

TOWN OF MEAD

Wastewater Rate and Fee Study

Report / November 6, 2019

November 6, 2019

Ms. Erika Rasmussen
Town Engineer / Public Works Director
Town of Mead
441 Third Street
Mead, CO 80542

Subject: Wastewater Rate and Fee Study Report

Dear Ms. Rasmussen,

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Wastewater Rate and Fee Study Report (Report) for the Town of Mead (Town) to ensure that the Town adequately funds its wastewater operations and to establish wastewater rates that are equitable.

The major objectives of the study include the following:

- » Develop a wastewater financial plan for the 11-year Study Period of 2019 through 2029.
- » Determine wastewater rate revenue adjustments for each year of the Study Period to generate sufficient revenue to meet annual revenue requirements, sustain adequate cash reserves, provide appropriate debt service coverage ratios, and adhere to Town financial policies and study objectives.
- » Evaluate adjustments to the Town's wastewater system plant investment fees (PIFs) effective January 1, 2020, with proposed annual adjustments for inflation thereafter.
- » Propose wastewater rates by customer class to be effective March 1, 2020.

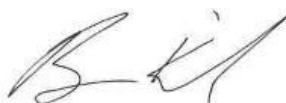
The Report summarizes the key findings and recommendations related to the development of the financial plan, PIF and monthly rates by customer class for the wastewater utility.

It has been a pleasure working with you, and Brian and I thank you and the Town staff for the support provided during the course of this study.

Sincerely,



Andrew Rheem
Senior Manager



Brian Kirsch
Senior Consultant

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APPENDIX A: FINANCIAL PLAN

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1. Executive Summary

The Town of Mead (Town) retained Raftelis Financial Consultants, Inc. (Raftelis) in 2019 to complete a Wastewater Utility Rate and Fee Study (Study). The purpose of the Rate Study was to develop a financial plan for 2019 through 2029 (Study Period), and rate and fee structures to promote a self-sustaining wastewater enterprise fund over the Study Period.

The Town requested that Raftelis complete the following major objectives:

- » Develop a wastewater financial plan for the Study Period.
- » Evaluate adjustments to the Town plant investment fees (PIFs) with proposed adjustments for inflation as appropriate using the Engineering News Record Construction Cost Index (ENR-CCI) for Denver thereafter.
- » Determine wastewater rate revenue adjustments for each year of the Study Period to generate sufficient revenue to meet annual revenue requirements, sustain adequate cash reserves, exceed minimum debt service coverage (DSC) ratios, and other Town financial policies and study objectives.
- » Review and recommend reserve targets and financial policies.
- » Propose rates by customer class to be effective March 1st, 2020 following Town practices for rate adjustments on March 1.

The multi-year financial plan, supporting worksheets and calculations, revenue projections, and assumptions are detailed in Appendix A. The financial plan is organized around a total fund with separate operations, capital improvement, and PIF subfunds. The rate revenue requirements of the subfunds represent the cost of providing service and include operation and maintenance (O&M) expenses, debt service obligations, cash funded capital costs, and other miscellaneous cash inflows and outflows.

Revenues from PIFs are collected in the PIF subfund and are transferred to the capital improvement subfund to fund cash-funded growth-related capital costs and/or the operating fund to pay for growth-related debt service. PIF revenues are restricted per Colorado Revised Statutes for capital and/or debt service expenses and are not available to fund O&M expenses.

Capital costs are assigned to the capital improvement subfund, where transfers are provided from the operations and PIF subfunds (for non-growth and growth-related cash funded capital, respectively) and net bond proceeds issued for capital. The only expenses in the capital subfund are capital improvement expenditures. Raftelis proposes a minimum cash reserve target of \$100,000 in 2020, \$200,000 in 2021, and \$300,000 thereafter within the capital subfund.

The financial plan evaluates the adequacy of system revenues, adjusted for customer growth, to:

- » Fund annual O&M expenses, debt service, and capital expenditures and
- » Maintain the following financial performance thresholds:
 - Exceed DSC ratio targets¹ excluding PIF revenues of at least 1.50 times annual debt service
 - Exceed end of year cash reserve targets of:

¹ Debt service coverage ratio is the ratio of total system revenues less operating expenditures (referred to as “net revenues”) divided by the annual debt service.

- A capital reserve of \$100,000 in 2020, \$200,000 in 2021, and \$300,000 thereafter, and
- 90 days (25%) of annual O&M expenses

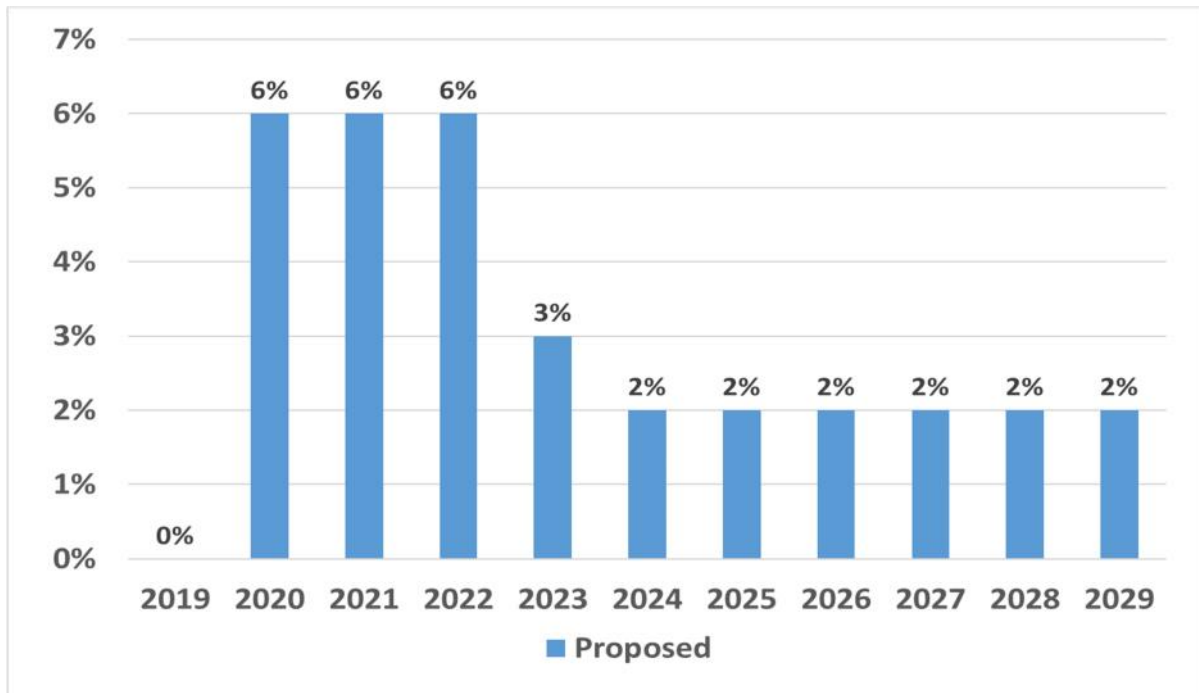
Raftelis recommends that the Town establish rates to meet or exceed requirements of the adopted cash reserve policies and a proposed DSC ratio of 1.50 times annual debt service including PIF revenues. The DSC ratio target is applied to outstanding and/or debt projected to be issued over the Study Period to fund capital projects. 1.50 times annual debt service provides a target that is more restrictive than required by current debt covenants as revenues for the legal requirements include both one-time PIFs and growth dependent sales that may fluctuate year-over-year.

Raftelis recommends that the Town implement two cash reserve targets.

1. Operating reserve that is equal to 90 days of annual O&M expenses (25% of annual O&M expenses).
2. Capital reserve based on average of one year’s rehabilitation and renewal (R&R) capital projects, or \$300,000. The capital reserve provides the Town with a buffer to maintain current capital projects if revenues fall below projected and/or expenses exceed estimates.

The projected 2019 user charge revenue is estimated to be \$650,000. Figure 1-1 summarizes projected rate revenue increases over the Study Period that are necessary to fund annual expenditures and meet financial performance thresholds and do not necessarily equate to the overall rate revenue increases for a specific customer class or individual customer.

Figure 1-1: Projected Annual Rate Revenue Increases



Rate increases are effective March 1st of each year. Figure 1-2 shows the end-of-year cash balance and O&M reserves for the total sewer fund. Figure 1-2 excludes the capital reserve (designed to equal \$100,000 in 2020, \$200,000 in 2021, and \$300,000 thereafter) from the cash reserve target and the end-of-year cash balance.

Figure 1-2: Projected Total Sewer Fund End-of-Year Cash Balances and Reserve Targets

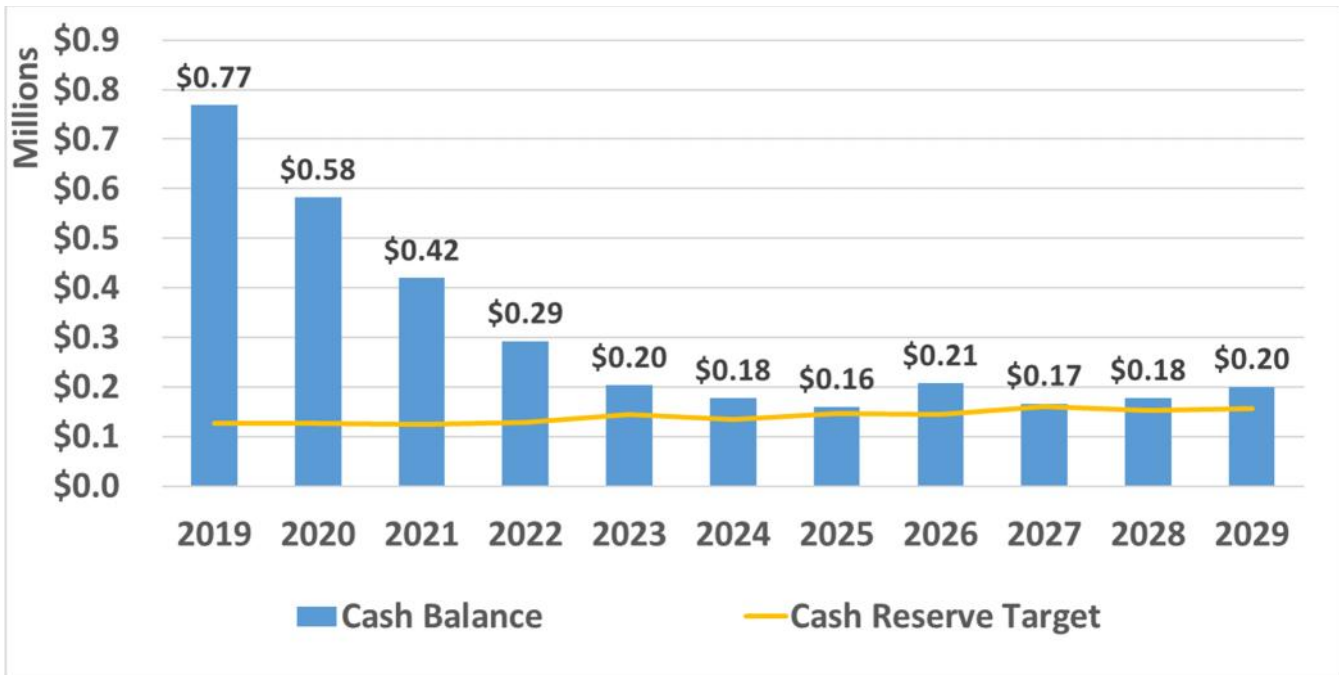
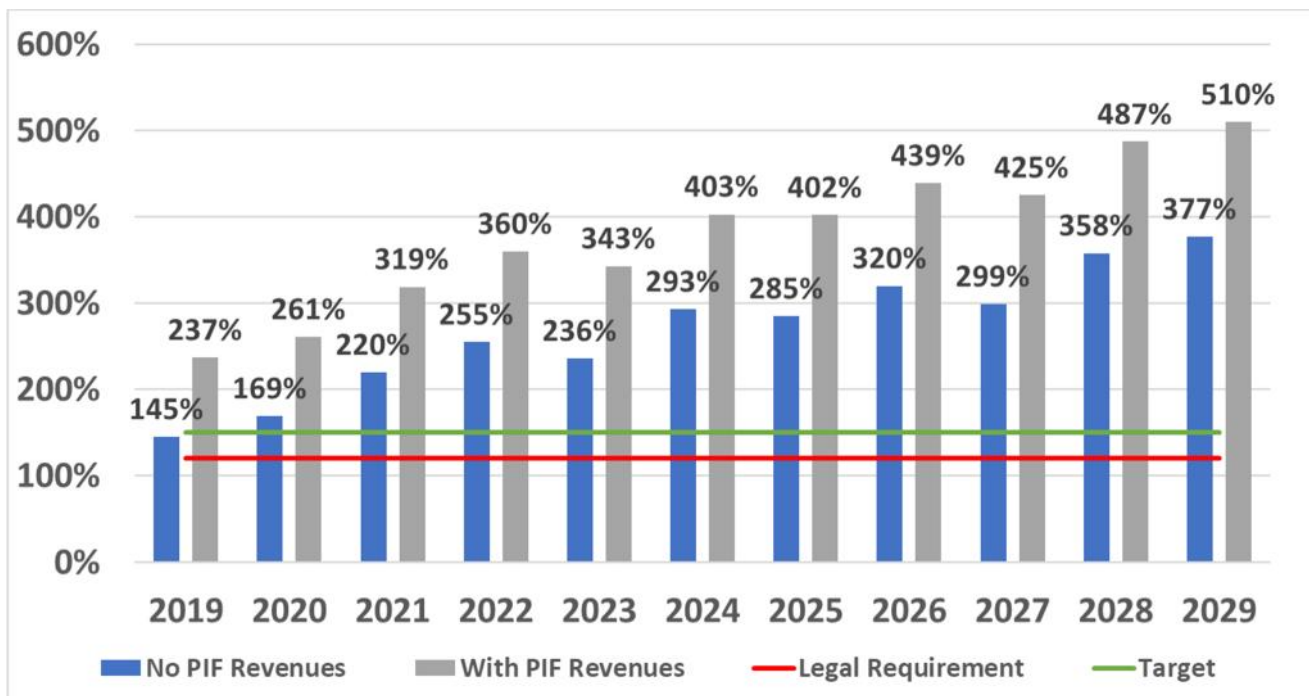


Figure 1-3 shows the annual sewer fund DSC ratio (including one-time PIF revenues) as compared with the target DSC ratio. A second series in Figure 1-3 contains the DSC ratio that excludes PIF revenues. The DSC ratio for the wastewater enterprise fund is projected to be exceeded in 2017 through 2022 including PIF revenues and rate revenues increased in 2019 and 2021. As illustrated, the DSC ratio target of 150% of annual debt service including PIFs is exceeded throughout the Study Period. The Town anticipates experiencing some level of growth, and as a conservative effort in the event that growth slows, the financial plan was designed so that the DSC ratio target excluding PIFs would still meet legal requirements without PIF revenue.

Figure 1-3: Projected Annual Sewer Fund DSC



Raftelis developed rates for the sewer utility that recover the projected annual wastewater rate revenue requirements using across-the-board rate increases to existing rates. Table 1-1 shows the proposed rates, which continues the existing rate structure of customer class-based monthly base charges and volumetric rates.

