

LINCOLN AD HOC WATER COMMITTEE

APPROVED

MEETING MINUTES

DECEMBER 17, 2020 – 3:00PM

LINCOLN TOWN HALL - 148 MAIN STREET, LINCOLN, NH

Water Committee Members Present via Zoom: Selectman, OJ Robinson, John Hettinger, Dennis Ducharme, Jay Scambio, Town Engineer, Ray Korber, Ken Mack, and Cynthia Lloyd

Town Staff Present via Zoom: Town Manager Burbank, Fire Chief Ron Beard, Selectman Jayne Ludwig, and Selectman Tamra Ham

I. CALL TO ORDER

Chairman Robinson called the meeting to order at 3:00 p.m.

II. REVIEW AND APPROVAL- MINUTES OF THE PREVIOUS MEETING

Chairman Robinson postponed the approval of the meeting minutes until later on in the meeting.

MOTION: "To approve the meeting minutes of October 1, 2020 as presented."

Motion: Ron Beard

Second: Nate Hadaway

Motion carries.

III. RAFTELIS WATER AND SEWER RATE OPTIONS *DISCUSSION*

Chairman Robinson reviewed Raftelis's draft water and sewer rate options memorandum (*see attached*) with the committee. Robinson explained that four (4) options were presented: (1) quarterly fixed charge, recovering 20% of revenues, with no usage allowance; volumetric rate per Kgal, (2) quarterly fixed charge, recovering 20% of revenues, with 9,000 gallons per quarter usage allowance; volumetric rate per Kgal, (3) quarterly fixed charge, recovering 50% of revenues, with no usage allowance; volumetric rate per Kgal, and, (4) quarterly fixed charge, recovering 50% of revenues, with 9,000 gallons per quarter usage allowance; volumetric rate per Kgal.

Dennis Ducharme questioned the quarterly fixed allowance and asked if the size of the meter was relevant? Robinson thought this was a great question and referred to the water and sewer rate structure presented in Raftelis' original memo:

FY 2021		
<i>Projected</i>		
Water Rates		
<u>Fixed Charges (Quarterly)</u>		
5/8"	\$	11.19
3/4"		16.79
1"		27.98
1.5"		55.97
2"		89.55
3"		167.90
4"		279.83
6"		559.67
<u>Volumetric Charges (per Kgal)</u>		
Tier 1	\$	3.36

There was a brief discussion on the various fixed charges and meter sizes, and Town Engineer, Ray Korber explained that these types of profiles are typically created based on the type of community that it is intended for. Dennis Ducharme provided comments on his experience with several of his properties that he owns in Massachusetts.

Jay Scambio commented that he feels that the options #2 and #4 with the usage allowance and volumetric

rates would work best for the town's full-time residents, and asked for clarification on the revenue recovery aspect of it. Ray Korber explained that the way this is structured is that the *fixed charge* determines the amount of revenue that the town needs to capture in order to provide financial sustainability of the operation. Robinson agreed with Scambio that the two options (#2 & #4) with the usage allowance would be most beneficial and acceptable to the voters, and feels that option #4 puts a higher percentage of the burden onto the seasonal homeowners. Ray Korber responded that based on recent discussions, both he and Dave Fox (Raftelis) agree that option #2 would be the most beneficial to the town. Korber explained that rate structures should be evaluated annually (for the first 3-years), and typically in year two, the fixed rate can be adjusted accordingly after a year of data collection.

Jay Scambio remarked that option #4 appears to be the best option at this time. Ken Mack agreed with Scambio and noted that he wouldn't want to see the rates have to be increased after only one year. Korber noted that the key driver for doing a rate structure in the first place is to implement meters to promote water conservation, therefore, he recommended option #2. Korber feels that option #2 will achieve two (2) of the town's main goals: (1) drive water conservation so that the town can get the most out of its existing infrastructure that is already in the ground while minimizing capital expenditures going forward, and, (2) keeping the costs off of the year-round residents.

