



## Final Report

Northfield, Minnesota

Water, Sanitary Sewer, Storm Water and Garbage Rate Study

October 4, 2018

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## LETTER OF TRANSMITTAL

October 4, 2018

Mr. Ben Martig, City Administrator  
Mr. David Bennett, Public Works Director  
Ms. Brenda Angelstad, Finance Director  
City of Northfield  
801 Washington Street  
Northfield, Minnesota 55057

**Re: Water, Sanitary Sewer, Storm Water and Garbage Rate Study**

Dear Ben, David & Brenda:

Springsted Incorporated was hired to perform a rate study for the City's Water, Sanitary Sewer, Storm Water and Garbage Utilities. This Study includes a review of the past performance of the Utilities, determines the adequacy of revenues in each Utility, and provides rate recommendations which reflect recent cost experience as well as anticipated capital improvement costs for the Funds.

We appreciate the opportunity to conduct this Water, Sanitary Sewer, Storm Water, and Garbage Rate Study for the City of Northfield.

Respectfully submitted,

*Patty Kettles*

Patty Kettles, Vice President  
Consultant

*Doug Green*

Doug Green, Vice President  
Client Representative



## 1. Introduction

The purpose of this report is to review and analyze Northfield's Water Fund, Sanitary Sewer Fund, Stormwater Fund and Garbage Fund to determine the appropriate rate structures and other revenue sources needed for operations and the financing of capital improvements. The rate structure and other revenue in each Fund must provide sufficient revenue to cover anticipated operating and maintenance expenses, debt service including principal and interest, capital improvements and replacements, and to maintain adequate cash reserves. The total revenue collected should reflect not only recent cost experience, but should recognize anticipated future costs during the period for which rates are being established.

This report includes a review of the City's Water Fund, Sanitary Sewer Fund, Storm Water Fund and Garbage Fund historical revenues and expenses, 2018 budget, a projection of revenues and expenses through 2028 (incorporating plans for capital improvements in all Funds), and a determination of the rates and charges necessary to provide revenues sufficient to cover capital and operational costs. In addition, it provides a comparison of current and proposed rates and a comparison of Northfield utility rates to those of three to five surrounding communities, depending on the utility.

## 2. Background

Northfield, a city 48 miles south of the Twin Cities, provides approximately 5,000 residential and commercial customers with water, sewer, storm water and garbage service. The City encompasses approximately 8.61 square miles and has an estimated 2016 population of 20,445 persons.

Currently, the City obtains its water supply from four wells ranging from 365 to 410 feet deep, that draw water from the Jordan aquifer.

The City also maintains a sanitary sewer collection system which discharges into the waste treatment system managed by the City.

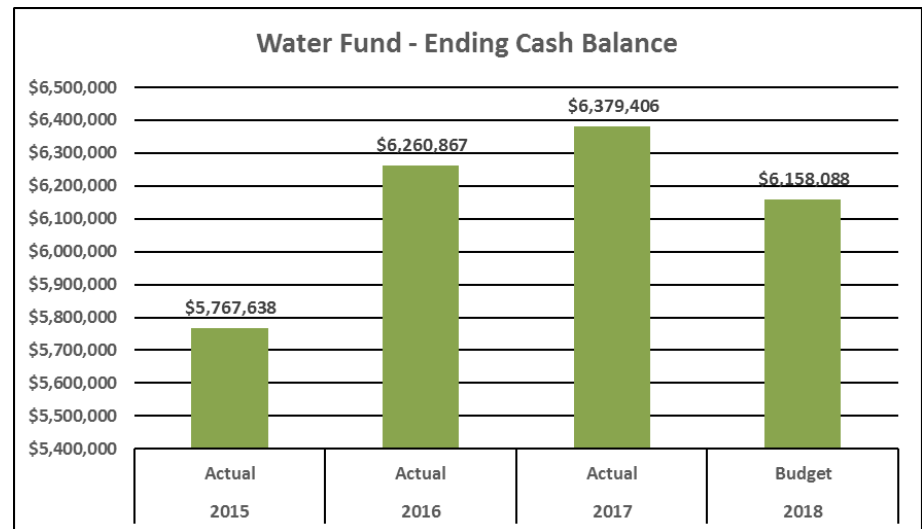
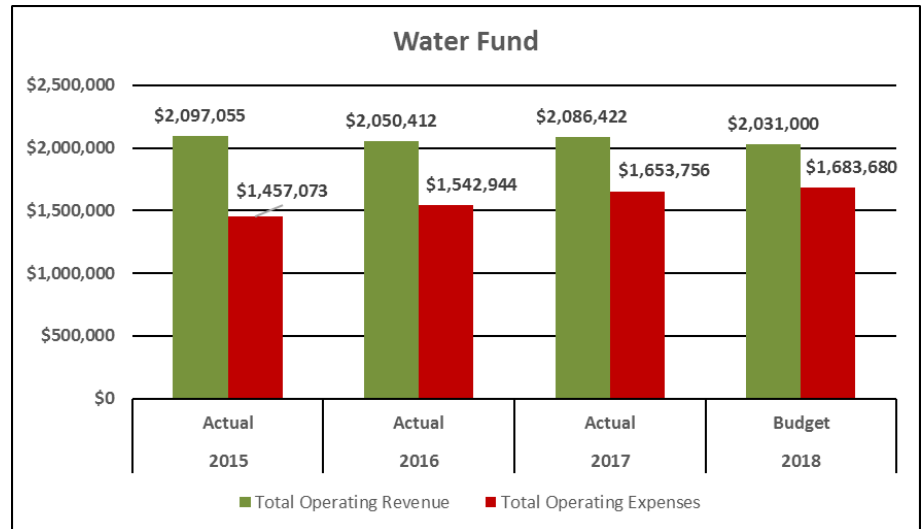
The City operates the Storm Water Utility by taking an active role in managing stormwater run-off in flood prevention, erosion control, and in reducing pollution of local waterways.