Table 1-1: Current and Proposed 2020 Monthly Service Charge and Volume Rates

Description	Current	Proposed 2020	Change (\$)	Change (%)
Monthly Service Charge (\$/month)				
Residential Low	\$36.55	\$38.74	\$2.19	6.0%
Residential Medium	40.20	42.61	2.41	6.0%
Commercial Low	40.20	42.61	2.41	6.0%
Commercial Medium	48.24	51.13	2.89	6.0%
Commercial High	56.28	59.66	3.38	6.0%
Schools	48.24	51.13	2.89	6.0%
Volume Rate (\$ / 1,000 gallons)				
Residential (0 – 4,000 gallons)	\$0.00	\$0.00	\$0.00	N/A
Residential (> 4,000 gallons)	10.95	11.61	0.66	6.0%
Commercial (0 – 4,000 gallons)	0.00	0.00	0.00	N/A
Commercial Low (> 4,000 gallons)	10.95	11.61	0.66	6.0%
Commercial Medium (> 4,000 gallons)	13.14	13.93	0.79	6.0%
Commercial High (> 4,000 gallons)	15.33	16.25	0.92	6.0%
Schools (> 4,000 gallons)	13.14	13.93	0.79	6.0%
Excess Strength (\$ / mg/L/1,000 gal.)				
BOD	0.02000	0.01018	(0.00982)	(49%)
TSS	0.12010	0.01010	(0.11000)	(92%)

The Town currently assesses a PIF based on the size of the water meter. PIFs are one-time capital recovery fees assessed to new or increased development to recover the cost of system capacity to serve new customers. Raftelis proposes that the Town adjust its PIF schedule as summarized in Table 1-2 and effective January 1, 2020. Raftelis recommends that the Town adjust PIFs annually for inflation as reflected in the ENR-CCI for Denver and is projected within the financial plan with an assumed inflation rate of 2.0% per year to account for increasing capital costs, starting in March 1, 2021.

Table 1-2: Current and Proposed PIFs

Meter Size	Current	Proposed	Change (\$)	Change (%)
5/8-inch	\$4,000	\$5,480	\$1,480	37.0%
3/4-inch	5,700	9,113	3,433	60.2%
1-inch	10,200	14,613	4,413	43.3%
1 1/2-inch	23,000	18,267	(4,733)	(20.6%)
2-inch	40,500	58,453	17,953	44.3%
3-inch	91,300	116,907	25,607	28.0%

2. Introduction

2.1. Study Overview

The Town of Mead (Town) retained Raftelis Financial Consultants, Inc. (Raftelis) in 2019 to complete a Wastewater Utility Rate and Fee Study (Study). The purpose of the Rate Study was to develop financial plans for 2019 through 2029 (Study Period), and rate and fee structures to promote a self-sustaining wastewater enterprise fund over the Study Period.

The Town requested that Raftelis complete the following major objectives:

- » Develop a wastewater financial plan for the Study Period.
- » Evaluate adjustments to the Town plant investment fees (PIFs) with proposed adjustments for inflation as appropriate using the Engineering News Record Construction Cost Index (ENR-CCI) for Denver thereafter.
- » Determine wastewater rate revenue adjustments for each year of the Study Period to generate sufficient revenue to meet annual revenue requirements, sustain adequate cash reserves, exceed minimum debt service coverage (DSC) ratios, and other Town financial policies and study objectives.
- » Review and recommend reserve targets and financial policies.
- » Propose rates by customer class to be effective March 1st, 2020 following Town practices for rate adjustments on March 1.

The multi-year financial plan, supporting worksheets and calculations, revenue projections, and assumptions are detailed in Appendix A. Supporting tables for PIFs are contained in Appendix B.

2.2. Report Organization

Our report to the Town contains six sections as follows:

- » Section 1 – Executive Summary
- » Section 2 – Introduction
- » Section 3 – Utility Accounts, Use and Growth
- » Section 4 – Financial Plan
- » Section 5 – Plant Investment Fees

The report contains two appendices including the complete financial plan and customer data (Appendix A) and plant investment fee (Appendix B).

2.3. Acknowledgements

On behalf of the project team, we would like to acknowledge the commitment and contributions provided by several members of the Town in completing this project. We would like to recognize Ms. Helen Migchelbrink, Ms. Erika Rasmussen, Ms. Denise Rademacher, Ms. Pam Gehringer, and Mr. John McGee for the support provided during this study.

2.4. Reliance on Town Provided Data

During this project, the Town provided Raftelis with a variety of technical information from master plans and audited and unaudited financial results, including customer, cost and revenue data. Raftelis cannot confirm for the accuracy of such data – historic or projected. We have relied on this data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report.

As is often the case, there will be differences between actual and projected data, and some of the assumptions used in this report will not be realized, and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the data or results projected in this report and actual results achieved and those differences may be material. As such, we take no responsibility for the accuracy of data or projections provided by or prepared on behalf of the Town, nor do we have any responsibility for updating this report for events occurring after the date of this report.

3. Wastewater Utility Accounts and Usage

The Town provided sewer to an average of 998 customer accounts in 2018. These accounts are divided into three customer classes: Residential, Commercial, and Schools. Commercial customers are further subdivided into Commercial Low, Commercial Medium, and Commercial High based upon the number of employees of the business. Table 3-1 summarizes the average number of 2018 accounts and billed usage for each Town customer classification.

Table 3-1: 2018 Customer Data

Customer Class Description	Average Number of Accounts	Billed Usage (1,000 gallons)
Residential	977	47,944
Commercial Low	15	580
Commercial Medium	3	133
Commercial High	1	2,315
Schools	2	947
Total	998	51,919

Customers have their bills determined by their average winter water usage in December through February. The Town provides sewer service to customers which are served by two different water Towns: Little Thompson Water Town and Longs Peak Water Town. There are also properties within the Town that have septic systems and are not served by the Town’s wastewater system. The Town’s wastewater treatment plant (WWTP) has a capacity of 0.50 million gallons per day (MGD). The Town currently receives an average wastewater flow of approximately 0.15 MGD with capacity available to serve new development.

3.1. Growth Assumptions

Customer account growth is projected to be 2.2% each year throughout the Study Period, which equates to 22 new accounts in 2020 and growing to 27 new accounts in 2029, and all new development is assumed to be residential. For fuller detail, see appendix page A-14.

4. Financial Plan

The multi-year financial plan, supporting worksheets and calculations, revenue projections, and assumptions are detailed in Appendix A. The financial plan is organized around a total fund with separate operations, capital improvement, and PIF subfunds. The rate revenue requirements of the subfunds represent the cost of providing service and include operation and maintenance (O&M) expenses, debt service obligations, cash funded capital costs, and other miscellaneous cash inflows and outflows.

Revenues from PIFs are collected in the PIF subfund and are transferred to the capital improvement subfund to fund cash-funded growth-related capital costs and/or the operating fund to pay for growth-related debt service. PIF revenues are restricted per Colorado Revised Statutes for capital and/or debt service expenses and are not available to fund O&M expenses.

Capital costs are assigned to the capital improvement subfund, where transfers are provided from the operations and PIF subfunds (for non-growth and growth-related cash funded capital, respectively) and net bond proceeds issued for capital. The only expenses in the capital subfund are capital improvement expenditures. Raftelis proposes a minimum cash reserve target of \$100,000 in 2020, \$200,000 in 2021, and \$300,000 thereafter within the capital subfund.

4.1. Financial Performance Thresholds

The financial plan evaluates the adequacy of system revenues, adjusted for customer growth, to:

- » Fund annual O&M expenses, debt service, and capital expenditures and
- » Maintain the following financial performance thresholds:
 - Exceed DSC ratio targets² including PIF revenues of at least 1.50 times annual debt service and at least 1.10 times annual debt service excluding PIF revenues.
 - Exceed end of year cash reserve targets of:
 - 90 days of O&M expenses (i.e., 25% of annual O&M expenses) and
 - A capital reserve equal to the average annual rehabilitation and renewal capital projects during the Study Period (approximately \$300,000) by 2022.

Raftelis recommends that the Town establish rates to meet or exceed requirements of the adopted cash reserve policies and proposed DSC ratios of 1.50 times annual debt service including PIF revenues and 1.10 times annual debt service when PIF revenues are excluded. 1.50 times annual debt service provides a target that is more restrictive than required by current debt covenants as revenues for the legal requirements include both one-time PIFs and growth dependent sales that may fluctuate year-over-year.

Raftelis recommends that the Town implement two cash reserve targets as follows:

1. An operating reserve that is equal to 90 days of O&M expenses (or 25% of one year's O&M expenses).
2. A capital reserve based on the average annual spending on capital renewal and replacement projects, which is equal to \$300,000 in this Study.

² Debt service coverage ratio is the ratio of total system revenues less operating expenditures (referred to as “net revenues”) divided by the annual debt service.

The capital reserve provides the Town with a buffer to maintain current capital projects if revenues fall below projected and/or expenses exceed estimates. As the Town does not currently maintain a capital reserve, Raftelis recommends establishing the capital reserve incrementally by setting the capital reserve target at \$100,000 in 2020, \$200,000 in 2021, and \$300,000 in 2022 and thereafter.

If system revenues are not adequate to fund annual expenditures and exceed financial performance requirements, the following four variables are used to balance the financial plan:

- » Draw down accumulated reserves to fund annual expenditures until funds are depleted
- » Issue debt to fund a portion of annual capital improvements
- » Increase user charges and rates
- » Reduce costs, typically capital project expenses

While revenue increases are projected for most years of the study period, adjustments to these increases may be necessary depending on the level of future CIP expenditures, system growth, plant loading patterns, inflation, and regulatory requirements. At a minimum, annual reviews should be used to periodically assess the condition of the wastewater fund to determine the necessity of future rate revenue adjustments. A comprehensive update is recommended every three to five years, unless a major change dictates more frequent changes.

4.2. Wastewater Fund Financial Plan Results

The projected 2019 user charge revenue is estimated to be approximately \$660,000. Figure 4-1 summarizes proposed wastewater rate revenue increases during the Study Period that are necessary to fund annual expenditures and meet financial performance criteria. There are 6% annual rate revenue adjustments proposed for March 1 of 2020, 2021, and 2022. A 3% rate revenue increase is anticipated to be implemented March 1, 2023 followed by inflationary 2% rate revenue increases implemented each March 1 in 2024 through 2029. The proposed 2020 wastewater rates reflecting these rate revenue adjustments are detailed in Section 4.3 of this report.

Figure 4-1: Projected Annual Wastewater Rate Revenue Increases

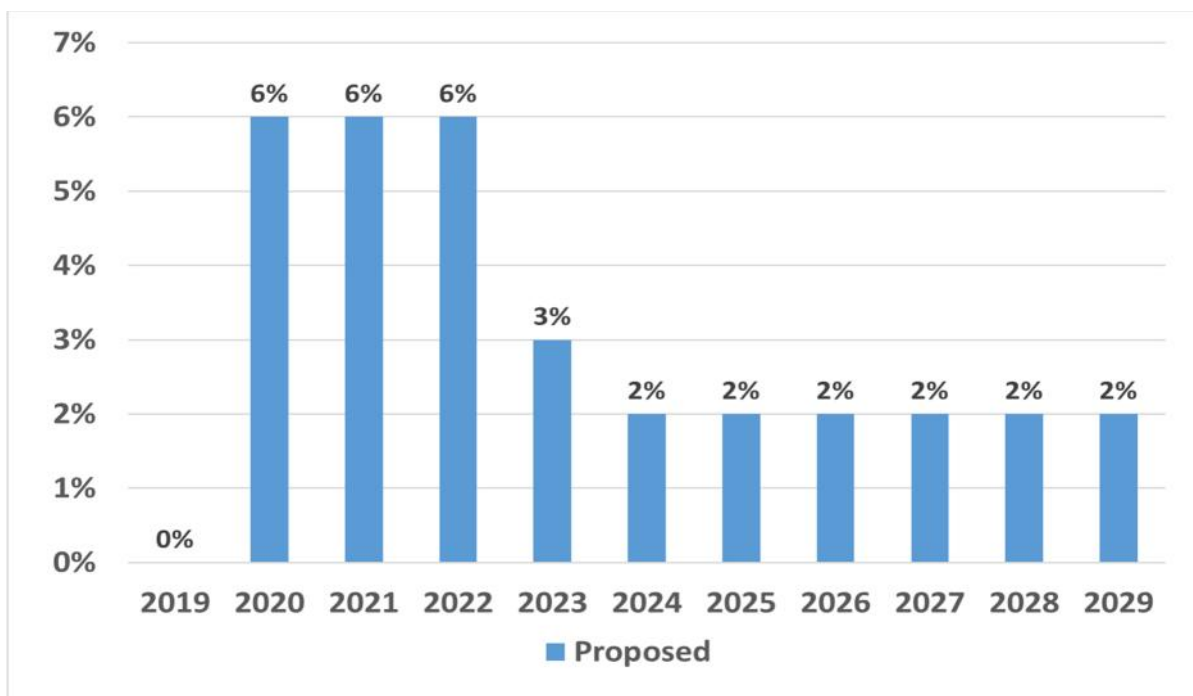
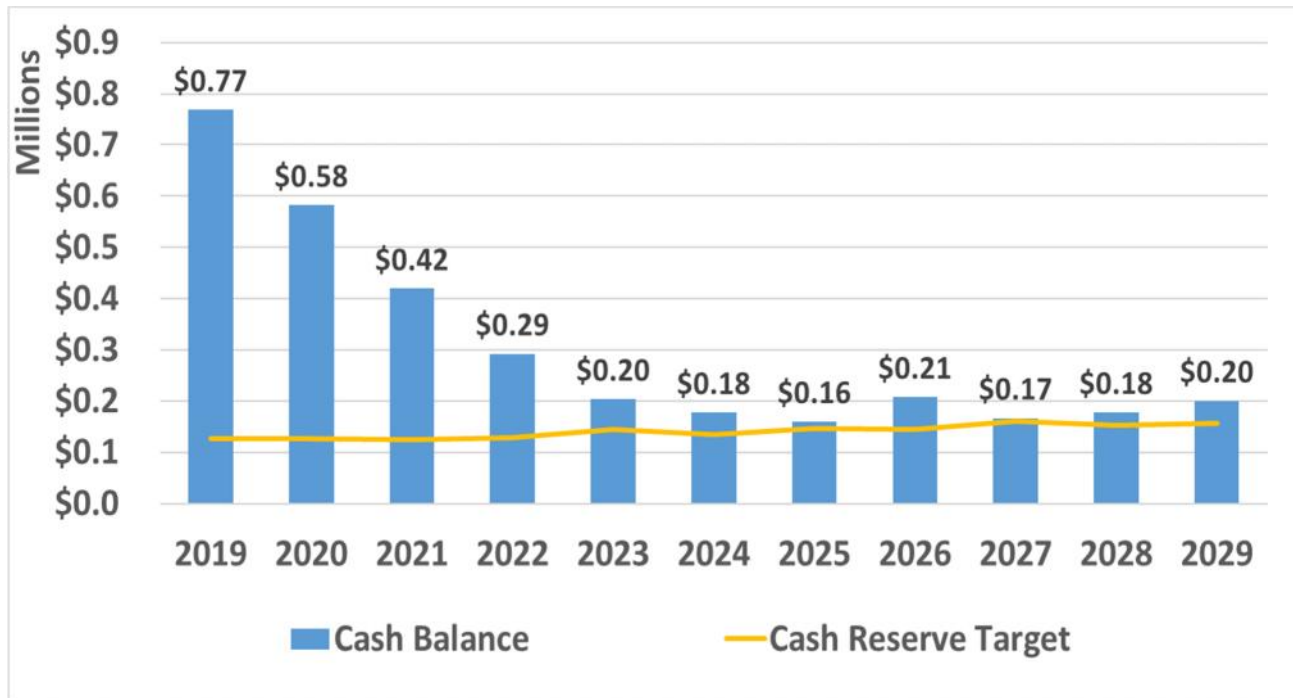


Figure 4-2 shows the end-of-year cash balance and O&M reserves for the total sewer fund. Figure 4-2 excludes the capital reserve (equal to \$100,000 in 2020, \$200,000 in 2021, and \$300,000 in 2022) from the cash reserve target and the end-of-year cash balance.