There was a brief discussion about the 9,000-gallon quarterly usage allowance, and water meter and pipe sizes. Cindy Lloyd questioned how aggregate residential units (condos and multi-unit dwellings) would be affected assuming that they have larger pipe sizes feeding into these units, and questioned how this would be balanced. Lloyd feels that this needs to be a consideration during this process. Ducharme agreed with Lloyd's concerns and cited examples from his properties in town. Ducharme feels that the usage allowance must correlate with the pipe size that is going into the building, and explained that a 16-unit dwelling would have a different size pipe than a 30-unit dwelling (typically pre-determined when the building is being built). Korber explained that the rate is based on the domestic water service that comes into the home or building, and fire lines for sprinkler systems are typically a separate line (separate billing).

Ducharme questioned the goal of today's meeting and suggested that the committee take more time to thoroughly review the Water and Sewer Rate Options document that was recently distributed, as he expects to have additional questions. Robinson responded that the committee does *not* have to decide at this time on which option they prefer; however, he does feel that the committee as a whole need to agree (sooner than later) as to whether or not to recommend to the Board of Selectmen to include a bond issue for the March Town Meeting Warrant. Robinson noted that one of the original intents for the committee was for them to look at the water meter/rate structure system as a whole.

Robinson recommended that the Water Committee meet again the first week after New Years to take another look at the rate structure. Robinson also suggested reaching out to Dave Fox (Raftelis) for a further breakdown on either option #2 or #4 (or any other option presented). Ducharme agreed, and noted that he would also like to look at the various rate structures for some of his other properties, and possibly offer other solutions, as well as additional questions that he may have. Ray Korber commented that this point, the Water Committee will have to present more specific questions to Fox that they may have regarding the rate structure because Fox has already provided a myriad of numbers and scenarios, and Korber did not recommend that they spend any more money on speculative numbers. Korber went on to explain that he feels that the information that has been developed to date, should be sufficient enough to answer the following questions: (1) "*is this affordable to our community?*" (2) "*is moving forward with meters and financing the towns water and sewer operations off of a rate structure versus off of the tax base the better way moving forward?*" Korber explained that what he is hearing from the committee is that they are looking for rates that are fair, equitable, and transparent, which will ultimately drive conservation so that the town can minimize capital expenditures going forward (e.g., water storage tanks). Korber feels that

the Water Committee now has enough information to make a decision and recommendation to the Board of Selectmen as to whether or not water meters, and financing the water and sewer operations with a rate structure is the way they want to go.

Cindy Lloyd commented that she is representing the aggregate condominium owners, and feels that if they are going to move forward and give a recommendation to the Board of Selectmen, they need to consider metering to the individual residential condo units that exist within the aggregate condos. Lloyd feels it will be difficult for the Condo Associations to drive the conservation aspect of water meters because it is not felt directly by the individual user. Lloyd feels it will be more effective if each meter goes directly to the individual unit. Korber responded that he could agree with this if meters could be installed directly into each of the units (from a conservation standpoint) however, this adds complexity to how the program is administered (individual billing versus one bill to condo association, future meter replacement). Robinson agreed that Cindy makes a great point, and feels if the individual units have meters, they will be more cognizant of their water usage. Korber responded that they will have to weigh the marginal benefits against the costs of installing individual meters into each unit, and determine what is best for the community. Selectman Ham commented that they must treat all condo units the same, and cannot only meter the "easy units." Robinson feels that this issue will clearly need to be discussed further, and is in favor of anything that is accessible and can be easily installed. Robinson acknowledged that there are some structures that will be impossible, and noted that if the condo unit is ready for a meter (a single line into a single unit) they should install it, and those units that are more complicated (shared piping) the town will go in after the complex has re-piped their units (this will be their responsibility). Cindy Lloyd was in agreement and felt this made sense.