The City contracts with Dick's Sanitation, Inc. to provide residential curbside garbage and recycling collection.

## Water Fund

### Historical Information

A review of the City's most recent financial reports for the Water Fund shows operating revenues have exceeded operating expenses in each of the past three years and are projected to do so again in the 2018 budget. The Water Fund ending cash balance increased over the period from 2015 to budget 2018. The 2018 budget is projected to result in an ending cash balance of approximately \$6.1 million, up from approximately \$5.7 million at the end of 2015. These are shown in the charts below.



Revenues and expenses for the past three years and the 2018 budget are shown on the following pages.

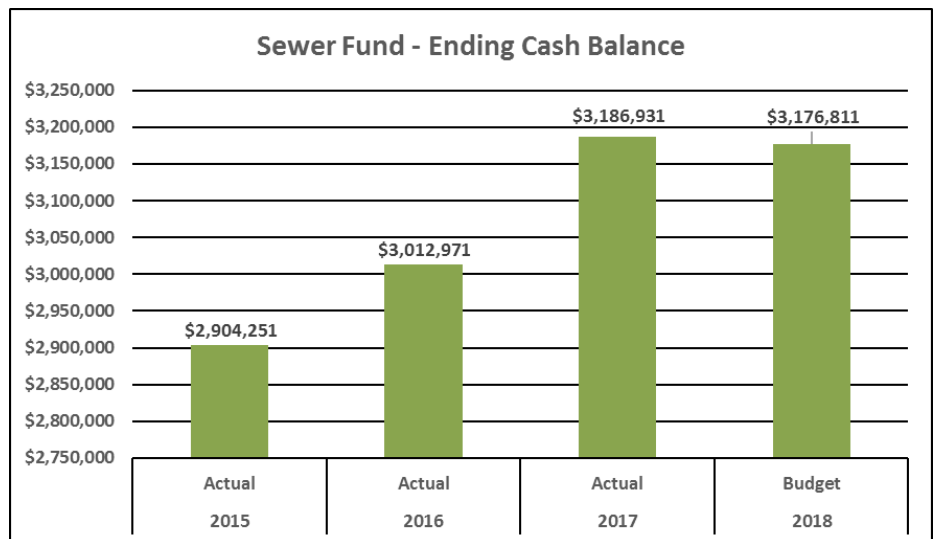
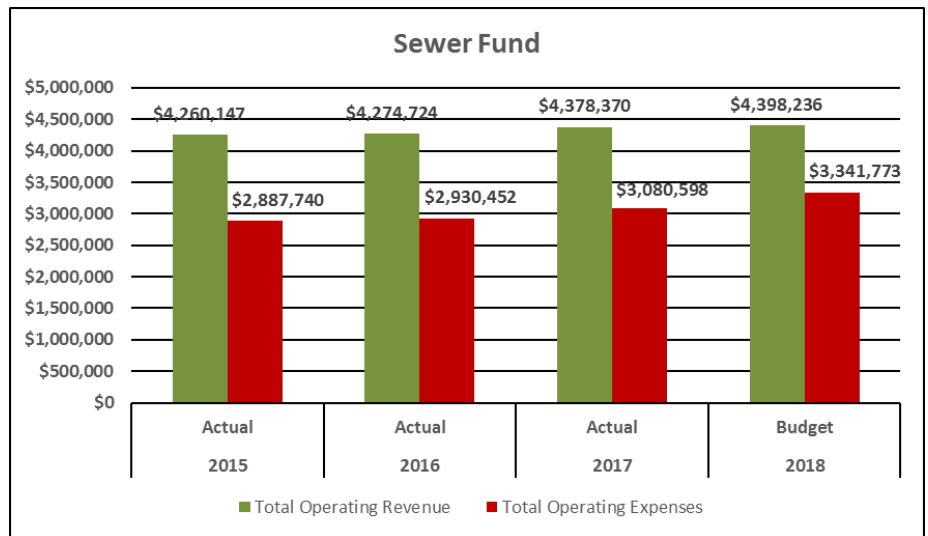
## Water Fund