Figure 4-2: Projected Total Wastewater Fund End-of-Year Cash Balances and Reserve Target



The DSC ratio for the wastewater enterprise fund is projected to be exceeded in all years of the Study Period. Figure 4-3 shows the annual sewer fund DSC ratio (including one-time PIF revenues) as compared with the target DSC ratio. A second series in Figure 4-3 contains the DSC ratio that excludes PIF revenues. As illustrated, the DSC ratio targets are met whether the PIF revenues are included or not, so in the event that expected growth does not materialize, the financial plan was designed so that the DSC ratio would continue to meet target levels.

Figure 4-3: Projected Annual Wastewater Fund DSC



4.2.1. TOTAL WASTEWATER FUND

All wastewater fund revenues and expenditures are combined in a total wastewater fund summarized on page A-1. For financial planning purposes, Raftelis developed three different subfunds within the enterprise fund: an operating subfund, a PIF subfund, and a capital improvement subfund. An enterprise cash and cash equivalent fund balance of approximately \$975,000 was available as of January 1, 2019.

The operations subfund is summarized on page A-2. Revenues include those generated from user charges and a variety of miscellaneous revenues. Expenditures include O&M expenses and additional cash inflows and outflows, which includes current and future debt service, and transfers from the PIF subfund and transfer to the capital improvement subfund.

The PIF subfund is summarized on page A-3. Revenues include PIF revenues, other miscellaneous income, and interest earnings. Other cash inflows include transfers from the operating fund for capital to maintain non-negative cash balances in the PIF subfund. There are no direct expenditures from this subfund, with outflows for transfers to the operating subfund for growth-related debt service and to the capital subfund for growth-related, cash-funded capital.

The capital improvement subfund is summarized on page A-4. Inflows include transfers from the operating and PIF subfunds, bond proceeds net of debt issuance costs, debt service reserve funding included in bond proceeds, grants, and interest earnings. Expenditures include growth-related and non-growth-related CIP.

4.2.2. USER CHARGE REVENUES

User charge revenues in 2019, including excess surcharges, were projected by Raftelis using 2017 and 2018 historic billings and 2019 growth projections. Projections for the remainder of the study period are adjusted based on customer growth and developed in a variety of worksheets included in pages A-17 through A-20. Proposed wastewater rates are discussed in Section 4.3. Raftelis projects user charge revenues to be approximately \$660,000 in 2019 and to grow to \$1.1 million in 2029.

4.2.3. MISCELLANEOUS REVENUES

The wastewater fund has only a few miscellaneous fee and charge revenues listed on page A-2. Miscellaneous revenues were budgeted to be \$16,500 in 2019, which Raftelis assumed to remain constant throughout the Study Period. Interest earnings are projected based on the average annual cash balance and an interest earnings rate of 1.0%.

4.2.4. O&M

Pages A-9 through A-12 detail the projected O&M expenses over the 11-year Study Period. Projected O&M expenditures are based on the Town's 2019 budget of \$500,000. Future years are adjusted for anticipated cost adjustments and inflation and known adjustments to planned expenses. O&M costs for the Town grow to \$625,000 by 2029 through inflation. A 3% annual cost inflation is assumed for most O&M expenses annually over the Study Period.

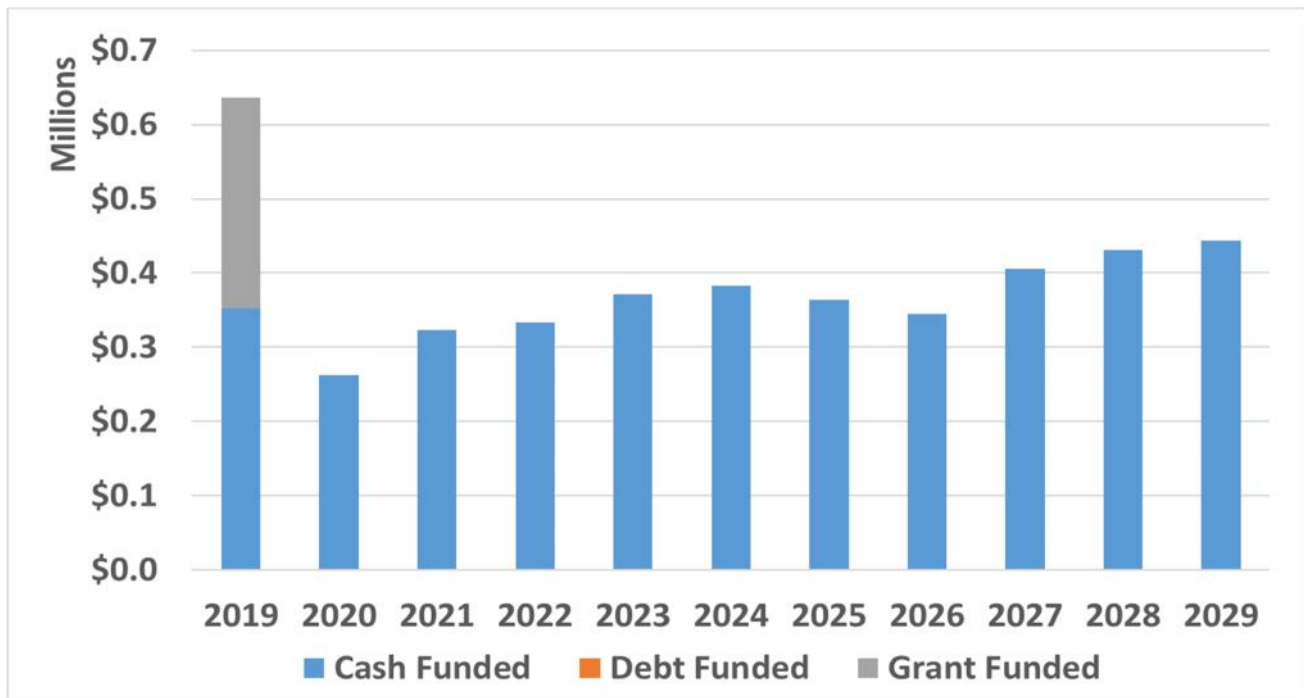
4.2.5. CAPITAL IMPROVEMENT PROJECTS

The projects listed in the Town CIP were provided by Town staff in current year (2019) dollars for the years 2019-2029 totaling \$3.7 million. The inflation-adjusted CIP totals \$4.3 million. The detailed project listing includes the dollar amount in 2019 dollars (page A-13) and inflated dollars based on the anticipated year expended over the Study Period (page A-14). The financial plan and capital funding incorporate the inflated CIP amounts based on the anticipated timing of the projects and an assumed annual capital inflation rate of 3% starting in 2020. Projects

are identified by the percentage of each project that is driven by growth (i.e., new capacity to serve new customers), as only the projects or portion of projects that are growth-related may be funded with PIF revenues. The funding source is also identified for each project, as being funded either through cash or debt. Identifying the funding source and growth percentages of projects allows the financial plan to restrict PIFs to fund only growth-related capital and debt service, but the operations subfund may fund all typed of capital and debt service.

Figure 4-4 shows the annual wastewater capital projects broken down by funding source, cash or debt. (All capital projects are cash funded in the Study Period with the exception of one grant-funded project.)

Figure 4-4: Wastewater Capital Projects and Projected Capital Funding



Major CIP projects include:

- » Cured in place pipe - \$1.0 million (2020 – 2025)
- » Capital repairs at the WWTP - \$0.8 million (2019 – 2029)
- » PVC Sanitary Sewer Rehab – Old Town Area - \$0.7 million (2024 – 2028)
- » Contributions to Public Works Building - \$0.2 million (2021 – 2029)

4.2.6. DEBT AND DEBT SERVICE

The Town has one outstanding loan. No additional debt is projected to be issued over the Study Period.

4.3. Rate Design

Raftelis is presenting a single across-the-board increase to existing rates.

4.3.1. EXISTING RATES

The existing wastewater rate structure is charged by customer class and size. Residential customers are charged as Residential Low or Residential Medium, depending upon usage. Residential Low customers are those customers using 2,000 gallons or less. Residential Medium customers use over 2,000 gallons and pay a larger monthly base

charge. Every Residential customer has a volume allowance of 4,000 gallons. Residential Medium customers are charged a volumetric rate for usage above 4,000 gallons.

Commercial customers are charged different base charges and volumetric rates based on their number of employees, which define whether each customer is Small, Medium, or Large³. Schools are identified separately, but their rates match that of Commercial Medium customers. Table 4-1 presents proposed rates for 2020 in which existing rates are adjusted by across-the-board rate increases.

Table 4-1: Current and Proposed 2020 Monthly Service Charge and Volume Rates

Description	Current	Proposed 2020	Change (\$)	Change (%)
Monthly Service Charge (\$/month)				
Residential Low	\$36.55	\$38.74	\$2.19	6.0%
Residential Medium	40.20	42.61	2.41	6.0%
Commercial Low	40.20	42.61	2.41	6.0%
Commercial Medium	48.24	51.13	2.89	6.0%
Commercial High	56.28	59.66	3.38	6.0%
Schools	48.24	51.13	2.89	6.0%
Volume Rate (\$ / 1,000 gallons)				
Residential (0 – 4,000 gallons)	\$0.00	\$0.00	\$0.00	N/A
Residential (> 4,000 gallons)	10.95	11.61	0.66	6.0%
Commercial (> 4,000 gallons)	0.00	0.00	0.00	N/A
Commercial Low (> 4,000 gallons)	10.95	11.61	0.66	6.0%
Commercial Medium (> 4,000 gallons)	13.14	13.93	0.79	6.0%
Commercial High (> 4,000 gallons)	15.33	16.25	0.92	6.0%
Schools (> 4,000 gallons)	13.14	13.93	0.79	6.0%
Excess Strength (\$ / mg/L/1,000 gal.)				
BOD	0.02000	0.01018	(0.00982)	(49%)
TSS	0.12010	0.01010	(0.11000)	(92%)

For customers that are in the Town’s Significant Industrial User (SIU) program and have sampling completed of discharges of high strength wastes to the wastewater system, surcharges are assessed for Biological Oxygen Demand (BOD) greater than 200 mg/L and Total Suspended Solids (TSS) strengths greater than 250 mg/L. Excess BOD is charged at the rate of \$0.02000 per mg/L above 200 mg/L per 1,000 gallons, and excess TSS is charged at the rate of \$0.12010 per mg/L above 250 mg/L per 1,000 gallons. Raftelis reviewed the cost per pound of BOD and TSS as part of our study and recommends that the excess BOD should be updated to \$0.01018 per mg/L of excess BOD per 1,000 gallons and \$0.01010 per mg/L of excess TSS per 1,000 gallons. Additionally, Raftelis recommends that the Town examine the threshold for what qualifies as “high strength”. The Town’s municipal code defined strengths above 200 mg/L of BOD as “excess strength”. Modern efficient fixtures and newer homes have been resulting in more concentrated wastewater streams combined with reductions in inflow and infiltration and increase in more efficient water use by customers. Measurements at the WWTP indicate an average influent concentration of almost 300 mg/L of BOD last year. It is also noteworthy that the Town has one current customer in the SIU program and this customer discharges less than 200 mg/L of BOD and TSS, so changes to the threshold will have no financial or customer impact to customers.

³ Commercial – Low customers have 10 or fewer employees, Commercial – Medium customers have more than 10 but fewer than 45 employees, and Commercial – High customers have more than 45 employees.

4.3.2. TYPICAL BILLS

Figure 4-5 shows the typical residential bill customers using 4,000 gallons of water (the average billed volume is approximately 4,000 gallons) as projected throughout the Study Period.

Figure 4-5: Typical Residential Bills

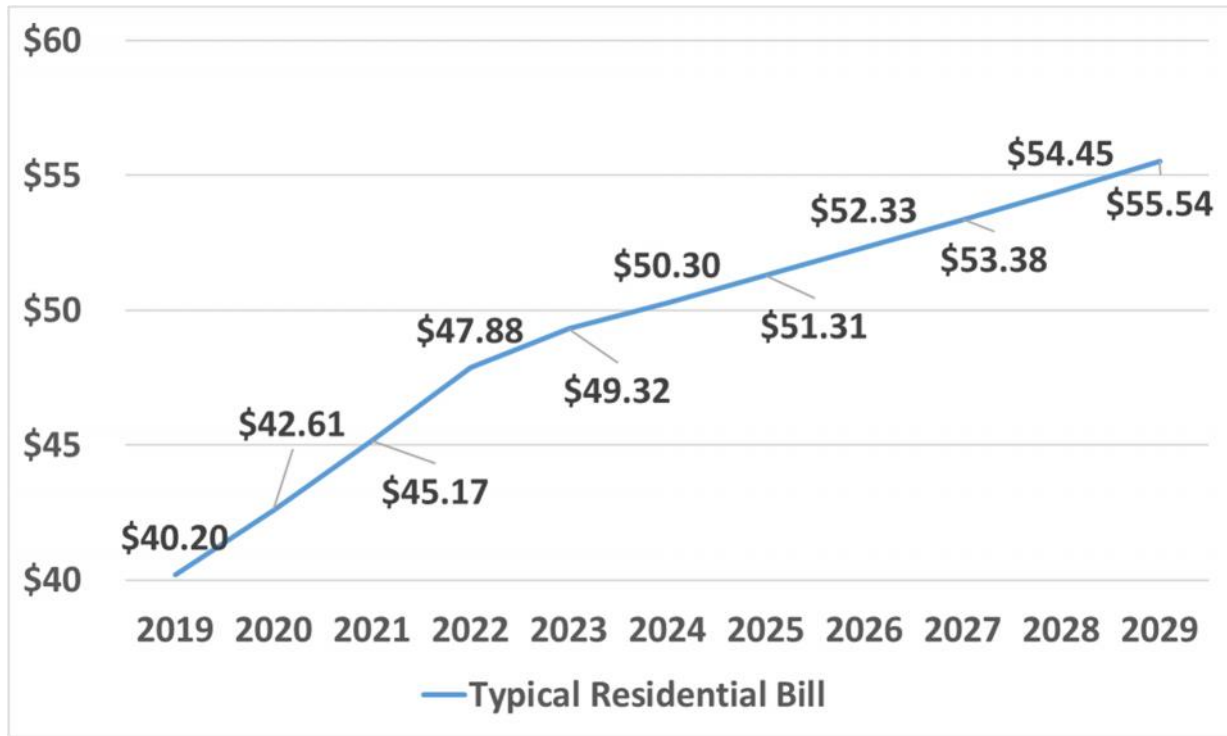
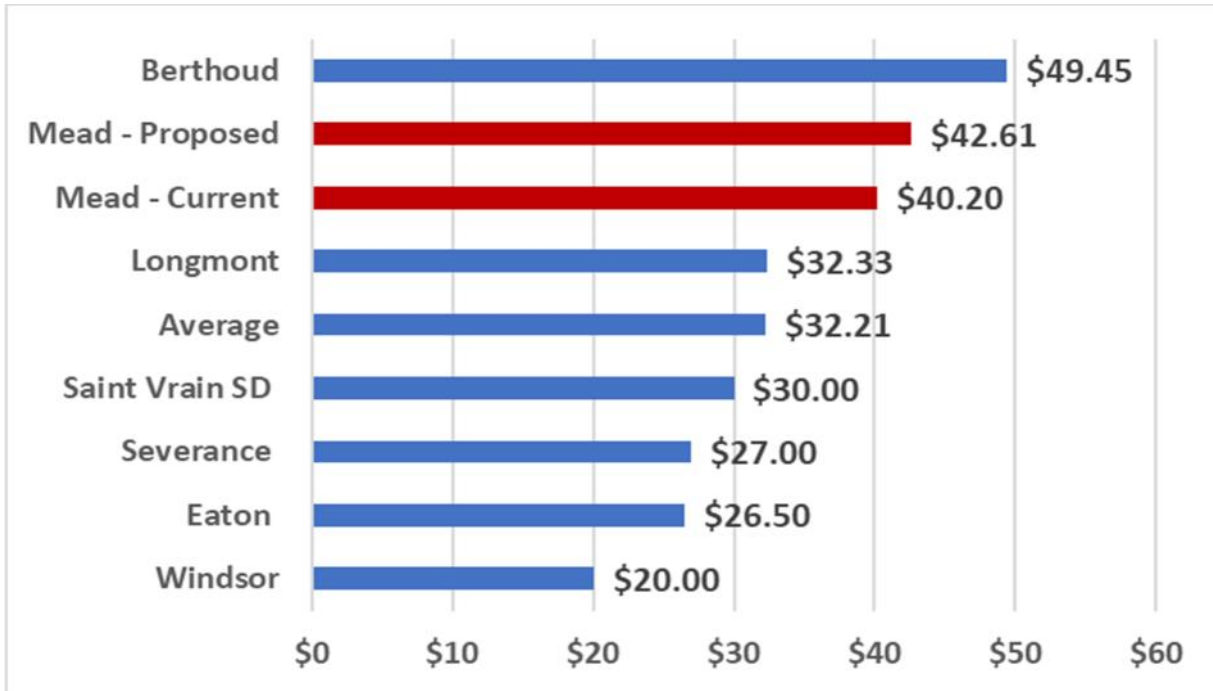


