1,155,251 | \$1,360,553 |
| 1/1/19 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,370,370 | \$1,414,975 |
| 1/1/20 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,583,140 | \$1,471,574 |
| 1/1/21 | Total of replacements from detailed replacement schedule | \$379,531 | \$0 | \$0 | \$1,504,941 | \$1,530,437 |
| 1/1/22 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,699,855 | \$1,591,655 |
| 1/1/23 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,890,244 | \$1,655,321 |
| 1/1/24 | Total of replacements from detailed replacement schedule | \$379,531 | \$0 | \$0 | \$1,751,375 | \$1,721,534 |
| 1/1/25 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,917,684 | \$1,790,395 |
| 1/1/26 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$2,076,786 | \$1,862,011 |
| 1/1/27 | Total of replacements from detailed replacement schedule | \$379,531 | \$0 | \$0 | \$1,863,315 | \$1,936,492 |
| 1/1/28 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$1,990,837 | \$2,013,951 |
| 1/1/29 | Total of replacements from detailed replacement schedule | \$192,395 | \$0 | \$0 | \$2,107,870 | \$2,094,509 |

Notes: Replacement needs are based upon the amounts for capital expenditures and unscheduled sewer line replacements for 2009. The annuity was set so as to result in a \$2,000,000 balance in 20 years to enable the City to replace lines, etc during that time.

| | | |
|--------------------------|-----------|--|
| Starting Account Balance | \$100,000 | Minimum Desired Balance in Today's Dollars |
| Minimum Annual Annuity | \$399,746 | |
| Discretionary Annuity | \$43,000 | |

Required Annual Deposit to Replacement Account \$442,746

Raytown, MO

Chart 18 - Test Year Costs

CBGreatRates© Version 4.9

This chart depicts costs for the test year and distributes those costs to fixed and variable categories.

Operating Costs

| Item | Amount | % of This Cost That is Fixed | Total Costs After Adjustment for Special Costs Below | Fixed Costs After Adjustment for Special Costs Below | Variable Costs After Adjustment for Special Costs Below | Surchargeable Costs |
|---|--------------------|------------------------------|--|--|---|---------------------|
| Administration Salaries, Benefits, Travel, etc. | \$141,379 | 100% | \$141,379 | \$141,379 | \$0 | \$0 |
| Billing, Office Expense, Insurance | \$238,653 | 100% | \$238,653 | \$238,653 | \$0 | \$0 |
| Arbitrage | \$137,838 | 100% | \$137,838 | \$137,838 | \$0 | \$0 |
| Bad Debt, On/Off Expenses | \$38,669 | 100% | \$38,669 | \$38,669 | \$0 | \$0 |
| LBVSD Treatment Costs | \$1,606,788 | 0% | \$1,606,788 | \$0 | \$1,606,788 | \$0 |
| KCMO Treatment Costs | \$751,889 | 0% | \$751,889 | \$0 | \$751,889 | \$0 |
| Operations Salaries, Benefits, Travel, etc. | \$512,266 | 50% | \$512,266 | \$256,133 | \$256,133 | \$0 |
| Minor Equip & Rental, Sanita Sup, Bldg Maint, Misc. | \$12,536 | 50% | \$12,536 | \$6,268 | \$6,268 | \$0 |
| Fuel | \$13,366 | 50% | \$13,366 | \$6,683 | \$6,683 | \$0 |
| Vehicles & Equipment, Maint | \$50,616 | 50% | \$50,616 | \$25,308 | \$25,308 | \$0 |
| Sewer Repair Supplies | \$13,691 | 50% | \$13,691 | \$6,846 | \$6,846 | \$0 |
| Electric for Lift Stations | \$2,714 | 0% | \$2,714 | \$0 | \$2,714 | \$0 |
| Gas & Water | \$7,906 | 100% | \$7,906 | \$7,906 | \$0 | \$0 |
| Annual Payment to Replacement Fund | \$442,746 | 50% | \$442,746 | \$221,373 | \$221,373 | \$0 |
| Inflow and Infiltration | N.A. | 0% | \$0 | \$0 | \$0 | \$0 |
| Mobilephone / Pager | \$1,033 | 50% | \$1,033 | \$516 | \$516 | \$0 |
| Sewer Maintenance | \$4,986 | 50% | \$4,986 | \$2,493 | \$2,493 | \$0 |
| Transfer to Self-Ins | \$10,259 | 100% | \$10,259 | \$10,259 | \$0 | \$0 |
| Sewer Mitigation Exp | \$105,099 | 50% | \$105,099 | \$52,549 | \$52,549 | \$0 |
| Payments on Existing Loans | \$802,894 | 67% | \$802,894 | \$535,209 | \$267,685 | \$0 |
| Grand Total All Costs | \$4,895,329 | | \$4,895,329 | \$1,688,084 | \$3,207,245 | \$0 |

Cost Calculations

| | | | |
|-------------------------------------|---------|---|------|
| Fixed Cost/User/Month = | \$10.54 | Surchargeable Services are Estimated at | \$0 |
| Variable Costs/1,000 Gallons Sold = | \$5.94 | Inflow and Infiltration is Estimated at* | N.A. |
| | | As Compared to Service Sold, the Relative Cost of Inflow and Infiltration is Estimated at | 90% |
| | | Cost of Inflow and Infiltration is Estimated at | N.A. |
| | | Percentage of Inflow and Infiltration to Allocate to Fixed Costs is | 0% |

*Inflow and infiltration could not be estimated due to lack of actual flow measurements at the discharge points.