IV. WARRANT ARTICLE FOR WATER METERS *Discussion*

Chairman Robinson asked the Water Committee if they were prepared to make a recommendation to the Board of Selectmen to move forward with a bond issue for water meters in 2021. Cindy Lloyd asked if this bond would include the additional metering for the residential units. Robinson responded that the pre-installation survey that Ray Korber had mentioned would be a part of the process to determine who was/was not prepared for the plumbing.

The following committee members agreed to make a recommendation to the Board of Selectmen to move forward with a bond issue for water meters: Dennis Ducharme; Cindy Lloyd, Ken Mack, John Hettinger, Jay Scambio, DPW Director Nate Hadaway, Town Manager Burbank, Fire Chief Ron Beard, Selectman Tamra Ham. Robinson noted that now that they have this recommendation, the Board of Selectmen will discuss this on Monday night (12/21/20), and it will then go to the Budget Committee.

Robinson suggested the Water Committee meet on Thursday, January 7th, 2021 at 3pm.

V. ADJOURNMENT

With no further business to attend to, the Committee made the following motion.

MOTION: "To adjourn."

Motion: OJ Robinson

Second: Paul Beaudin

Motion Carries.

The meeting adjourned at 4:30 p.m.

Respectfully Submitted,
Jane Leslie

Approval Date 1 / 7 / 2021

Board of Selectman, Chairman OJ Robinson



Town of Lincoln, NH

Water and Sewer Rate Options

Draft and For Consideration Purposes Only

Assumptions

- 1) Rates are designed to be sufficient for a 5-year period, but should be analyzed annually to ensure sufficiency.
- 2) Water capital improvements are approximately \$330,000 annually.
- 3) Sewer capital improvements are approximately \$1.12 million annually, including the financing of a WWTP upgrade.
- 4) Given that recent detailed customer consumption data is unavailable, assumptions had to be made with regard to the distribution of consumption, and should be revisited once actual consumption records are available.

Rate Option Descriptions

- Option 1:** Quarterly fixed charge, recovering 20% of revenues, with no usage allowance; volumetric rate per Kgal
- Option 2:** Quarterly fixed charge, recovering 20% of revenues, with 9,000 gallons per quarter usage allowance; volumetric rate per Kgal
- Option 3:** Quarterly fixed charge, recovering 50% of revenues, with no usage allowance; volumetric rate per Kgal
- Option 4:** Quarterly fixed charge, recovering 50% of revenues, with 9,000 gallons per quarter usage allowance; volumetric rate per Kgal

			<u>Option 1</u>		<u>Option 2</u>		<u>Option 3</u>		<u>Option 4</u>
<u>Water Rates</u>									
Fixed Charge (quarterly)	\$		10.27	\$	10.27	\$	25.67	\$	25.67
Usage Allowance (gallons, quarterly)			-		9,000		-		9,000
Volumetric Charge (per Kgal)	\$		3.08	\$	3.85	\$	1.92	\$	2.40
<u>Sewer Rates</u>									
Fixed Charge (quarterly)	\$		9.03	\$	9.03	\$	22.57	\$	22.57
Usage Allowance (quarterly)			-		9,000		-		9,000
Volumetric Charge (per Kgal)	\$		2.71	\$	3.38	\$	1.69	\$	2.11
<u>Combined Annual Customer Impacts</u>									
5 Kgals	} Seasonal	\$	106.10	\$	77.18	\$	211.02	\$	192.95
10 Kgals		\$	135.02	\$	84.41	\$	229.10	\$	200.18
15 Kgals		\$	163.94	\$	120.56	\$	247.17	\$	236.33
25 Kgals		\$	221.78	\$	192.86	\$	283.32	\$	308.63
50 Kgals		\$	366.39	\$	373.62	\$	373.70	\$	489.39
25 Kgals	} Year-round	\$	221.78	\$	77.18	\$	283.32	\$	192.95
50 Kgals		\$	366.39	\$	178.40	\$	373.70	\$	256.21
75 Kgals		\$	511.00	\$	359.16	\$	464.08	\$	369.19
100 Kgals		\$	655.61	\$	539.92	\$	554.46	\$	482.16
1000 Kgals		\$	5,861.45	\$	7,047.22	\$	3,808.11	\$	4,549.22
10000 Kgals		\$	57,919.88	\$	72,120.26	\$	36,344.63	\$	45,219.87

Customer Notes

- 1) Seasonal Customers are assumed to be present for only one billing cycle.
- 2) Typical Year-round Residential customers use between 50 and 75 Kgals per year.