Figure 4-6 compares the wastewater bills for residential customers with a 5/8 x 3/4-inch meter using 4,000 gallons. It should be stressed that utility rates are frequently influenced by where a utility is in the capital replacement cycle, choices made as to whether to debt-fund or cash-fund capital, economies of scale available to larger utilities, and other factors as opposed to the efficiency or fiscal prudence of a utility.

Figure 4-6: Comparison of Residential Wastewater Bills, 5/8 x 3/4-inch Meter, 4,000 Gallons



4.3.3. DISCUSSION OF THE TOWN'S RATE STRUCTURE

The Town's existing rate structure exhibits appropriate practices and strategies for its community. The major components of the rate structure include:

- » **A monthly service charge and a volume rate.** This is a common and appropriate strategy that serves to recover fixed revenue through the monthly service charge and variable revenues that recover greater amounts from larger users.
- » **Use of Average Winter Consumption (AWC) to estimate volume usage.** The use of AWC assumes that water usage during winter months represents the rate of a customer's indoor consumption, which is assumed to be constant through the year. This is an industry-standard practice and is appropriate.
- » **Customers separated into Residential, Commercial, and School customer classes.** Wastewater utilities frequently differentiate their customers into customer classes. The customer classes that a utility selects are based upon policy preferences and the utility's existing mix of customers. The Town's current customer classifications appropriately represent the customer classes that are served. Should the type of customers served by the Town change significantly (i.e., if significant multi-family housing is built, heavy industry locates to the Town, etc.), the Town may wish to revisit their system of customer classifications.
- » **Outside Town customers are charged double that of Inside Town customers.** Municipal utilities commonly charge a multiplier as a policy for customers located outside of the corporate boundaries and this multiplier ranges from 1.10 to 2.00 times the rate inside the corporate boundaries. The Town's existing policy is at the upper range of this common practice.

Raftelis does not recommend changes to the Town's rate structure at this time.

5. Plant Investment Fees

Raftelis worked with Town staff to update the PIFs assessed by the Town. PIFs are one-time capital recovery fees assessed to new or increased development in order to recover the cost of system capacity to serve new customers.

Table 5-1 summarizes the current and proposed Town PIFs and overall change effective January 1, 2020.

Table 5-1: Current and Proposed 2020 PIFs

Meter Size	Current	Proposed	Change (\$)	Change (%)
5/8-inch	\$4,000	\$5,480	\$1,480	37.0%
3/4-inch	5,700	9,133	3,433	60.2%
1-inch	10,200	14,613	4,413	43.3%
1 1/2-inch	23,000	18,267	(4,733)	(20.6%)
2-inch	40,500	58,453	17,953	44.3%
3-inch	91,300	116,907	25,607	28.0%

The proposed PIFs incorporate the replacement cost value of existing infrastructure indexed to the ENR-CCI Denver as of December 2018 to estimate the replacement cost of existing assets. Raftelis recommends that the Town apply an inflation rate starting in 2021 using the ENR-CCI for Denver, projected to be an annual 2.0% inflation rate, to the calculated PIFs to account for construction cost increase between comprehensive updates to the PIFs.

5.1. Overview and Background

Raftelis evaluates PIFs using three recognized capital recovery methods which can serve as a rational basis for computing the capital cost of utility service as follows:

- » Capacity Buy-In
- » Incremental
- » Hybrid

Regardless of the underlying methodology, system investment fees should fairly represent the cost per unit of capacity of system assets.

The Capacity Buy-In method uses a historical perspective valuing wastewater facilities based on the replacement cost new of the original cost of booked fixed assets the present value of future interest payments for the portion of debt which expanded facilities to serve future Equivalent Residential Units (EQRs). The Incremental method is a forward-looking approach, which considers only future growth-related capital projects and the present value of future interest payments serving future EQRs in setting PIFs.

One shortcoming of the Incremental approach is its accounting for excess capacity in the existing system that will be used to serve new customers. This is a particular disadvantage for communities with recently completed facility expansions. Conversely, for an expanding utility, the Buy-In approach does not account for the unit cost of new facilities to be built for new customers.

The Hybrid method bases PIFs on a weighted average combination of the costs of existing system capacity and the costs of future expansion or additions over a specified planning horizon.

Raftelis used the Hybrid method to update the PIF since the system has capacity to serve both new and existing customers, but future investments are also required to serve future customers. It is a mature system where new customers can connect to the system without significant plant upgrades, though growth rates may necessitate plant upgrades, currently anticipated outside of the Study Period.

5.2. Plant Investment Fee Update

Table 5-2 and Page B-1 summarize the updated PIF for a customer with a 5/8 x 3/4-inch meter based on the Hybrid approach. More detailed calculations are included in Appendix B.

Table 5-2: Plant Investment Fee Update

Description	Calculation
Total System Replacement Cost (1)	\$16,967,958
Less: Developer Contributed Assets (2)	(4,562,850)
Plus: Growth-related portion of Public Works building (3)	150,750
Plus: Net Present Value (NPV) of Borrowing Cost (4)	354,000
Total Cost for SIC Calculation	\$12,909,858
Total WWTP Capacity (gallons per day, (gpd)) (5)	500,000
Estimated Flow per Equivalent Residential Meter (EQR) (gpd/EQR) (6)	212.3
Future EQR Capacity	2,356
Value per EQR	\$5,480
Current SIC per EQR	\$4,000
Difference - \$	\$1,480
Difference - %	37%

- (1) Assets as of 12/31/18 indexed to the ENR-CCI for Denver.
- (2) Comprised of “Customer Lines” identified in asset records as of 12/31/18.
- (3) Proportional cost of future wastewater customers’ share of planned Public Works building.
- (4) WRPDA loan payments 2019 and after.
- (5) WWTP Rated Capacity – Average Annual Daily Flow – 2017 Design Criteria
- (6) Design flow loadings of 75 gpcd according to Master Plan.

The calculated PIF using the Hybrid approach is \$5,480 for a 5/8 x 3/4-inch meter.

5.2.1. EXISTING AND FUTURE ASSETS

Raftelis worked with Town staff to calculate the replacement cost of total existing wastewater system assets as of December 31, 2018, summarized on page B-2 based on the original cost, date in service and the ENR-CCI for Denver totaling \$17.0 million. The asset category of collection lines was excluded, representing \$4.6 million of assets, since they reflect assets usually contributed by developers, and not appropriate to be recovered through a PIF, resulting in a replacement cost new of \$12.9 million. Wastewater system assets are summarized on page B-11 and detailed on pages B-3 through B-11. The Wastewater Fund is expected to pay a share of the cost of the new Public Works building with \$150,000 benefiting future customers. The cost is structured in the CIP as a debt service payment of \$25,000 per year as the Wastewater Fund will repay the General Fund over time.

5.2.2. EXISTING DEBT

The wastewater utility has approximately \$15.8 million in outstanding debt principal as of January 1, 2019, which is allocated 67% to growth, representing the fact that two-thirds of WWTP’s capacity will eventually serve new customers. The net present value (NPV) of future interest payments following January 1, 2019 totals \$354,000 and is added to the net asset value.

5.2.3. SYSTEM CAPACITY

The WWTP capacity is currently 0.50 MGD of flow. To calculate the capacity to serve current and future customers, the WWTP flow capacity is divided by the designed Equivalent Residential Meter (EQR) flows, which is based upon design values of 75 gallons per capita per day multiplied by 2.83 persons per household. Table 5-3 summarizes this calculation.

Table 5-3: Wastewater Capacity Calculation

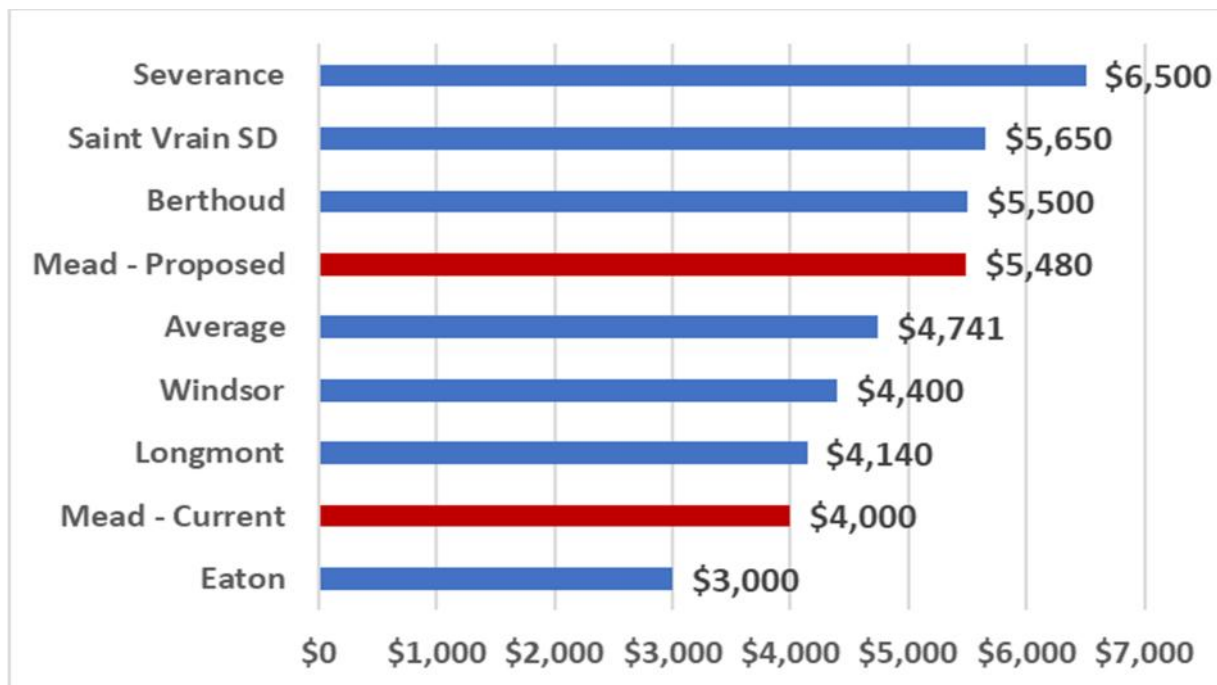
Description	Calculation
Per capita design flow loadings (gpcd) (1)	75
Persons per household (2)	2.83
Estimated Flow per EQR (gpd/EQR)	212.3

(1) Design flow loadings of 75 gpcd according to Master Plan.
 (2) U.S. Census data referenced within the Master Plan.

5.2.4. COMPARISON TO OTHER COMMUNITIES

Figure 5-1 presents a comparison of the Town’s current and proposed PIFs to other peer communities.