### Historical Information

	2015	2016	2017	2018
<b>Operating Revenues</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
Charges for Services	2,086,742	2,040,480	2,077,455	2,015,000
Penalties	10,313	9,932	8,967	16,000
Other Revenue				
<b>Total Operating Revenue</b>	<b>2,097,055</b>	<b>2,050,412</b>	<b>2,086,422</b>	<b>2,031,000</b>
<b>Operating Expenses</b>				
Personal services	405,202	522,925	585,625	508,274
Pension expense	21,218	75,799	11,986	
Supplies	266,835	178,436	245,504	260,660
Other services and charges	284,357	301,916	320,309	434,946
Insurance	19,800	19,800	19,800	19,800
Utilities	112,644	112,333	115,457	130,000
Depreciation	347,017	331,735	355,075	330,000
<b>Total Operating Expenses</b>	<b>1,457,073</b>	<b>1,542,944</b>	<b>1,653,756</b>	<b>1,683,680</b>
<b>Operating Income (Loss)</b>	<b>639,982</b>	<b>507,468</b>	<b>432,666</b>	<b>347,320</b>
<b>Non Operating Revenues (Expenses)</b>				
Intergovernmental	6,320	1,367		
Investment income	30,442	37,584	42,464	55,000
Other income (expense)	(3,118)	3,035	909	1,000
Rents	15,851	15,972	15,972	13,200
Interest expense	(16,802)	(11,451)	(6,168)	(9,477)
<b>Total Non Operating Revenues (Expenses)</b>	<b>32,693</b>	<b>46,507</b>	<b>53,177</b>	<b>59,723</b>
<b>Net Income (Loss) Before Transfers</b>	<b>672,675</b>	<b>553,975</b>	<b>485,843</b>	<b>407,043</b>
<b>Operating Transfers</b>				
Transfers In		527,156		
Transfers (Out)				
<b>Total Operating Transfers</b>	<b>-</b>	<b>527,156</b>	<b>-</b>	<b>-</b>
<b>Net Income (Loss)</b>	<b>672,675</b>	<b>1,081,131</b>	<b>485,843</b>	<b>407,043</b>
<b>Beginning Cash &amp; Investments</b>	<b>5,560,332</b>	<b>5,767,638</b>	<b>6,260,867</b>	<b>6,379,406</b>
Net Income	672,675	1,081,131	485,843	407,043
Depreciation	347,017	331,735	355,075	330,000
Acquisition and Construction of Assets	(565,376)	(383,898)	(621,328)	(776,021)
Proceeds from New Long-Term Debt				
Payments on Long-Term Debt	(297,500)	(222,498)	(184,752)	(182,340)
Adjustment to Accruals	50,490	(313,241)	83,701	-
<b>Ending Cash Balance</b>	<b>5,767,638</b>	<b>6,260,867</b>	<b>6,379,406</b>	<b>6,158,088</b>

## Sewer Fund Historical Information

In the Sewer Fund, operating revenues have exceeded operating expenses in each of the past three years and are projected to exceed them again in the 2018 budget. Cash in the Sewer Fund has increased over the past four years from approximately \$2.9 million in 2015 and is projected to be approximately \$3.2 million at the end of 2018. This increase is primarily from the financing of capital assets with debt combined with the non-cash operating expense for depreciation. Historical operating revenues and expenses and ending cash balances are shown in the charts below.



Revenues and expenses for the past three years and the 2018 budget are shown on the following pages.