MEMO

To: Lincoln Water and Sewer Commissioners
From: Dave Fox, Manager, Raftelis
Date: May 8, 2020
Re: Water and Sewer Rate Study – Preliminary Results

Introduction

Raftelis Financial Consultants, Inc. (Raftelis) was engaged by the Town of Lincoln, New Hampshire (Town or Lincoln) to conduct a Water and Sewer Rate Study in order to assess the financial situation of the Town's Water and Sewer utilities, and to develop water and sewer rates and subsequent customer impacts of changing the Town's existing methodology for billing water and sewer. This memo will serve as a project update as to the work that we have completed, assumptions made, and the analyses that we have completed thus far. Raftelis has developed a Rate and Financial Model that projects revenue and revenue requirements to fiscal year (FY) 2050, as well as an affordability dashboard that calculates the financial burden of customers who fall into the lowest quintile, or the bottom 20% of the range of household incomes in the Town, and median household income brackets.

Data Collected and Model Assumptions

When designing new water and sewer rates for the Town, Raftelis received relevant information that aided in calculating new rates, which included revenue requirements, Capital Improvement Plans (CIP), and the number of accounts in the Town. Our findings and calculations, as well as assumptions made to complete the calculations, are outlined below.

Revenue Requirements

Raftelis received information regarding the annual revenue requirements for the Town, starting with FY 2016 to FY 2019. To project the future revenue requirements of the Town, Raftelis assumed a 3% increase per year for total revenue requirements, which is consistent with the national standard of inflation.

The CIP for the Town consists of several For CIP and financing, it was assumed that the repayment period for all proposed debts would be a 20-year period, with a 2-4% interest rate, depending on the source of the loan to fund capital projects. Revenue-backed loans for all water- and sewer-related capital projects were assumed to take on a 4% interest rate, while state-revolving fund loans for water and sewer capital projects were assumed to take on a 2% interest rate.

Existing debt service payments were logged into the model based on the debt service information received by Raftelis from the Town. We assumed the debt schedule would be paid in full each year from FY 2020 and beyond based on each issuances repayment schedule.

After establishing these assumptions, Raftelis forecasted the revenue requirements for each year until FY 2050. Although our model is forecasted 30 years, we focused our attention on the first five. The next five projected fiscal years of estimated revenue requirements can be seen in Table 1.

Table 1. Forecasted Revenue Requirements, FY 2021 - FY 2025

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
	Projected	Projected	Projected	Projected	Projected
Water Cashflow					
<u>Revenue Requirements</u>					
Operating Expenses	\$ 382,704	\$ 394,185	\$ 419,510	\$ 418,191	\$ 430,736
Existing Debt Service	223,220	125,638	104,900	-	-
Proposed Debt Service	-	36,694	36,694	36,694	36,694
Cash-Funded (PAYGO)	200,000	216,000	216,000	212,000	206,000
<i>Subtotal: Water Revenue Requirements</i>	<i>\$ 805,924</i>	<i>\$ 772,516</i>	<i>\$ 777,104</i>	<i>\$ 666,885</i>	<i>\$ 673,430</i>
Sewer Cashflow					
<u>Revenue Requirements</u>					
Operating Expenses	\$ 265,490	\$ 273,455	\$ 281,659	\$ 290,108	\$ 298,812
Existing Debt Service	-	-	-	-	-
Proposed Debt Service	-	36,694	36,694	36,694	36,694
Cash-Funded (PAYGO)	285,000	285,000	135,000	135,000	120,000
<i>Subtotal: Sewer Revenue Requirements</i>	<i>\$ 550,490</i>	<i>\$ 595,149</i>	<i>\$ 453,353</i>	<i>\$ 461,802</i>	<i>\$ 455,506</i>
Total: Water & Sewer Revenue Requirements	\$ 1,356,414	\$ 1,367,665	\$ 1,230,457	\$ 1,128,687	\$ 1,128,936