Figure 5-1: Survey of Peer Communities’ Wastewater PIFs for 5/8x3/4-inch Meter



APPENDIX A:
FINANCIAL PLAN

Town of Mead
 Sewer Financial Model
 Sewer Utility
 Total Sewer Utility Fund Cash Flow

FILE: Mead Rates
 SCHEDULE: CASH FLOW
 DATE: 10/31/2019
 RANGE: CASHFLOW1

Line No.	Description	Budget	Projected									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Revenue Adjustment	0.0%	6.0%	6.0%	6.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2	Income											
3	Fixed Charge Revenues	\$489,662	\$525,151	\$568,814	\$616,395	\$651,742	\$680,057	\$708,764	\$738,343	\$769,462	\$801,530	\$835,237
4	Volume Revenue	169,074	179,072	191,536	204,801	213,703	220,233	226,527	233,073	239,733	246,654	254,721
5	Wastewater Plant Investment Fees	120,000	120,560	128,561	136,833	139,570	142,361	151,259	154,284	163,665	166,938	173,359
6	Other Revenue	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500
7	Interest Income	15,445	8,013	7,487	7,101	7,155	6,610	6,724	7,007	7,973	8,145	8,870
8	Total Income	810,681	849,295	912,898	981,630	1,028,670	1,065,762	1,109,774	1,149,207	1,197,332	1,239,767	1,288,687
9	Total O&M Expenses	502,294	509,040	497,811	512,746	581,605	541,654	587,153	578,118	644,561	606,498	624,693
10	Net Revenue Available for Debt Service	308,387	340,255	415,086	468,885	447,065	524,109	522,621	571,089	552,771	633,269	663,994
11	Debt Service											
12	Existing Bond Debt Service	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155
13	New Bond Debt Service	0	0	0	0	0	0	0	0	0	0	0
14	Total Debt Service	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155
15	Capital Expenditures											
16	CIP Projects	636,154	262,650	323,575	333,282	371,418	382,560	364,186	344,365	405,366	430,575	443,492
17	Total Capital Expenditures	636,154	262,650	323,575	333,282	371,418	382,560	364,186	344,365	405,366	430,575	443,492
18	Capital Funding											
19	Bond Proceeds for Capital	0	0	0	0	0	0	0	0	0	0	0
20	Funds for Reserve	0	0	0	0	0	0	0	0	0	0	0
21	Grants	284,077	0	0	0	0	0	0	0	0	0	0
22	Total Capital Funding Sources	284,077	0	0	0	0	0	0	0	0	0	0
23	Transfer (to) Plant Investment Fee Subfund (Optional)	0	0	0	0	0	0	0	0	0	0	0
24	Transfer from PIF Subfund for Growth-Related Debt Service	0	0	0	0	0	0	0	0	0	0	0
25	Debt Service Reserve Tied to New Debt Issues	0	0	0	0	0	0	0	0	0	0	0
26	Net Cash Flow	(173,844)	(52,549)	(38,643)	5,448	(54,508)	11,394	28,280	96,570	17,250	72,539	90,347
27	Beginning of Year Cash	975,104	801,260	748,710	710,068	715,516	661,008	672,402	700,682	797,253	814,502	887,042
28	End of Year Cash	801,260	748,710	710,068	715,516	661,008	672,402	700,682	797,253	814,502	887,042	977,389
29	Reserves and Unspent Bond Proceeds (1)	(32,796)	(166,481)	(290,733)	(422,967)	(457,711)	(495,028)	(541,034)	(589,924)	(648,066)	(709,426)	(777,165)
30	End of Year Cash - Unrestricted	\$768,463	\$582,230	\$419,335	\$292,549	\$203,298	\$177,374	\$159,649	\$207,328	\$166,436	\$177,615	\$200,223
31	Cash Reserve - Target 25%	153%	114%	84%	57%	35%	33%	27%	36%	26%	29%	32%
32	Cash Reserve - Target (25% O&M)	\$125,574	\$127,260	\$124,453	\$128,186	\$145,401	\$135,413	\$146,788	\$144,529	\$161,140	\$151,625	\$156,173
33	DSC - Annual Debt Service	237%	261%	319%	360%	343%	403%	402%	439%	425%	487%	510%
34	DSC without PIF Revenue	145%	169%	220%	255%	236%	293%	285%	320%	299%	358%	377%

(1) Includes capital reserve and restricted PIF funds.

Town of Mead
 Sewer Financial Model
 Sewer Utility
 Operations Subfund Cash Flow

FILE: Mead Rates
 SCHEDULE: CASH FLOW
 DATE: 10/31/2019
 RANGE: CASHFLOW2

Line No.	Description	Budget	Projected	Projected								
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Revenues											
2	Fixed Charge Revenues	\$489,662	\$525,151	\$568,814	\$616,395	\$651,742	\$680,057	\$708,764	\$738,343	\$769,462	\$801,530	\$835,237
3	Volume Revenue	169,074	179,072	191,536	204,801	213,703	220,233	226,527	233,073	239,733	246,654	254,721
4	Other Revenue	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500	16,500
5	Interest Income	15,445	7,685	5,822	4,183	2,905	2,003	1,743	1,566	2,043	1,634	1,746
6	Total Operating Income	690,681	728,407	782,672	841,879	884,850	918,793	953,534	989,482	1,027,738	1,066,318	1,108,204
7	Operating Expenditures											
8	Admin	216,937	215,122	195,076	200,928	260,433	210,846	246,422	227,164	283,079	234,172	241,197
9	Operations	285,357	293,918	302,736	311,818	321,172	330,807	340,732	350,954	361,482	372,327	383,496
10	Total Operating Expenditures	502,294	509,040	497,811	512,746	581,605	541,654	587,153	578,118	644,561	606,498	624,693
11	Net Revenue Available for Debt Service	188,387	219,367	284,861	329,134	303,245	377,140	366,381	411,364	383,176	459,820	483,511
12	Debt Service											
13	Existing Bond Debt Service	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155
14	Proposed Bond Debt Service	0	0	0	0	0	0	0	0	0	0	0
15	Total Debt Service	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155
16	Transfer (to) Plant Investment Fee Subfund (Optional)	0	0	0	0	0	0	0	0	0	0	0
17	Transfer from PIF Subfund for Growth-Related Debt Service	87,204	87,204	87,204	87,204	87,204	87,204	87,204	87,204	87,204	87,204	87,204
18	Transfer to Capital Subfund for Non-Growth-Related Capital	(352,077)	(362,650)	(405,804)	(413,979)	(350,556)	(360,123)	(341,155)	(320,734)	(381,118)	(405,690)	(417,952)
19	Net Cashflow	(206,641)	(186,234)	(163,895)	(127,796)	(90,262)	(25,934)	(17,725)	47,680	(40,892)	11,179	22,608
20	Beginning of Year Cash	975,104	768,463	582,230	418,335	290,539	200,277	174,344	156,618	204,298	163,406	174,585
21	Restricted Cash	0	0	0	0	0	0	0	0	0	0	0
22	Beginning of Year Cash, Unrestricted	975,104	768,463	582,230	418,335	290,539	200,277	174,344	156,618	204,298	163,406	174,585
23	End of Year Cash	768,463	582,230	418,335	290,539	200,277	174,344	156,618	204,298	163,406	174,585	197,193
24	Reserves	0	0	0	0	0	0	0	0	0	0	0
25	End of Year Cash - Unrestricted	\$768,463	\$582,230	\$418,335	\$290,539	\$200,277	\$174,344	\$156,618	\$204,298	\$163,406	\$174,585	\$197,193
26	Cash Reserve - Target 25%O&M	153%	114%	84%	57%	34%	32%	27%	35%	25%	29%	32%
27	Cash Reserve Target (\$ at 25%)	\$ 125,574	\$ 127,260	\$ 124,453	\$ 128,186	\$ 145,401	\$ 135,413	\$ 146,788	\$ 144,529	\$ 161,140	\$ 151,625	\$ 156,173
28	DSC – Annual Debt Service	145%	169%	219%	253%	233%	290%	281%	316%	294%	353%	371%

Town of Mead
 Sewer Financial Model
 Sewer Utility
 Projected Service Charge Revenue

FILE: Mead Rates
 SCHEDULE: CASH FLOW
 DATE: 10/31/19
 RANGE: CASHFLOW3

Line No.	Description	Budget	Projected									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Wastewater Service Revenue	\$475,409	\$489,662	\$530,152	\$574,231	\$622,265	\$654,921	\$682,287	\$711,085	\$740,761	\$771,982	\$804,155
2	Annual Growth	14,253	10,481	11,575	12,812	13,580	13,988	14,871	15,169	16,100	16,422	17,404
3	Rate Increase	0	25,007	27,086	29,352	15,896	11,148	11,605	12,090	12,600	13,126	13,679
4	Total Wastewater Service Revenue	\$489,662	\$525,151	\$568,814	\$616,395	\$651,742	\$680,057	\$708,764	\$738,343	\$769,462	\$801,530	\$835,237
5	Service Revenue if Revenue Increase Effective January 1	\$489,662	\$530,152	\$574,231	\$622,265	\$654,921	\$682,287	\$711,085	\$740,761	\$771,982	\$804,155	\$837,973
6	Wastewater Usage Revenue	\$166,340	\$169,074	\$180,777	\$193,360	\$206,752	\$214,746	\$220,955	\$227,270	\$233,837	\$240,519	\$247,463
7	Annual Growth	1,379	1,470	1,638	1,689	1,739	1,877	1,858	1,982	1,966	2,092	3,082
8	Rate Increase	1,356	8,527	9,121	9,752	5,212	3,610	3,714	3,821	3,930	4,044	4,176
9	Total Wastewater Usage Revenue	\$169,074	\$179,072	\$191,536	\$204,801	\$213,703	\$220,233	\$226,527	\$233,073	\$239,733	\$246,654	\$254,721
10	Usage Revenue if Revenue Increase Effective January 1	\$169,074	\$180,777	\$193,360	\$206,752	\$214,746	\$220,955	\$227,270	\$233,837	\$240,519	\$247,463	\$255,556

Town of Mead
 Sewer Financial Model
 Sewer Utility
 Capital Improvement Subfund Cash Flow

FILE: Mead Rates
 SCHEDULE: CASH FLOW
 DATE: 10/31/2019
 RANGE: CASHFLOW4

Line No.	Description	Budget	Projected									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Cash Sources											
2	Transfer from Operations Subfund	\$352,077	\$362,650	\$405,804	\$413,979	\$350,556	\$360,123	\$341,155	\$320,734	\$381,118	\$405,690	\$417,952
3	Transfer from PIF Subfund	0	0	17,770	18,303	18,852	19,418	20,000	20,600	21,218	21,855	22,511
4	Interest Income	0	0	1,000	2,010	3,020	3,030	3,030	3,030	3,030	3,030	3,030
5	Total Cash Sources	352,077	362,650	424,575	434,292	372,428	382,571	364,186	344,365	405,366	430,575	443,492
6	Capital Expenditures											
7	CIP	636,154	262,650	323,575	333,282	371,418	382,560	364,186	344,365	405,366	430,575	443,492
8	Total Capital Expenditures	636,154	262,650	323,575	333,282	371,418	382,560	364,186	344,365	405,366	430,575	443,492
9	Capital Funding											
10	Net Bond Proceeds	0	0	0	0	0	0	0	0	0	0	0
11	Funds for Reserve	0	0	0	0	0	0	0	0	0	0	0
12	Grants	284,077	0	0	0	0	0	0	0	0	0	0
13	FEMA Reimbursement	0	0	0	0	0	0	0	0	0	0	0
14	Total Capital Funding Sources	284,077	0	0	0	0	0	0	0	0	0	0
15	Debt Service Reserve Tied to New Debt Issues	0	0	0	0	0	0	0	0	0	0	0
16	Net Cashflow	0	100,000	101,000	101,010	1,010	10	0	0	0	0	0
17	Beginning of Year Cash	0	0	100,000	201,000	302,010	303,020	303,030	303,030	303,030	303,030	303,030
18	End of Year Cash	0	100,000	201,000	302,010	303,020	303,030	303,030	303,030	303,030	303,030	303,030
19	Unspent Bond Proceeds	0	0	0	0	0	0	0	0	0	0	0
20	Reserves (1)	0	(100,000)	(200,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)
20	End of Year Cash - Unrestricted	\$0	\$0	\$1,000	\$2,010	\$3,020	\$3,030	\$3,030	\$3,030	\$3,030	\$3,030	\$3,030

(1) Capital reserve target grows by \$100,000 per year until it reaches the final target of the approximate average of one-year of renewal and rehabilitation expenses (\$300,000).

Town of Mead
 Sewer Financial Model
 Sewer Utility
 Cash Balance Calculation

FILE: Mead Rates
 SCHEDULE: CASH FLOW
 DATE: 10/14/2019
 RANGE: CASHFLOW

Line No.	Description	Actuals	Projected									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Interest Calculation											
2	Cash Balance											
3	Operations Subfund		\$768,463	\$582,230	\$418,335	\$290,539	\$200,277	174,344	156,618	204,298	163,406	174,585
4	PIF Subfund		32,796	66,481	90,733	122,967	157,711	195,028	241,034	289,924	348,066	409,426
5	Capital Improvement Subfund		0	100,000	201,000	302,010	303,020	303,030	303,030	303,030	303,030	303,030
6	Total		801,260	748,710	710,068	715,516	661,008	672,402	700,682	797,253	814,502	887,042
7	Total Fund Interest Earnings		8,013	7,487	7,101	7,155	6,610	6,724	7,007	7,973	8,145	8,870
8	Allocated Interest Earnings											
9	Operations Subfund		7,685	5,822	4,183	2,905	2,003	1,743	1,566	2,043	1,634	1,746
10	SDF Subfund		328	665	907	1,230	1,577	1,950	2,410	2,899	3,481	4,094
11	Capital Improvement Subfund		0	1,000	2,010	3,020	3,030	3,030	3,030	3,030	3,030	3,030
12	Total		\$8,013	\$7,487	\$7,101	\$7,155	\$6,610	\$6,724	\$7,007	\$7,973	\$8,145	\$8,870
13	Cash Balance											
14	Operations Subfund		96%	78%	59%	41%	30%	26%	22%	26%	20%	20%
15	SDF Subfund		4%	9%	13%	17%	24%	29%	34%	36%	43%	46%
16	Capital Improvement Subfund		0%	13%	28%	42%	46%	45%	43%	38%	37%	34%
17	Total		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Town of Mead
 Sewer Financial Model
 Sewer Utility
 Debt and CIP

			2020											
Sewer Capital Projects - Scenario 2			1	2	3	4	5	6	7	8	9	10	11	
Description	% Growth	Funding	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
WW Master Plan Updates and GIS	0%	Cash	\$0	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$50,000
Capital Repairs & Replacement at WWTF	0%	Cash	30,000	25,000	175,000	25,000	50,000	100,000	75,000	50,000	40,000	50,000	150,000	770,000
Pipeline Replacement	0%	Cash										50,000	150,000	200,000
Unused	0%	Cash												0
Fire Alarm & Response System at the WWTF	0%	Cash	13,000											13,000
Cured in Place Pipe	0%	Cash	0	225,000	100,000	200,000	250,000	100,000	125,000					1,000,000
PVC Sanitary Sewer & Manhole Rehab - Old Town Area	0%	Cash				50,000		50,000		50,000	50,000			200,000
PVC Sanitary Sewer and Manhole Rehab Newer Sections of Town	0%	Cash						50,000	75,000	150,000	200,000	200,000		675,000
North Creek LS Elimination & Sanitary Sewer Extension	0%	Cash	284,077											284,077
Dola N. Creek LS Elimination & San Sewer Extension (Grant)	0%	Grant	284,077											284,077
Dillingham Construction	0%	Cash	25,000											25,000
Public Works Building	67%	Cash			25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	225,000
Total			\$636,154	\$255,000	\$305,000	\$305,000	\$330,000	\$330,000	\$305,000	\$280,000	\$320,000	\$330,000	\$330,000	\$3,726,154

Town of Mead
Sewer Financial Model
Sewer Utility
Debt and CIP

2020

CIP Escalation Factor 0.00% 3.00% 3.00% 3.00% 3.00% 3.00% 3.00% 3.00% 3.00% 3.00% 3.00%

Capital Projects - Escalated			1	2	3	4	5	6	7	8	9	10	11	Total
Description	% Growth	Debt Type	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
WW Master Plan Updates and GIS	0%	Cash	\$0	\$5,150	\$5,305	\$5,464	\$5,628	\$5,796	\$5,970	\$6,149	\$6,334	\$6,524	\$6,720	\$59,039
Capital Repairs & Replacement at WWTF	0%	Cash	30,000	25,750	185,658	27,318	56,275	115,927	89,554	61,494	50,671	65,239	201,587	909,473
Pipeline Replacement	0%	Cash	0	0	0	0	0	0	0	0	0	65,239	201,587	266,826
Unused	0%	Cash	0	0	0	0	0	0	0	0	0	0	0	0
Fire Alarm & Response System at the WWTF	0%	Cash	13,000	0	0	0	0	0	0	0	0	0	0	13,000
Cured in Place Pipe	0%	Cash	0	231,750	106,090	218,545	281,377	115,927	149,257	0	0	0	0	1,102,947
PVC Sanitary Sewer & Manhole Rehab - Old Town Area	0%	Cash	0	0	0	54,636	0	57,964	0	61,494	63,339	0	0	237,432
PVC Sanitary Sewer and Manhole Rehab Newer Sections of Town	0%	Cash	0	0	0	0	0	57,964	89,554	184,481	253,354	260,955	0	846,307
North Creek LS Elimination & Sanitary Sewer Extension	0%	Cash	284,077	0	0	0	0	0	0	0	0	0	0	284,077
Dola N. Creek LS Elimination & San Sewer Extension (Grant)	0%	Grant	284,077	0	0	0	0	0	0	0	0	0	0	284,077
Dillingham Construction	0%	Cash	25,000	0	0	0	0	0	0	0	0	0	0	25,000
Public Works Building	67%	Cash	0	0	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	33,598	269,445
Total CIP			\$636,154	\$262,650	\$323,575	\$333,282	\$371,418	\$382,560	\$364,186	\$344,365	\$405,366	\$430,575	\$443,492	\$4,297,623