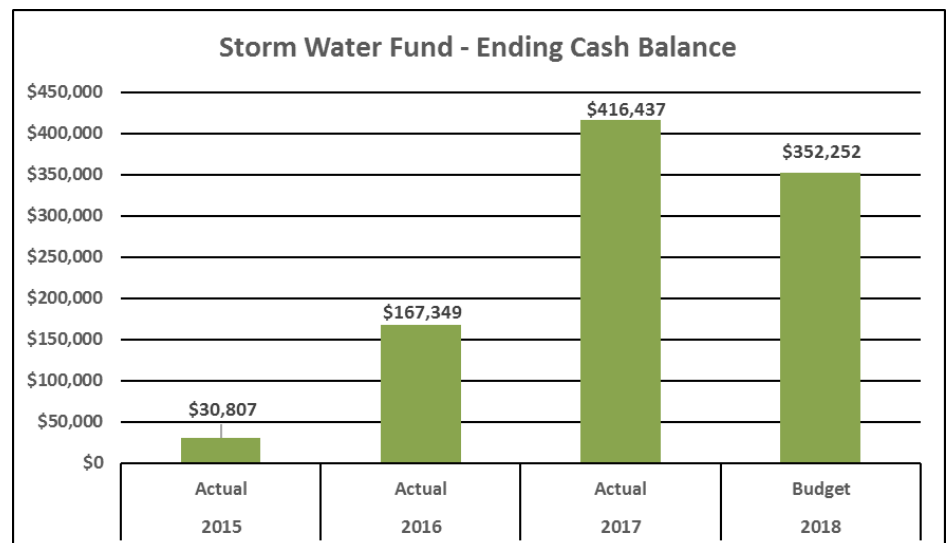
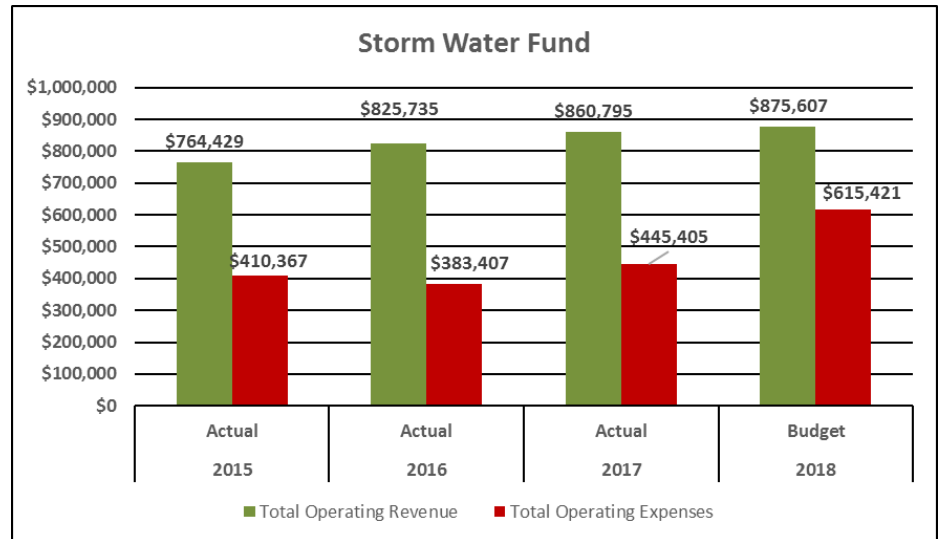
## Sewer Fund

### Historical Information

	2015	2016	2017	2018
<b>Operating Revenues</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
Charges for Services	4,239,914	4,253,179	4,359,218	4,370,236
Penalties	20,233	21,545	19,152	28,000
Other Revenue				
<b>Total Operating Revenue</b>	<b>4,260,147</b>	<b>4,274,724</b>	<b>4,378,370</b>	<b>4,398,236</b>
<b>Operating Expenses</b>				
Personal services	499,222	466,781	487,018	658,180
Pension expense	(25,233)	(22,951)	21,161	
Supplies	504,274	533,713	561,030	592,000
Other services and charges	372,904	408,992	457,213	514,926
Insurance	27,167	27,167	27,167	27,167
Utilities	372,800	371,473	342,843	404,500
Depreciation	1,136,606	1,145,277	1,184,166	1,145,000
<b>Total Operating Expenses</b>	<b>2,887,740</b>	<b>2,930,452</b>	<b>3,080,598</b>	<b>3,341,773</b>
<b>Operating Income (Loss)</b>	<b>1,372,407</b>	<b>1,344,272</b>	<b>1,297,772</b>	<b>1,056,463</b>
<b>Non Operating Revenues (Expenses)</b>				
Intergovernmental		7,500	2,000	
Investment income	11,435	39,244	21,280	35,000
Other income (expense)		1,538	123	1,000
Rents				
Interest expense	(216,278)	(201,561)	(169,648)	(163,717)
<b>Total Non Operating Revenues (Expenses)</b>	<b>(204,843)</b>	<b>(153,279)</b>	<b>(146,245)</b>	<b>(127,717)</b>
<b>Net Income (Loss) Before Transfers</b>	<b>1,167,564</b>	<b>1,190,993</b>	<b>1,151,527</b>	<b>928,746</b>
<b>Operating Transfers</b>				
Transfers In				
Transfers (Out)		(527,156)		
<b>Total Operating Transfers</b>	<b>-</b>	<b>(527,156)</b>	<b>-</b>	<b>-</b>
<b>Net Income (Loss)</b>	<b>1,167,564</b>	<b>663,837</b>	<b>1,151,527</b>	<b>928,746</b>
<b>Beginning Cash &amp; Investments</b>	<b>1,689,253</b>	<b>2,904,251</b>	<b>3,012,971</b>	<b>3,186,931</b>
Net Income	1,167,564	663,837	1,151,527	928,746
Depreciation	1,136,606	1,145,277	1,184,166	1,145,000
Acquisition and Construction of Assets	(285,449)	(1,353,347)	(836,825)	(566,807)
Proceeds from New Long-Term Debt	574,054	1,107,397	-	
Payments on Long-Term Debt	(1,359,255)	(1,952,002)	(1,402,765)	(1,516,059)
Adjustment to Accruals	(18,522)	497,558	77,857	-
<b>Ending Cash Balance</b>	<b>2,904,251</b>	<b>3,012,971</b>	<b>3,186,931</b>	<b>3,177,811</b>