Revenues

Raftelis used the projected revenue requirements to construct water and sewer rates to fully recover the projected revenue requirement from FY 2021 for both water and sewer and apply these rates to future fiscal years. To calculate the financial potential of generating revenues from water and sewer rates, we made several assumptions regarding water consumption, the number of water accounts, and the structure of both volumetric and fixed charges for water and sewer. Fire charges were not included in this study, as it was assumed that public and private fire charges would not be used to recover the projected revenue requirements.

The first assumption made was that the billing cycles for the Town would be on a quarterly basis; customers would be billed every three months for their water and sewer consumption. Since the Town has not read meters for ten years, making previous consumption data relatively unreliable, we assumed that each year, the Town of Lincoln would consume 192,136 thousand gallons (Kgals), or 192,136,000 gallons of water. This number was contrived from a recent pumping study performed for the Town. The study looked at seasonal water production, which yielded the water consumption assumption of 192,136 Kgals, as the study served as a reasonable estimate for customer water consumption. We also assumed that there were approximately 3600 active water and sewer accounts. Each individual customer account represented a water and sewer account.

When designing the water and sewer rates for the Town, we assumed both fixed and volumetric charges for water and sewer for all utility customers. Fixed charges are flat charges that are the same every quarter for a customer and are to help fund the costs associated with meter repairs, replacements, maintenance, and billing. Volumetric charges are charges based on water consumption. We made several assumptions when establishing water and sewer rates for the Town, which include:

- Billed sewer consumption would be based on billed water consumption. This assumption is in line with many billing practices of other municipalities: other municipalities bill sewer consumption as a portion of or equal to metered water consumption.
- 20% of revenues generated from the established rates would come from fixed charges, while the remaining 80% of revenues would come from volumetric charges. This is for revenue stability purposes, as the portion of revenue coming from fixed charges will be consistent and steady each year, while volumetric charge revenues are much more volatile, as they are based on customer consumption behaviors;
- Fixed charges would be constructed so that they follow the American Water Works Association Industry Standards. These standards are ratios that scale the fixed charge prices based on the size of the meter; this means that, the larger the meter size, the higher the fixed charge would be for that customer.

Raftelis has provided within its Financial Model a tool that allows the Town to change these assumptions and recalculate new water and sewer rates based on the applied changes to the assumptions made above. Water and sewer calculated fixed and volumetric charges are shown in Table 2, which is split by whether the charge is for water or for sewer.

Table 2. Calculated Water and Sewer Rates to go into Effect FY 2021

FY 2021	
<i>Projected</i>	
Water Rates	
<u>Fixed Charges (Quarterly)</u>	
5/8"	\$ 11.19
3/4"	16.79
1"	27.98
1.5"	55.97
2"	89.55
3"	167.90
4"	279.83
6"	559.67
<u>Volumetric Charges (per Kgal)</u>	
Tier 1	\$ 3.36

	FY 2021
	<i>Projected</i>
Sewer Rates	
<u>Fixed Charges (Quarterly)</u>	
5/8"	\$ 7.65
3/4"	11.47
1"	19.11
1.5"	38.23
2"	61.17
3"	114.69
4"	191.14
6"	382.28
<u>Volumetric Charges (per Kgal)</u>	\$ 2.29

As of now, Raftelis has not calculated any charges for public and private fire protection, meaning all revenue requirements will be recovered with the calculated water and sewer rates seen in Table 2.