Town of Mead
Sewer Financial Model
O&M - Sewer Utility

Line No.	Department	Description	Summary Group	Escalation	Budget FY2019	Projected FY2020	Projected FY2021	Projected FY2022	Projected FY2023	Projected FY2024	Projected FY2025	Projected FY2026	Projected FY2027	Projected FY2028	Projected FY2029
1	ADMIN	Town Manager	Admin	Inflation	\$14,460	\$14,894	\$15,341	\$15,801	\$16,275	\$16,763	\$17,266	\$17,784	\$18,317	\$18,867	\$19,433
2	ADMIN	Town Clerk	Admin	Inflation	3,380	3,481	3,586	3,693	3,804	3,918	4,036	4,157	4,282	4,410	4,542
3	ADMIN	HR/Accting Clerk	Admin	Inflation	2,080	2,142	2,207	2,273	2,341	2,411	2,484	2,558	2,635	2,714	2,795
4	ADMIN	Treasurer	Admin	Inflation	5,350	5,511	5,676	5,846	6,021	6,202	6,388	6,580	6,777	6,981	7,190
5	ADMIN	Town Engineer	Admin	Inflation	0	0	0	0	0	0	0	0	0	0	0
6	ADMIN	Utility Billing/Admin Clerks	Admin	Inflation	14,560	14,997	15,447	15,910	16,387	16,879	17,385	17,907	18,444	18,997	19,567
7	ADMIN	Planning	Admin	Inflation	0	0	0	0	0	0	0	0	0	0	0
8	ADMIN	Public Works	Admin	Inflation	35,761	\$55,761	57,434	59,157	60,932	62,760	64,643	66,582	68,579	70,637	72,756
9	ADMIN	Merit	Admin	Inflation	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032
10	ADMIN	Overtime	Admin	Inflation	1,125	1,159	1,194	1,229	1,266	1,304	1,343	1,384	1,425	1,468	1,512
11	ADMIN	Payroll Taxes	Admin	Inflation	6,099	6,282	6,470	6,664	6,864	7,070	7,282	7,501	7,726	7,958	8,196
12	ADMIN	Workers Comp	Admin	Inflation	596	614	633	652	671	691	712	734	756	778	802
13	ADMIN	Health Insurance	Admin	Inflation	12,302	12,671	13,051	13,442	13,845	14,261	14,689	15,129	15,583	16,051	16,532
14	ADMIN	Deferred Comp	Admin	Inflation	4,163	4,288	4,417	4,550	4,686	4,827	4,971	5,121	5,274	5,432	5,595
15	ADMIN	Medical Savings	Admin	Inflation	475	489	504	519	535	551	567	584	602	620	638
16	ADMIN	PDO Change	Admin	Inflation	0	0	0	0	0	0	0	0	0	0	0
17	ADMIN	Office Supplies	Admin	Inflation	0	0	0	0	0	0	0	0	0	0	0
18	ADMIN	Computer Expense	Admin	Inflation	3,243	3,340	3,440	3,544	3,650	3,760	3,872	3,988	4,108	4,231	4,358
19	ADMIN	Postage	Admin	Inflation	3,900	4,017	4,138	4,262	4,389	4,521	4,657	4,797	4,940	5,089	5,241
20	ADMIN	Telephone	Admin	Inflation	800	823	848	874	900	927	955	983	1,013	1,043	1,074
21	ADMIN	General Liab Insurance	Admin	Inflation	20,443	21,056	21,688	22,338	23,008	23,699	24,410	25,142	25,896	26,673	27,473
22	ADMIN	Schools/Conferences	Admin	Inflation	0	0	0	0	0	0	0	0	0	0	0
23	ADMIN	Dues & Memberships	Admin	Inflation	0	0	0	0	0	0	0	0	0	0	0
24	ADMIN	Legal	Admin	Inflation	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	2,610	2,688
25	ADMIN	Engineering	Admin	Inflation	75,000	50,000	25,000	25,750	80,000	25,000	55,000	30,000	80,000	25,000	25,750
26	ADMIN	Planning/Consultants	Admin	Inflation	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	2,610	2,688
27	ADMIN	Audit Fees	Admin	Inflation	5,700	5,871	6,047	6,229	6,415	6,608	6,806	7,010	7,221	7,437	7,660
28	ADMIN	Miscellaneous	Admin	Inflation	500	515	530	546	563	580	597	615	633	652	672
29	Operating	Operating Supplies	Operations	Inflation	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344
30	Operating	Repairs & Maint	Operations	Inflation	70,600	72,718	74,900	77,147	79,461	81,845	84,300	86,829	89,434	92,117	94,880
31	Operating	Chemicals	Operations	Inflation	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344
32	Operating	Bio-Solids Disposal	Operations	Inflation	46,400	47,792	49,226	50,703	52,224	53,790	55,404	57,066	58,778	60,541	62,358
33	Operating	Gas & Oil	Operations	Inflation	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720
34	Operating	Utilities	Operations	Inflation	50,500	52,015	53,575	55,183	56,838	58,543	60,300	62,109	63,972	65,891	67,868
35	Operating	Trash Removal	Operations	Inflation	1,020	1,051	1,082	1,115	1,148	1,182	1,218	1,254	1,292	1,331	1,371
36	Operating	Safety Equipment	Operations	Inflation	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344
37	Operating	Equipment Rental	Operations	Inflation	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344
38	Operating	Sewer Maint Contract	Operations	Inflation	54,722	56,364	58,055	59,797	61,591	63,438	65,341	67,302	69,321	71,400	73,542
39	Operating	Sewer Testing	Operations	Inflation	4,200	4,326	4,456	4,589	4,727	4,869	5,015	5,165	5,320	5,480	5,644
41	Operating	Discharge Permit	Operations	Inflation	3,915	4,032	4,153	4,278	4,406	4,539	4,675	4,815	4,959	5,108	5,261
42	Operating	Sewer Line Flushing	Operations	Inflation	40,000	41,200	42,436	43,709	45,020	46,371	47,762	49,195	50,671	52,191	53,757
Total Operating Expenses					\$502,294	\$509,040	\$497,811	\$512,746	\$581,605	\$541,654	\$587,153	\$578,118	\$644,561	\$606,498	\$624,693

Town of Mead
 Sewer Financial Model
 Revenues: Sewer Utility

Description	Escalation	Actual 2018	Actual 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028	Projected 2029
Sewer User Fees		\$656,918	\$668,400										
Sewer Late/NSF Fees	Constant	18,304	16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500
Sewer Tap On Fees	Constant	56,500	223,000										
Interest Income	Constant	12,750	15,445										
Total Operating Revenues		\$744,472	\$923,345	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500

Minimum Fund Balances: Sewer Utility

			1	2	3	4	5	6	7	8	9	10		
Fund	Name		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Fund1	Operating Fund	Months:	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Fund2	Capital Fund				\$100,000	\$200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Coverage Target: Sewer Utility		Requirement			110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
		Coverage Target			150%	150%	150%	150%	150%	150%	150%	150%	150%	150%

Existing Debt Service: Sewer Utility			1	2	3	4	5	6	7	8	9	10		
Fund	Name	% Growth Related	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	WPCRF #W07A196	67%	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155
Total Existing Debt Service			130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155	130,155



RAFTELIS

Beginning of Year Cash: Sewer Utility

Sewer Utility Operations Fund	
	<u>12/31/2018</u>
Cash and Cash Equivalents	975,104
Balance	975,104

Sewer Utility Plant Investment Fee Fund	
	<u>12/31/2018</u>
Cash	0
Balance	0

Escalation Factors

Line No.	Description	EscalationList	2018	2019	1 2020	2 2021	3 2022	4 2023	5 2024	6 2025	7 2026	8 2027	9 2028	10 2029
1	Constant	Constant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2	Interest Earning Rate	Interest	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
3	General Inflation	Inflation	N/A	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
4	Capital Projects	CIP		0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

Town of Mead
 Sewer Financial Model
 Accounts - Sewer Utility

Growth Rate Projections	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential												
Low Volume	153	158	161	165	169	173	177	181	185	189	193	197
Med Volume	824	849	868	887	907	927	947	968	989	1,011	1,033	1,056
Residential	977	1,007	1,029	1,052	1,076	1,100	1,124	1,149	1,174	1,200	1,226	1,253
Commercial Low	15	15	15	15	15	15	15	15	15	15	15	15
Commercial Medium	3	3	3	3	3	3	3	3	3	3	3	3
Commercial High	1	1	1	1	1	1	1	1	1	1	1	1
Schools	2	2	2	2	2	2	2	2	2	2	2	2
Accounts: Sewer Utility	998	1,028	1,050	1,073	1,097	1,121	1,145	1,170	1,195	1,221	1,247	1,274
Growth in Accounts												
Residential	0.0%	3.0%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Commercial Low	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial Medium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial High	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Schools	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Town of Mead
Sewer Financial Model
Service Charges Per Account - Sewer Utility

Customer Class	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028	Projected 2029
Residential	0.00%	0.00%	6.00%	6.00%	6.00%	3.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Low Volume	\$36.55	\$36.55	\$38.74	\$41.07	\$43.53	\$44.84	\$45.73	\$46.65	\$47.58	\$48.53	\$49.50	\$50.49
Med Volume	40.20	40.20	42.61	45.17	47.88	49.32	50.30	51.31	52.33	53.38	54.45	55.54
Commercial Low	0.00%	0.00%	6.00%	6.00%	6.00%	3.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Low Volume	\$40.20	\$40.20	\$42.61	\$45.17	\$47.88	\$49.32	\$50.30	\$51.31	\$52.33	\$53.38	\$54.45	\$55.54
Commercial Medium	0.00%	0.00%	6.00%	6.00%	6.00%	3.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Med Volume	48.24	48.24	51.13	54.20	57.45	59.18	60.36	61.57	62.80	64.06	65.34	66.64
Commercial High	0.00%	0.00%	6.00%	6.00%	6.00%	3.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%
High Volume	56.28	56.28	59.66	63.24	67.03	69.04	70.42	70.42	70.42	70.42	70.42	70.42
Schools	0.00%	0.00%	6.00%	6.00%	6.00%	3.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Schools	48.24	48.24	51.13	54.20	57.45	59.18	60.36	61.57	62.80	64.06	65.34	66.64
Blank	0.00%	0.00%	6.00%	6.00%	6.00%	3.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Deferred Rate Increase												
Percent of Year Increase in Effect	100.0%	100.0%	83.3%	83.3%	83.3%	83.3%	83.3%	83.3%	83.3%	83.3%	83.3%	83.3%
Service Charge Revenue: Base												
Residential	\$0	\$464,603	\$478,856	\$518,698	\$562,090	\$609,395	\$641,665	\$668,766	\$697,310	\$726,728	\$757,685	\$789,589
Commercial Low	0	7,236	7,236	7,670	8,130	8,618	8,877	9,054	9,235	9,420	9,608	9,801
Commercial Medium	0	1,737	1,737	1,841	1,951	2,068	2,130	2,173	2,216	2,261	2,306	2,352
Commercial High	0	675	675	716	759	804	828	845	845	845	845	845
Schools	0	1,158	1,158	1,227	1,301	1,379	1,420	1,449	1,478	1,507	1,537	1,568
Total Service Charge Revenue: Base	\$0	\$475,409	\$489,662	\$530,152	\$574,231	\$622,265	\$654,921	\$682,287	\$711,085	\$740,761	\$771,982	\$804,155
Service Charge Revenue: Growth												
Residential	\$0	\$14,253	\$10,481	\$11,575	\$12,812	\$13,580	\$13,988	\$14,871	\$15,169	\$16,100	\$16,422	\$17,404
Commercial Low	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Medium	0	0	0	0	0	0	0	0	0	0	0	0
Commercial High	0	0	0	0	0	0	0	0	0	0	0	0
Schools	0	0	0	0	0	0	0	0	0	0	0	0
Total Service Charge Revenue: Growth	\$0	\$14,253	\$10,481	\$11,575	\$12,812	\$13,580	\$13,988	\$14,871	\$15,169	\$16,100	\$16,422	\$17,404
Service Charge Revenue: Rate Increase												
Residential	\$464,603	\$0	\$24,467	\$26,514	\$28,745	\$15,574	\$10,928	\$11,394	\$11,875	\$12,380	\$12,902	\$13,450
Commercial Low	7,236	0	362	384	407	215	148	151	154	157	160	163
Commercial Medium	1,737	0	87	92	98	52	36	36	37	38	38	39
Commercial High	675	0	34	36	38	20	14	0	0	0	0	0
Schools	1,158	0	58	61	65	34	24	24	25	25	26	26
Total Service Charge Revenue: Rate Increase	\$475,409	\$0	\$25,007	\$27,086	\$29,352	\$15,896	\$11,148	\$11,605	\$12,090	\$12,600	\$13,126	\$13,679
Projected Svc Chg Rev (full yr increases)												
Residential	\$464,603	\$478,856	\$518,698	\$562,090	\$609,395	\$641,665	\$668,766	\$697,310	\$726,728	\$757,685	\$789,589	\$823,133
Commercial Low	7,236	7,236	7,670	8,130	8,618	8,877	9,054	9,235	9,420	9,608	9,801	9,997
Commercial Medium	1,737	1,737	1,841	1,951	2,068	2,130	2,173	2,216	2,261	2,306	2,352	2,399
Commercial High	675	675	716	759	804	828	845	845	845	845	845	845
Total Projected Svc Chg Rev (full yr increases)	\$475,409	\$489,662	\$530,152	\$574,231	\$622,265	\$654,921	\$682,287	\$711,085	\$740,761	\$771,982	\$804,155	\$837,973
Difference Due to Prorating Increase	\$0	\$0	-\$5,001	-\$5,417	-\$5,870	-\$3,179	-\$2,230	-\$2,321	-\$2,418	-\$2,520	-\$2,625	-\$2,736
Revenue at Existing Rates												
Residential	\$464,603	\$478,856	\$489,338	\$500,258	\$511,660	\$523,063	\$534,465	\$546,350	\$558,235	\$570,602	\$582,969	\$595,819
Commercial Low	7,236	7,236	7,236	7,236	7,236	7,236	7,236	7,236	7,236	7,236	7,236	7,236
Commercial Medium	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737
Commercial High	675	675	675	675	675	675	675	675	675	675	675	675
Schools	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158	1,158
Total Revenue at Existing Rates	\$475,409	\$489,662	\$500,144	\$511,064	\$522,466	\$533,868	\$545,271	\$557,156	\$569,040	\$581,408	\$593,775	\$606,624