## Storm Water Fund Historical Information

In the Storm Water Fund, operating revenues have exceeded operating expenses in each of the past three years and are projected to exceed them again in the 2018 budget. Cash in the Storm Water Fund has increased over the past four years from approximately \$30,000 in 2015 and is projected to be approximately \$352,000 at the end of 2018. Historical operating revenues and expenses and ending cash balances are shown in the charts below.



Revenues and expenses for the past three years and the 2018 budget are shown on the following pages.

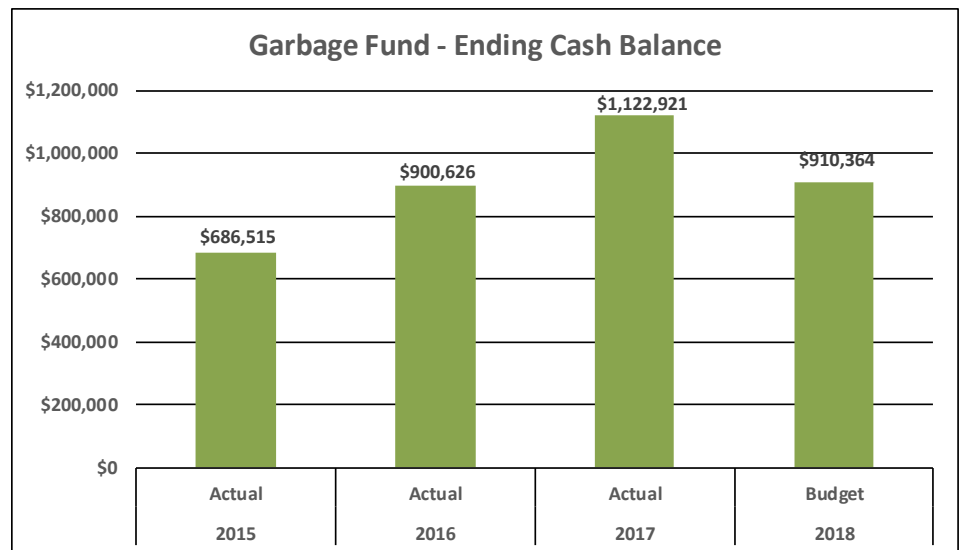
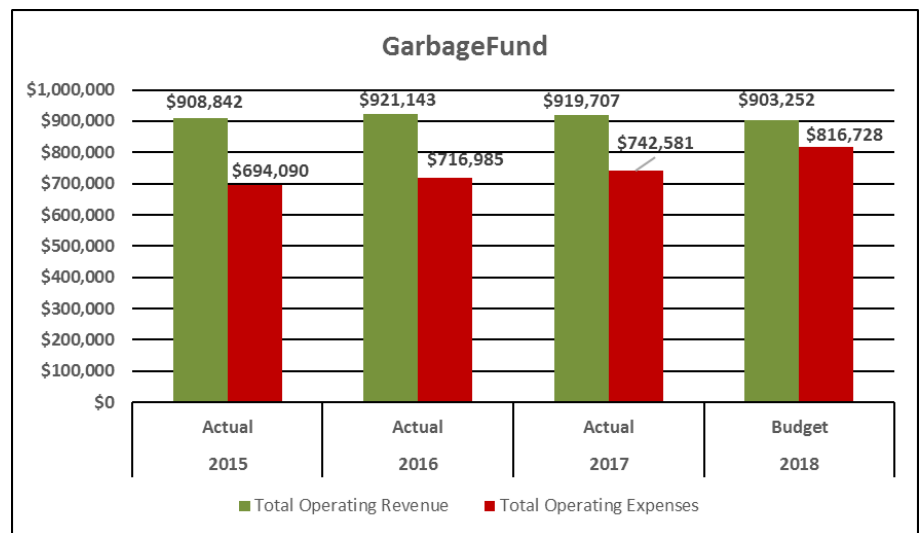
## Storm Water Fund