Customer Impacts

To ensure that the calculated water and sewer rates do not significantly financially impact the customers of Lincoln, Raftelis conducted a customer impact survey using standard customer consumption information. We created five categories of customers to compare their existing utility billing method, which is based on property values, to the new billing method, which is using consumption and meter size information. The five categories included:

- A Household Family of 2, with an annual consumption amount of 60 Kgals, and assessed property value of \$203,100.00.
- A Household Family of 4, with an annual consumption amount of 90 Kgals, and assessed property value of \$203,100.00.
- A Motel, with an annual consumption of 1,000 Kgals, and assessed property value of \$1,701,800.00
- A Restaurant, with an annual consumption of 600 Kgals and assessed property value of \$2,575,500.00.
- The Loon property, with an annual consumption of 10,000 Kgals and assessed property value of \$24,604,900.00.

These 5 customer types were used to calculate utility bills under the current method of billing and compare the total annual bill to the new method of using water and sewer consumption. Figures 1-5 compare the annual utility bills based for each customer category using the existing and new billing methods. The "proposed" annual bills use the new fixed and volumetric water and sewer charges found in Table 2.

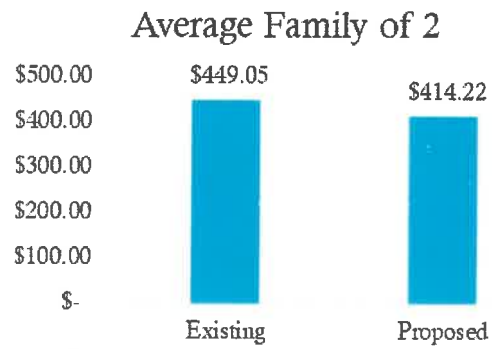
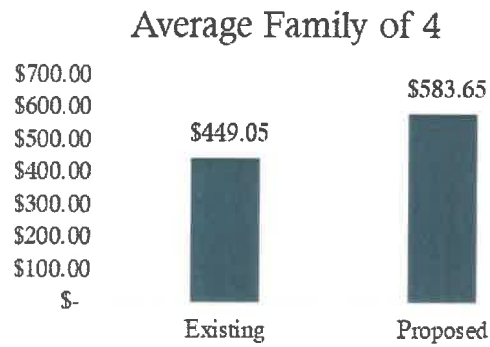
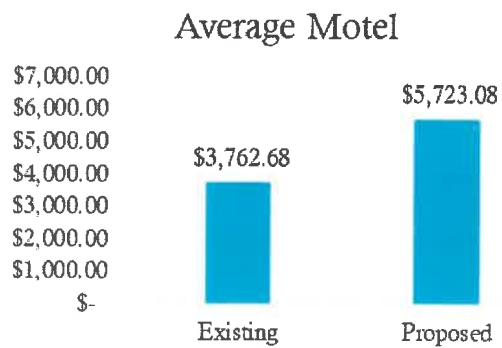
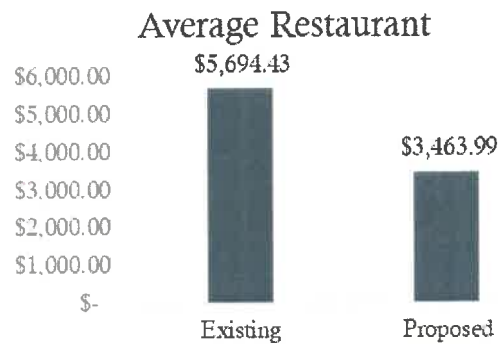
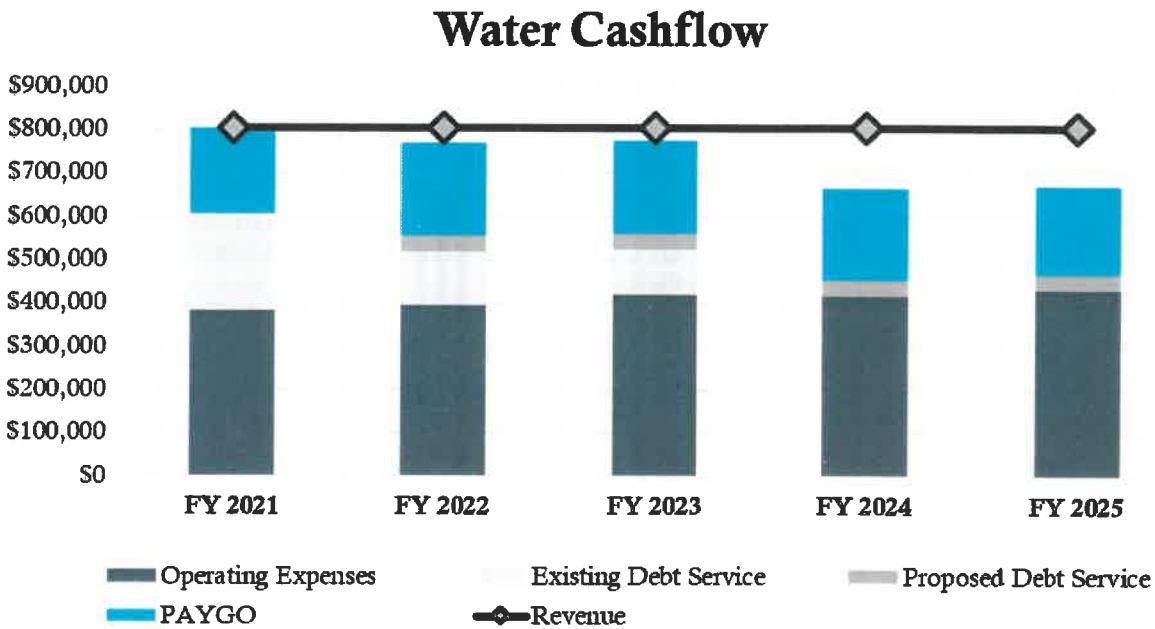
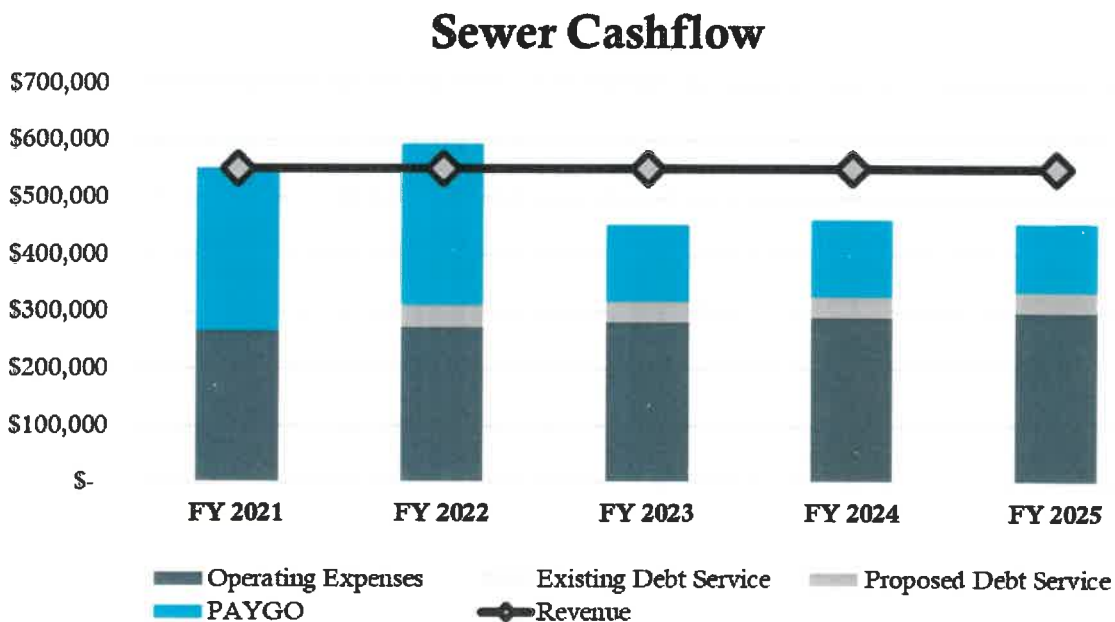
Figure 1. Bill Comparison of Average Family of 2*Figure 2. Bill Comparison for Average Family of 4**Figure 3. Bill Comparison for Average Motel*