Town of Mead
Sewer Financial Model
Billed Volume - Sewer Utility (Thousand Gallons)

	Actual 2017	Actual 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028	Projected 2029
Residential													
Low Volume	1,755	2,039	2,063	2,088	2,114	2,140	2,165	2,191	2,216	2,242	2,268	2,295	2,334
Med Volume	46,588	45,905	46,439	47,002	47,594	48,169	48,728	49,314	49,883	50,478	51,056	51,659	52,530
Residential	48,343	47,944	48,502	49,090	49,708	50,309	50,893	51,505	52,099	52,720	53,324	53,954	54,864
Commercial Low													
Low Volume	516	580	580	580	580	580	580	580	580	580	580	580	580
Commercial Low	516	580	580	580	580	580	580	580	580	580	580	580	580
Commercial Medium													
Med Volume	106	133	133	133	133	133	133	133	133	133	133	133	133
Commercial Medium	106	133	133	133	133	133	133	133	133	133	133	133	133
Commercial High													
High Volume	3,193	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315
Commercial High	3,193	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315
Schools													
Schools	989	947	947	947	947	947	947	947	947	947	947	947	947
Schools	989	947	947	947	947	947	947	947	947	947	947	947	947
	53,147	51,919	52,477	53,065	53,683	54,284	54,868	55,480	56,074	56,695	57,299	57,929	58,839
Residential	0.0%	-0.8%	2.2%	2.2%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.7%
Commercial Low	0.0%	12.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial Medium	0.0%	25.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial High	0.0%	-27.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Schools	0.0%	-4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% Change in Flows	0.0%	-2.3%	1.1%	1.1%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.6%
Conservation Factor													
Residential			1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Commercial Low			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial Medium			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial High			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Schools			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Town of Mead
 Sewer Financial Model
 Bill Frequency - Water

	2017 Tier 1 Billed Volume	2017 Tier 2 Billed Volume	2017 Tier 1 %	2017 Tier 2 %	2018 Tier 1 Billed Volume	2018 Tier 2 Billed Volume	2018 Tier 1 %	2018 Tier 2 %	2017 - 2018 Tier 1 Billed Volume	2017 - 2018 Tier 2 Billed Volume	2017 - 2018 Tier 1 Avg. %	2017 - 2018 Tier 2 Avg. %
Residential												
Low Volume	1,755	0	100.0%	0.0%	2,194	0	100.0%	0.0%	3,949	0	100.0%	0.0%
Med Volume	35,418	11,169	76.0%	24.0%	35,959	11,122	76.4%	23.6%	71,377	22,291	76.2%	23.8%
Residential	37,173	11,169	76.9%	23.1%	38,153	11,122	77.4%	22.6%	75,326	22,291	77.2%	22.8%
Commercial Low												
Low Volume	394	122	76.4%	23.6%	426	165	72.1%	27.9%	820	287	74.1%	25.9%
Commercial Low	394	122	76.4%	23.6%	426	165	72.1%	27.9%	820	287	74.1%	25.9%
Commercial Medium												
Med Volume	104	2	98.6%	1.4%	100	1	98.9%	1.1%	204	3	98.7%	1.3%
Commercial Medium	104	2	98.6%	1.4%	100	1	98.9%	1.1%	204	3	98.7%	1.3%
Commercial High												
High Volume	48	3,145	1.5%	98.5%	48	2,484	1.9%	98.1%	96	5,629	1.7%	98.3%
Commercial High	48	3,145	1.5%	98.5%	48	2,484	1.9%	98.1%	96	5,629	1.7%	98.3%
Schools												
Schools	96	893	9.7%	90.3%	96	893	9.7%	90.3%	192	1,785	9.7%	90.3%
Schools	96	893	9.7%	90.3%	96	893	9.7%	90.3%	192	1,785	9.7%	90.3%
	37,815	15,330	71.2%	28.8%	38,823	14,665	72.6%	27.4%	76,638	29,995	71.9%	28.1%

Town of Mead
 Sewer Financial Model
 Projected Volume Rates - Sewer Utility (Thousand Gallons)

		Actual	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
Water Volume Rates		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	Tier 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Tier 2	10.95	10.95	10.95	11.61	12.30	13.04	13.43	13.70	13.98	14.26	14.54	14.83	15.13	15.13	15.13
Commercial Low	Tier 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Tier 2	10.95	10.95	10.95	11.61	12.30	13.04	13.43	13.70	13.98	14.26	14.54	14.83	15.13	15.13	15.13
Commercial Medium	Tier 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Tier 2	13.14	13.14	13.14	13.93	14.76	15.65	16.12	16.44	16.77	17.11	17.45	17.80	18.15	18.15	18.15
Commercial High	Tier 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Tier 2	15.33	15.33	15.33	16.25	17.22	18.26	18.81	19.18	19.57	19.96	20.36	20.76	21.18	21.18	21.18
Schools	Tier 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Tier 2	13.14	13.14	13.14	13.93	14.76	15.65	16.12	16.44	16.77	17.11	17.45	17.80	18.15	18.15	18.15

Town of Mead
Sewer Financial Model
Bill Frequency - Water

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Weighted Average Volume Rates													
Residential	\$2.53	\$2.47	\$2.50	\$2.65	\$2.81	\$2.98	\$3.07	\$3.13	\$3.19	\$3.26	\$3.32	\$3.39	\$3.45
Commercial Low	2.59	3.06	2.84	3.01	3.19	3.38	3.48	3.55	3.62	3.70	3.77	3.85	3.92
Commercial Medium	0.19	0.14	0.17	0.18	0.19	0.20	0.20	0.21	0.21	0.22	0.22	0.22	0.23
Commercial High	15.10	15.04	15.07	15.98	16.94	17.95	18.49	18.86	19.24	19.62	20.01	20.42	20.82
Schools	11.86	11.86	11.86	12.58	13.33	14.13	14.55	14.85	15.14	15.44	15.75	16.07	16.39
Volume Revenue: Base													
Residential	\$0	\$122,303	\$118,496	\$121,277	\$130,112	\$139,655	\$149,824	\$156,110	\$161,147	\$166,266	\$171,613	\$177,050	\$182,725
Commercial Low	0	1,336	1,773	1,647	1,745	1,850	1,961	2,020	2,060	2,102	2,144	2,186	2,230
Commercial Medium	0	20	19	22	23	25	26	27	28	28	29	29	30
Commercial High	0	48,213	34,816	34,894	36,987	39,207	41,559	42,806	43,662	44,535	45,426	46,334	47,261
Schools	0	11,733	11,235	11,235	11,909	12,624	13,381	13,783	14,058	14,339	14,626	14,919	15,217
Total Volume Revenue: Base	\$0	\$183,605	\$166,340	\$169,074	\$180,777	\$193,360	\$206,752	\$214,746	\$220,955	\$227,270	\$233,837	\$240,519	\$247,463
Volume Revenue: Growth													
Residential	\$0	(\$1,009)	\$1,379	\$1,470	\$1,638	\$1,689	\$1,739	\$1,877	\$1,858	\$1,982	\$1,966	\$2,092	\$3,082
Commercial Low	0	166	0	0	0	0	0	0	0	0	0	0	0
Commercial Medium	0	5	0	0	0	0	0	0	0	0	0	0	0
Commercial High	0	(13,257)	0	0	0	0	0	0	0	0	0	0	0
Schools	0	(498)	0	0	0	0	0	0	0	0	0	0	0
Total Volume Revenue: Growth	\$0	(\$14,594)	\$1,379	\$1,470	\$1,638	\$1,689	\$1,739	\$1,877	\$1,858	\$1,982	\$1,966	\$2,092	\$3,082
Volume Revenue: Rate Increase													
Residential	\$122,303	(\$2,797)	\$1,401	\$6,137	\$6,587	\$7,067	\$3,789	\$2,633	\$2,717	\$2,804	\$2,893	\$2,986	\$3,097
Commercial Low	1,336	272	(127)	82	87	93	49	34	34	35	36	36	37
Commercial Medium	20	(6)	3	1	1	1	1	0	0	0	0	0	0
Commercial High	48,213	(139)	78	1,745	1,849	1,960	1,039	713	728	742	757	772	788
Schools	11,733	0	0	562	595	631	335	230	234	239	244	249	254
Total Volume Revenue: Rate Inc	\$183,605	(\$2,671)	\$1,356	\$8,527	\$9,121	\$9,752	\$5,212	\$3,610	\$3,714	\$3,821	\$3,930	\$4,044	\$4,176
Projected Volume Revenue - Prorated													
Residential	\$122,303	\$118,496	\$121,277	\$128,884	\$138,337	\$148,411	\$155,352	\$160,621	\$165,722	\$171,052	\$176,472	\$182,128	\$188,903
Commercial Low	1,336	1,773	1,647	1,729	1,833	1,943	2,010	2,054	2,095	2,137	2,179	2,223	2,267
Commercial Medium	20	19	22	23	24	26	27	27	28	29	29	30	30
Commercial High	48,213	34,816	34,894	36,639	38,837	41,167	42,598	43,519	44,390	45,278	46,183	47,107	48,049
Schools	11,733	11,235	11,235	11,797	12,505	13,255	13,716	14,012	14,293	14,578	14,870	15,167	15,471
Total Projected Volume Revenue	\$183,605	\$166,340	\$169,074	\$179,072	\$191,536	\$204,801	\$213,703	\$220,233	\$226,527	\$233,073	\$239,733	\$246,654	\$254,721
Projected Volume Revenue - Full Year Increase Revenues													
Residential	\$122,303	\$118,496	\$121,277	\$130,112	\$139,655	\$149,824	\$156,110	\$161,147	\$166,266	\$171,613	\$177,050	\$182,725	\$189,523
Commercial Low	1,336	1,773	1,647	1,745	1,850	1,961	2,020	2,060	2,102	2,144	2,186	2,230	2,275
Commercial Medium	20	19	22	23	25	26	27	28	28	29	29	30	30
Commercial High	48,213	34,816	34,894	36,987	39,207	41,559	42,806	43,662	44,535	45,426	46,334	47,261	48,206
Schools	11,733	11,235	11,235	11,909	12,624	13,381	13,783	14,058	14,339	14,626	14,919	15,217	15,521
Total Projected Volume Revenue	\$183,605	\$166,340	\$169,074	\$180,777	\$193,360	\$206,752	\$214,746	\$220,955	\$227,270	\$233,837	\$240,519	\$247,463	\$255,556

APPENDIX B:
**PLANT INVESTMENT
FEES**

**Town of Mead
2019 Rate and PIF Study
WASTEWATER PIF CALCULATION**

**FILE: Town of Mead PIF Calculator
SCHEDULE: PIF CALC
DATE: 10/31/2019
RANGE: S_PIF2**

HYBRID APPROACH

Description	Calculation
Total System Replacement Cost (1)	\$16,967,958
Less: Developer Contributed Assets (2)	(4,562,850)
Plus: Growth-related portion of Public Works building (3)	150,750
Plus: NPV of Borrowing Cost (4)	354,000
Total Cost for PIF Calculation	<u>\$12,909,858</u>
Total WWTP Capacity (million gallons per day (MGD)) (5)	<u>0.5</u>
Estimated Equivalent Residential Meter (EQR) Flow (GPD) (6)	<u>212.3</u>
System EQR Capacity	2,356
Value per SFE	<u>2,356</u> <u>\$5,480</u>
Calculated PIF per EQR:	\$5,480
Current PIF per EQR	<u>\$4,000</u>
Difference - \$	<u>\$1,480</u>
Difference - %	<u>37%</u>

- (1) Assets as of 12/31/18.
- (2) Comprised of "Customer Lines" identified in asset records as of 12/31/18.
- (3) Portion of planned new Public Works building to serve new wastewater customers.
- (4) WRPDA loan payments 2019 and after.
- (5) WWTP Rated Capacity - Average Annual Daily Flow - 2017 Design Criteria.
- (6) Design flow loadings of 75 gpcd according to Master Plan.

**Town of Mead
2019 Rate and PIF Study
WASTEWATER ASSETS AS OF DECEMBER 31, 2018
SUMMARY ASSETS**

Line No	Function	Description	Asset Count	Original Cost	Replacement Cost New	Include
1	1	Land	2	\$207,925	\$207,925	1
2	2	Pumping/Lift Station	2	2,562	4,583	1
3	3	Collection and Interceptors (1)	9	542,161	8,035,435	1
4	4	WW - Miscellaneous / Admin	2	19,280	19,431	1
5	5	WW - Vehicles & Equipment	1	1,475	2,462	0
6	6	WW - Treatment and Disposal	18	6,930,136	8,700,584	1
7		Total	34	7,703,539	16,970,420	

(1) The fixed asset records do not include collection and interceptor assets prior to 1998. The replacement cost new is based upon an inventory of all pipes and an estimate of their current unit costs.

**Town of Mead
2019 Rate and PIF Study
WASTEWATER ASSETS AS OF DECEMBER 31, 2018**

FUNCTION	FUNCTION DESCRIPTION	ASSET	Year Acquired	Original Cost	ENR 20-Cities Index Denver CCI	Ratio of 2016 ENR to Historic ENR	Replacement Cost New (RCN)
6	WW - Treatment and Disposal	Lagoon Storage Bldg	1989	\$19,000	3,642	2.05	38,926
1	Land	Land	1993	7,925	4,012	1.00	7,925
6	WW - Treatment and Disposal	Buildings	1993	80,580	4,012	1.86	149,852
3	Collection and Interceptors	1993 additions	1993	976	4,012	1.86	1,814
2	Pumping/Lift Station	Remote Sensus Meter	1994	1,215	4,009	1.86	2,262
2	Pumping/Lift Station	Model HDP-3 Pump	1997	1,347	4,329	1.72	2,321
3	Collection and Interceptors	Sewer Line additions	1998	22,772	4,470	1.67	38,006
6	WW - Treatment and Disposal	Generator	1998	1,198	4,470	1.67	2,000
5	WW - Vehicles & Equipment	Four gas Portable monitor	1998	1,475	4,470	1.67	2,462
6	WW - Treatment and Disposal	Lake Thomas Sewer Plant	2000	4,000	4,767	1.57	6,261
6	WW - Treatment and Disposal	Fence at Lagoon - Lake Thomas	2000	9,850	4,767	1.57	15,417
6	WW - Treatment and Disposal	Chlorine Chamber	2000	103,184	4,767	1.57	161,506
3	Collection and Interceptors	Sewer Line railroad crossing license	2000	15,000	4,767	1.57	23,478
6	WW - Treatment and Disposal	Water Tap from Little Thompson	2001	15,050	4,663	1.60	24,080
6	WW - Treatment and Disposal	Lake Thomas Lagoon	2001	18,264	4,663	1.60	29,222
3	Collection and Interceptors	Upgrade line for Mead Western Mea	2005	45,916	5,480	1.36	62,510
1	Land	Land for new sewer tmt plnt	2006	200,000	5,612	1.00	200,000
3	Collection and Interceptors	Fairbairn Sewer Line Replacement	2006	332,100	5,612	1.33	441,533
6	WW - Treatment and Disposal	Waste Water Treatment Plant	2009	6,091,787	5,929	1.26	7,666,350
6	WW - Treatment and Disposal	Old Sewer Lagoons Decommissionir	2011	86,910	6,759	1.10	95,931
4	WW - Miscellaneous / Admin	Caselle Online Bill Pay	2014	2,500	7,036	1.06	2,651
6	WW - Treatment and Disposal	WWTP Water Filter Retrofit	2015	6,170	7,075	1.05	6,506
6	WW - Treatment and Disposal	Cat Walk & Grid Chamber	2015	162,337	7,075	1.05	171,197
6	WW - Treatment and Disposal	WWTP Pump	2016	16,380	7,130	1.05	17,140
6	WW - Treatment and Disposal	WWTP Fuel Tank	2016	12,064	7,130	1.05	12,624
6	WW - Treatment and Disposal	SCADA System	2017	6,193	7,346	1.02	6,289
6	WW - Treatment and Disposal	Digester Haul Pump	2017	7,124	7,346	1.02	7,236
6	WW - Treatment and Disposal	Ventilation Improvements	2018	33,128	7,461	1.00	33,128
6	WW - Treatment and Disposal	Lake Thomas - sludge pond	2018	256,918	7,461	1.00	256,918
3	Collection and Interceptors	Backflow Prevention	2018	19,932	7,461	1.00	19,932
3	Collection and Interceptors	Construction in Progress - N. Creek	2018	33,362	7,461	1.00	33,362
3	Collection and Interceptors	Construction in Progress - Dillinghar	2018	14,311	7,461	1.00	14,311
4	WW - Miscellaneous / Admin	Construction in Progress - GIS Softw	2018	16,780	7,461	1.00	16,780
3	Collection and Interceptors	Construction in Progress - N. Creek	2018	57,793	7,461	1.00	57,793
				<u>\$7,703,539</u>			<u>\$9,627,724</u>