### Historical Information

	2015	2016	2017	2018
Operating Revenues	Actual	Actual	Actual	Budget
Charges for Services	761,149	822,415	857,483	875,607
Penalties	3,280	3,320	3,312	-
Other Revenue				
<b>Total Operating Revenue</b>	<b>764,429</b>	<b>825,735</b>	<b>860,795</b>	<b>875,607</b>
<b>Operating Expenses</b>				
Personal services	19,280	31,947	20,375	110,873
Pension expense	9,937	9,330	(8,752)	
Supplies	20,594	14,458	29,541	64,925
Other services and charges	139,261	101,327	170,895	213,403
Insurance	1,220	1,220	1,220	1,220
Utilities				
Depreciation	220,075	225,125	232,126	225,000
<b>Total Operating Expenses</b>	<b>410,367</b>	<b>383,407</b>	<b>445,405</b>	<b>615,421</b>
<b>Operating Income (Loss)</b>	<b>354,062</b>	<b>442,328</b>	<b>415,390</b>	<b>260,186</b>
<b>Non Operating Revenues (Expenses)</b>				
Intergovernmental				
Property taxes				
Investment income		11,464	2,533	5,000
Other income (expense)	(557)	34	(549)	(22,000)
Rents				
Interest expense	(31,867)	(21,446)	(12,993)	(16,209)
<b>Total Non Operating Revenues (Expenses)</b>	<b>(32,424)</b>	<b>(9,948)</b>	<b>(11,009)</b>	<b>(33,209)</b>
<b>Net Income (Loss) Before Transfers</b>	<b>321,638</b>	<b>432,380</b>	<b>404,381</b>	<b>226,977</b>
<b>Operating Transfers</b>				
Transfers In				
Transfers (Out)				
<b>Total Operating Transfers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Net Income (Loss)</b>	<b>321,638</b>	<b>432,380</b>	<b>404,381</b>	<b>226,977</b>
<b>Beginning Cash &amp; Investments</b>	<b>-</b>	<b>30,807</b>	<b>167,349</b>	<b>416,437</b>
Net Income	321,638	432,380	404,381	226,977
Depreciation	220,075	225,125	232,126	225,000
Acquisition and Construction of Assets	(89,333)	(252,459)	(250,219)	(252,100)
Proceeds from New Long-Term Debt	51,244	113,823		
Payments on Long-Term Debt	(438,636)	(253,538)	(229,062)	(264,062)
Adjustment to Accruals	(34,181)	(128,789)	91,862	-
<b>Ending Cash Balance</b>	<b>30,807</b>	<b>167,349</b>	<b>416,437</b>	<b>352,252</b>

## Garbage Fund Historical Information

In the Garbage Fund, operating revenues have exceeded operating expenses in each of the past three years and are projected to exceed them again in the 2018 budget. Cash in the Garbage Fund has increased over the past four years from approximately \$700,000 in 2015 and is projected to be approximately \$900,000 at the end of 2018. Historical operating revenues and expenses and ending cash balances are shown in the charts below.



Revenues and expenses for the past three years and the 2018 budget are shown on the following pages.