Figure 4. Bill Comparison for Average Restaurant*Figure 5. Bill Comparison for Average Loon*

As the customer impacts show, the bills for the customer categories created, on average, increase by 8%. While this may seem problematic at first, it is important to observe the customer categories that have an increased utility bill under the new billing structure are customers that already use large quantities of water a year in comparison to their property values; loons, households of four, and motels. Although this change in billing methodology would have adverse impacts on some properties, it could be argued that this shift is just remedying a current inequity in the Town's cost structure.

Financial Analysis

In addition to the customer impacts analysis, Raftelis also conducted a high-level financial analysis to see the five-year impacts on switching to a water and sewer consumption billing structure. Figures 6 and 7 show the cashflow of the water and sewer financial aspects of the utility.

Figure 6. Water Cashflow Under Consumption-Based Billing Structure*Figure 7. Sewer Cashflow Under Consumption-Based Billing Structure*

The figures show that, if the Town were to consume the same amount of water each year, and not change nor increase the new billing rate structure, the town would meet and exceed the revenue requirements from FY 2023 onward. In addition to these figures, Raftelis has constructed a financial model tool that allows

for the Town to increase or decrease water and sewer rates based on the forecasted revenue requirements, as well as the number years that display on the charts.

Affordability Analysis

After the financial analysis was completed, Raftelis also conducted an affordability analysis to see the impacts of the new water and sewer billing structure on low-income and median-income residential families in Lincoln. Using Census information, Raftelis found that, based on a 20-kgal per quarter consumption amount, a household making approximately \$43,000 would only use 1.2% of their total annual salary to pay their annual utility bill. Households that make approximately \$22,000 would use only 2.3% of their total annual income to pay their utility bills for the entire year. Both percentages are considered low, and thus, Raftelis concluded that the new water and sewer rates would not provide a financial burden on both median- and low-income households within the Town.

Conclusion

Raftelis has calculated new water and sewer fixed and volumetric charges for the Town of Lincoln based on the projected revenue requirements for FY 2021 and onward. The calculated water and sewer rates can be found in Table 2. Switching to a billing structure that revolves around metered consumption has several benefits, including:

- Conservation promotion. Billing customers based on their water consumption will help to incentivize customers to reduce their water use as the cost of using water from the utility for each customer will be based on the amount of water they consume in each quarter.
- Changing revenue requirements. Revenue requirements differ between whether they are coming from water or sewer. Having a billing system in place that separates revenue generated from water use and sewer use allows for the utility to more easily adjust their rates to conform to upcoming utility projects or expenses that may fall into a water or sewer category.
- Customer equity. Billing customers based on their water consumption, rather than their property value, provides for a more equitable cost structure. By billing customers based on the demand they're placing on the system, rather than on property value which has no direct correlation with demand, customers will receive bills which are much more equitable and explainable.
- Better ability to perform long-term financial planning. By generating each utilities' revenues from user charges, rather than taxes, it will be easier to do more proactive and long-term financial planning to ensure financial sustainability of the funds.
- Apply for grants and low-interest loans. Under the current billing system, Lincoln is unable to apply for utility-related grants and loans, as the billing structure is based on property values and not consumption. By moving to a billing system based on consumption, Lincoln can additionally apply for loans and grants to fund future capital projects.