(1) Based Upon
ENR Index 2018
Average:

7,461

Town of Mead
2019 Rate and PIF Study
WASTEWATER ASSETS AS OF DECEMBER 31, 2018
WASTEWATER SYSTEM - COLLECTION AND INTERCEPTOR INVENTORY BY DIAMETER SIZE

Line No	Local or System	Diameter Size (Inches)	Linear Feet	Inch-Feet	Percent	Cost per LF	Cost
1	1	4	0	0	0.0%		
2	1	6	1,021	6,126	0.8%	\$80	\$81,680
3	1	8	46,487	371,896	45.8%	80	3,718,960
4	1	10	8,469	84,690	10.4%	90	762,210
5	2	12	10,196	122,352	15.1%	100	1,019,600
6	2	15	5,106	76,590	9.4%	110	561,660
7	2	16	0	0	0.0%		0
8	2	18	1,695	30,510	3.8%	125	211,875
9	2	21	4,135	86,835	10.7%	140	578,900
10	2	24	0	0	0.0%		0
11	2	30	616	18,480	2.3%	1,650	1,016,400
12	2	30	495	14,850	1.8%	170	84,150
13	Total		78,220	812,329	100.0%		\$8,035,435
14	Local Collector - 10-inch and less			462,712	57.0%		\$4,562,850
15	System Collection and Interceptors - Greater than 10-inch			349,617	43.0%		3,472,585
16	Total			812,329	100.0%		\$8,035,435

Town of Mead
 2019 Rate and PIF Study
 WASTEWATER – NPV of BORROWING COST

FILE: Town of Mead PIF Calculator
 SCHEDULE: WASTEWATER NPV
 DATE: 10/31/2019
 RANGE: WW_NPV_E

Wastewater Bond Issues	Original Principal	Remaining Principal	NPV of Interest	% Growth	Growth-Related NPV of Interest
CWRPDA W07A196	\$2,985,000	\$1,764,523	\$528,359	67%	\$354,000
Total	\$2,985,000	\$1,764,523	\$528,359		\$354,000

Bond Amortization Schedule

CWRPDA W07A196

Principal Amount **\$2,985,000**
 Year of Issue **1997**

NPV of
 Interest Payments
\$528,359

Fiscal Year	EOY Principal Balance	Principal	Interest	Total Payment	Interest rate	NPV of Interest
2019	\$1,695,301	\$69,223	\$60,932	\$130,155	3.49%	\$60,932
2020	1,623,641	71,660	58,495	130,155	3.49%	56,522
2021	1,549,459	74,182	55,972	130,155	3.49%	52,261
2022	1,472,665	76,794	53,361	130,155	3.49%	48,142
2023	1,393,168	79,497	50,657	130,155	3.49%	44,162
2024	1,310,872	82,296	47,858	130,155	3.49%	40,315
2025	1,224,192	86,680	43,475	130,155	3.49%	35,387
2026	1,135,999	88,192	41,962	130,155	3.49%	33,004
2027	1,044,702	91,297	38,857	130,155	3.49%	29,532
2028	950,191	94,511	35,643	130,155	3.49%	26,175
2029	852,370	97,820	32,334	130,155	3.49%	22,944
2030	751,087	101,283	28,872	130,155	3.49%	19,797
2031	646,239	104,848	25,306	130,155	3.49%	16,767
2032	537,699	108,540	21,615	130,155	3.49%	13,838
2033	425,339	112,361	17,794	130,155	3.49%	11,008
2034	309,022	116,316	13,838	130,155	3.49%	8,272
2035	188,611	120,411	9,743	130,155	3.49%	5,628
2036	63,961	124,650	5,504	130,155	3.49%	3,072
2037	(0)	63,961	1,116	65,077	3.49%	602
Total		\$1,764,523		\$2,407,859		\$528,359

Town of Mead
 2019 Rate and PIF Study
 WASTEWATER CIP - 2017 THROUGH 2021 - 2017 \$'s

DATE:

FILE: PIF Calculator
 SCHEDULE: TF Calc
 10/14/19
 S_CIP
 RANGE:

Line No.	DESCRIPTION	FUNCTION	Projected											Growth Percent	2019 -2029	2019 -2029
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Allocation	Total	Growth Total
1	WW Master Plan Updates and GIS		\$0	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	0%	\$50,000	\$0
2	Capital Repairs & Replacement at WWTF		30,000	25,000	175,000	25,000	50,000	100,000	75,000	50,000	40,000	50,000	150,000	0%	770,000	0
3	Cured in Place Pipe		100,000											0%	100,000	0
4	Sewer Line Replacement between Welker & Dillingham			120,000										0%	120,000	0
5	Fire Alarm & Response System at the WWTF		13,000	15,000										0%	28,000	0
6	VCP Sanitary Sewer Rehab - Old Town Rehab		50,000	125,000	100,000	200,000	250,000	100,000	125,000					0%	950,000	0
7	PVC Sanitary Sewer & Manhole Rehab - Old Town Area					50,000		50,000		50,000	50,000			0%	200,000	0
8	PVC Sanitary Sewer and Manhole Rehab Newer Sections of Town							50,000	75,000	150,000	200,000	200,000		0%	675,000	0
9	North Creek LS Elimination & Sanitary Sewer Extension		284,077											0%	284,077	0
10	Dola N. Creek (Grant)		284,077											0%	284,077	0
11	Dillingham Construction		112,000											0%	112,000	0
12	Public Works Building				25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	67%	225,000	150,750
13	Total CIP		\$873,154	\$290,000	\$305,000	\$305,000	\$330,000	\$330,000	\$305,000	\$280,000	\$320,000	\$280,000	\$180,000		\$3,798,154	\$150,750

CLIENT: Town of Mead
PROJECT: 2019 Rate and PIF Study
FILE: Town of Mead PIF Calculator

ENR Values

YEAR	ENR 20-CITIES INDEX (Denver CCI) Construction Cost Index History - Annual Average
1960	756
1961	777
1962	800
1963	828
1964	859
1965	880
1966	923
1967	991
1968	1,057
1969	1,127
1970	1,199
1971	1,352
1972	1,475
1973	1,556
1974	1,670
1975	1,886
1976	2,124
1977	2,353
1978	2,565
1979	2,739
1980	2,947
1981	3,201
1982	3,446
1983	3,690
1984	3,106
1985	3,316
1986	3,503
1987	3,507
1988	3,538
1989	3,642
1990	3,668
1991	3,715
1992	3,834
1993	4,012
1994	4,009
1995	4,088
1996	4,334
1997	4,329
1998	4,470
1999	4,498
2000	4,767
2001	4,663
2002	4,744
2003	5,015
2004	5,450
2005	5,480
2006	5,612
2007	5,748
2008	5,865
2009	5,929
2010	6,401
2011	6,759
2012	6,982
2013	7,015
2014	7,036
2015	7,075
2016	7,130
2017	7,346
2018	7,461

**TOWN OF MEAD, COLORADO
ORDINANCE NO. 916**

**AN ORDINANCE OF THE TOWN OF MEAD, COLORADO, AMENDING
SECTIONS 13-1-80 AND 13-1-210 OF THE *MEAD MUNICIPAL CODE*
REGARDING ADJUSTMENTS TO THE SEWER PLANT INVESTMENT
FEES AND SEWER USER FEES**

WHEREAS, Sec. 13-1-80 of the *Mead Municipal Code* establishes the sewer plant investment fees and tap fees charged to residential and nonresidential properties; and

WHEREAS, Sec. 13-1-210 of the *Mead Municipal Code* establishes the sewer user fees; and

WHEREAS, by adoption of Resolution No. XX-R-2019, the Board of Trustees has accepted the Wastewater Rate and Fee Study Report dated October 30, 2019 completed on behalf of the Town of Mead by Raftelis Financial Consultants, Inc. (the “Rate Study Report”); and

WHEREAS, the Rate Study Report recommends certain changes to the sewer plant investment fees and sewer user fees; and

WHEREAS, the Board of Trustees desires to implement the fee adjustments recommended in the Rate Study Report.

NOW THEREFORE, BE IT ORDAINED by the Board of Trustees of the Town of Mead, Weld County, Colorado, that:

Section 1. Recitals Incorporated. The recitals contained above are incorporated herein by reference and are adopted as findings and determinations of the Board of Trustees.

Section 2. Sewer Tap and Plant Investment Fees - Amended. Subsection (c) of Sec. 13-1-80 of the *Mead Municipal Code* is hereby amended to read in full as follows, with additions shown in bold and underlined and deletions shown in strikethrough:

(c) The sewer plant investment fee for inside-Town connections for single-family, two-family and multi-family dwellings, and for all commercial and industrial facilities shall be based upon the size of the water tap serving the premises and shall be as follows:

Tap Diameter	Plant Investment Fee <u>Effective January 1,</u> <u>2020</u>
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5/8 inch	\$4,000.00 <u>\$5,480.00</u>
3/4 inch	5,700.00 <u>9,113.00</u>
1 inch	10,200.00 <u>14,613.00</u>
1½ inch	23,000.00 <u>18,267.00</u>
2 inch	40,500.00 <u>58,453.00</u>
3 inch	91,300.00 <u>116,907.00</u>

Section 3. Sewer User Fees - Amended. Subsection (a) of Sec. 13-1-210 of the *Mead Municipal Code* is hereby amended to read in full as follows, with additions shown in bold and underlined and deletions shown in strikethrough:

Sec. 13-1-210. - Sewer user fees.

(a) Sewer user fees established. There shall be and are hereby established fees (also known as rates or charges) for the use of and for the service supplied by the wastewater facilities (also known as the sewer system) of the Town effective ~~March 1, 2018~~ **March 1, 2020**. In addition, the fees may be recomputed on the basis of a financial or engineering study from time to time, and shall provide adequate funds for the operation, maintenance, and repair of the facilities, the cost of any bonded debt of such facilities, and such other costs as may be deemed necessary by the Town Board.

These fees are hereby found, determined, and declared to be equitable and just.

Effective March 1, 2018 2018 2020 ¹	2018 2020 ¹	
	In-Town	Outside-Town ²
Monthly Service Charge		
Residential		
Base Charge - Low User - 0- 2,000 gal ³	\$36.55 <u>\$38.74</u>	\$72.10 <u>\$77.48</u>
Base Charge - Medium User - 2,001- 4,000 gal (base fee) ⁴	\$40.20 <u>\$42.61</u>	\$80.40 <u>\$85.22</u>
Monthly Service Charge		
Nonresidential - includes 4,000 gal (base fee) ⁴		
Commercial - Low	\$40.20 <u>\$42.61</u>	\$80.40 <u>\$85.22</u>
Commercial - Medium	\$48.24 <u>\$51.13</u>	\$96.48 <u>\$102.26</u>
Commercial - High	\$56.28 <u>\$59.66</u>	\$112.56 <u>\$119.32</u>
Schools	\$48.24 <u>\$51.13</u>	\$96.48 <u>\$102.26</u>

Volume charge - for each additional 1,000 gal over the 4,000 gal base used during the winter base period.		
Residential		
Single-Family	\$10.95 <u>\$11.61</u>	\$21.90 <u>\$23.22</u>
Multi-Family	\$10.95 <u>\$11.61</u>	\$21.90 <u>\$23.22</u>
Non-Residential		
Commercial - Low ⁵	\$10.95 <u>\$11.61</u>	\$21.90 <u>\$23.22</u>
Commercial - Medium ⁶	\$13.14 <u>\$13.93</u>	\$26.28 <u>\$27.86</u>
Commercial - High ^{6, 7}	\$15.33 <u>\$16.25</u>	\$30.66 <u>\$32.50</u>
Schools ⁸	\$13.14 <u>\$13.93</u>	\$26.28 <u>\$27.86</u>
Industrial/Special Uses (Strength Surcharge) ⁹	Varies ₉	Varies ₉

¹ This means beginning with the usage for that month. Because billing is done in arrears of usage, the new rate will be reflected on bills generated on April 1.

² Outside Rate is double the In-Town Rate.

³ Base charge includes the first two thousand (2,000) gallons.

⁴ Base charge includes the first four thousand (4,000) gallons.

⁵ Commercial with ten (10) or fewer employees.

⁶ Commercial with more than ten (10) employees and fewer than forty-five (45) employees, including all restaurants and automobile repair facilities. Medium strength effluent charged twenty percent (20%) more than Residential.

⁷ Commercial with forty-five (45) or more employees and those determined to require sampling and flow metering manholes. High strength effluent charged forty percent (40%) more than Residential

⁸ Schools charged twenty percent (20%) more than Residential.

⁹ Strength Surcharge for excessive BOD, COD, and TSS as established by Schedule C, Section 13-1-270.

Section 4. Effective Date. This ordinance shall be published and become effective as provided by law.

Section 5. Severability. If any part, section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such invalidity shall not affect the validity of the remaining sections of the Ordinance. The Board of Trustees hereby declares that it would have passed the ordinance including each part, section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more part, section, subsection, sentence, clause or phrase is declared invalid.

Section 6. Repealer. All ordinances or resolutions, or parts thereof, in conflict with this ordinance are hereby repealed, provided that such repealer shall not repeal the repealer clauses of such ordinance nor revive any ordinance thereby.

Section 7. Certification. The Town Clerk shall certify to the passage of this ordinance and make not less than one copy of the adopted Code available for inspection by the public during regular business hours.

INTRODUCED, READ, PASSED, AND ADOPTED THIS 12TH DAY OF NOVEMBER, 2019.

ATTEST:

TOWN OF MEAD:

By: _____
Mary E. Strutt, MMC, Town Clerk

By: _____
Colleen G. Whitlow, Mayor