## Garbage Fund

### Historical Information

	2015	2016	2017	2018
Operating Revenues	Actual	Actual	Actual	Budget
Charges for Services	899,932	912,645	911,183	892,252
Penalties	8,910	8,498	8,524	11,000
Other Revenue				
<b>Total Operating Revenue</b>	<b>908,842</b>	<b>921,143</b>	<b>919,707</b>	<b>903,252</b>
Operating Expenses				
Personal services	17,118	19,072	19,899	47,525
Pension expense	(3,175)	2,271	1,680	
Supplies	4,800	1,758	2,980	3,100
Other services and charges	670,799	689,355	713,468	138,494
Garbage hauling				440,000
Landfill charges				183,000
Insurance	4,239	4,239	4,239	4,239
Utilities	309	290	315	370
Depreciation				
<b>Total Operating Expenses</b>	<b>694,090</b>	<b>716,985</b>	<b>742,581</b>	<b>816,728</b>
<b>Operating Income (Loss)</b>	<b>214,752</b>	<b>204,158</b>	<b>177,126</b>	<b>86,524</b>
Non Operating Revenues (Expenses)				
Intergovernmental				
Investment income	2,982	9,161	6,752	3,000
Other income (expense)	16,011	44	16,083	
Interest expense				
<b>Total Non Operating Revenues (Expenses)</b>	<b>18,993</b>	<b>9,205</b>	<b>22,835</b>	<b>3,000</b>
<b>Net Income (Loss) Before Transfers</b>	<b>233,745</b>	<b>213,363</b>	<b>199,961</b>	<b>89,524</b>
Operating Transfers				
Transfers In				
Transfers (Out)				(302,081)
<b>Total Operating Transfers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(302,081)</b>
<b>Net Income (Loss)</b>	<b>233,745</b>	<b>213,363</b>	<b>199,961</b>	<b>(212,557)</b>
Beginning Cash & Investments	462,271	686,515	900,626	1,122,921
Net Income	233,745	213,363	199,961	(212,557)
Depreciation	-	-	-	-
Acquisition and Construction of Assets				
Proceeds from New Long-Term Debt				
Payments on Long-Term Debt				
Adjustment to Accruals	(9,501)	748	22,334	-
<b>Ending Cash Balance</b>	<b>686,515</b>	<b>900,626</b>	<b>1,122,921</b>	<b>910,364</b>

## Current Utility Rates

### Water - Single Family Residential

Service	2018 Rate	2017 Rate
Meter Base Charge	\$7.00 Flat base per month	\$7.00 Flat base per month
Tier I - 1 to 500 cubic ft	\$1.18 per 100 cubic ft	\$1.18 per 100 cubic ft
Tier II - 501 to 1,000 cubic ft	\$1.42 per 100 cubic ft	\$1.42 per 100 cubic ft
Tier III - 1,001 to 2,000 cubic ft	\$1.78 per 100 cubic ft	\$1.78 per 100 cubic ft
Tier IV - Over 2,001 cubic ft	\$2.23 per 100 cubic ft	\$2.23 per 100 cubic ft

### Water - Other Class

Service	2018 Rate	2017 Rate
Meter Base Charge	\$7.00 Flat base per mo.	\$7.00 Flat base per month
Tier I - 1 to 500 cubic ft	\$1.18 per 100 cubic ft	\$1.18 per 100 cubic feet
Tier II - 501 to 2,500 cubic ft	\$1.42 per 100 cubic ft	\$1.42 per 100 cubic feet
Tier III - 2,501 to 5,000 cubic ft	\$1.78 per 100 cubic ft	\$1.78 per 100 cubic feet
Tier IV - Over 5,001 cubic feet	\$2.23 per 100 cubic ft	\$2.23 per 100 cubic feet

### Water - Other Class 2

Service	2018 Rate	2017 Rate
Meter Base Charge	\$7.00 Flat base/mo.	\$7.00 Flat base/mo.
Tier I - 1 to 5,000 cubic ft	\$1.18 per 100 cubic ft	\$1.18 per 100 cubic feet
Tier II - 5,001 to 15,000 cubic ft	\$1.42 per 100 cubic ft	\$1.42 per 100 cubic feet
Tier III - 15,001 to 150,000 cubic ft	\$1.78 per 100 cubic ft	\$1.78 per 100 cubic feet
Tier IV - Over 150,001 cubic ft	\$2.23 per 100 cubic ft	\$2.23 per 100 cubic feet

### Sewer Rates

Service	2018 Rate	2017 Rate	Money Change	Percent Change
Sewer Base Charge	\$8.49 Flat base/mo.	\$8.24 Flat base/mo.	\$0.25	3.00%
Consumption Chg.(vol)	\$4.51/100 cubic ft.	\$4.38/100 cubic ft.	\$0.13	3.00%
BOD	\$0.68 per pound	\$0.66 per pound	\$0.02	3.00%
TSS	\$0.70 per pound	\$0.68 per pound	\$0.02	3.00%

### Storm Sewer Rates

Service	2018 Rate	2017 Rate	Money Change	Percent Change
Storm Sewer Base -per acre	\$18.71 per acre	\$17.65 per acre	\$1.06	6.00%

### Garbage Collection Rates

Service	2018 Rate	2017 Rate	Money Amount change	Percent Change
Drive by Service	\$9.88 Flat fee per month	\$9.88 Flat fee per month	\$0.00	0.00%
35 Gallon Service	\$12.30 Flat fee per month	\$12.30 Flat fee per month	\$0.00	0.00%
65 Gallon Service	\$16.70 Flat fee per month	\$16.70 Flat fee per month	\$0.00	0.00%
95 Gallon Service	\$21.40 Flat fee per month	\$21.40 Flat fee per month	\$0.00	0.00%

## Cash Reserves

Springsted's clients often ask about the amount of cash that should be available in their Utility funds. Utility funds need sufficient cash to pay current expenses, together with principal and interest on outstanding bonds. This would typically require each Utility fund to have a minimum of three months of anticipated operating expenses and one year's total debt service in cash at the end of each year. However, this does not provide any level of cash reserves for unforeseen expenses, emergencies, or to cover any shortfalls in the budget. The amount of cash reserves that each fund should have is dependent on several factors, including:

- Reserves that are legally required
- Variability of the annual revenue stream
- Variability in annual expenses
- Variability in rainfall
- Age and condition of fixed assets
- Anticipated future capital needs
  - Capital improvement plan
  - Regulatory compliance
- Replacement reserve
- Tolerance for risk
- Number of relatively large customers

Unfortunately, there are no prescribed formulas, and the amount of reserves varies considerably between utilities. We encourage the City to formalize a reserve policy that includes a minimum cash balance in each Utility Fund at the end of any given year equal to:

- At least three months of anticipated operating expenses and
- An amount equal to the following year's debt service requirements

The reserve for operating expenses and debt service is what we typically recommend to our client's for a minimum cash reserve. In addition, due to the several large water users in the City. For example, Post comprises approximately 20% of Water and Sewer Fund revenues, we recommend the City add a large user rate stability reserve equaling approximately 20% of revenues. This equates to approximately \$500,000 in the Water Fund and \$1.0 million in the Sewer Fund. The Sewer Fund has a bond issue with large debt service payments that retires in 2021, so we recommend a gradual increase to fund the large user rate stability reserve in the Sewer Fund.

## Depreciation

Costs incurred in the operation of each Utility are either recorded as operating expenses or capitalized as assets. Whether the cost is expensed immediately or capitalized, the City actually pays for the asset at the time it is acquired. Generally, anything that is used up in the period in which the cost of acquiring it is incurred is treated as an operating expense. Personnel, supplies, and repairs and maintenance are typical examples of costs that are treated as operating expenses. These costs are shown on the income statement each year in the total amount of the expense for each category. The cost incurred in the acquisition or construction of assets such as buildings and major pieces of equipment are capitalized. That means their cost does not show up as an expense on the income statement in the year in which the expense occurs; rather, the costs of these assets are depreciated. Depreciation is the process of allocating the cost of an asset over its useful life in a systematic and rational manner. The City currently budgets for depreciation each year.

## Assumptions

The City provided Springsted with a variety of material including:

- 2015-2017 Financial Reports
- 2018 Water, Sewer, Storm Water and Garbage Operating Budgets
- Current Utility rates
- 2018-2023 Capital Improvement Plan
- 2018-2028 Capital Equipment Plan
- Detailed asset information

Assumptions for the growth of revenues resulting from volume of new customers were projected to be 0.5% annually with Penalties projected to increase 3% annually in each Fund.

Assumptions for the increase in operating and expenses were based on historical trends and our experience in performing utility rate studies. Operating expenses for Personal Services were projected to grow 4.5% annually in all funds with Supplies increasing at 2% and Other Services and Charges increasing 5% annually for all Funds. The following are noted as different increases among the Funds:

- Water Fund
  - Utilities – 5%
- Sewer Fund
  - Utilities 2.5%
- Storm Water Fund
- Garbage Fund
  - Garbage hauling – 2%
  - Landfill charges – 2%
  - Utilities 6%

The investment interest rate earned on the investment of annual cash was assumed to be 1% based on the annual beginning cash balance in each fund. It is also assumed that there would be a transfer of funds from the Water Fund to the Sewer Fund in 2019 in the amount of \$1.7M. to finance the construction of Sewer Fixed Assets with repayment over the next 10 years at 1%. This allows the City to keep rates lower while achieving cost savings from an internal financing versus issuing debt.



**Administrative Overhead**

Underlying any utility rate study is the necessity to identify all costs related to providing the services and ensuring that those costs are funded by the utility.

The obvious component of any utility service cost is the direct labor and supplies committed to providing the utility service. Not as obvious are the indirect costs incurred by support activities that must be undertaken in order for the direct labor personnel to successfully complete their mission. It is important to realize that utility employees are supported behind the scenes by other personnel that pay bills, issue payroll checks, coordinate purchasing functions, and help to define policy goals and direction. When determining the total cost of providing utility services to the community, these overhead costs must be included.

In order to determine such overhead costs, we reviewed the City's 2018 budget and determined the percentage of the City's General Fund budget that provides service to the City as a whole was approximately 10-15% in 2018, dependent upon using only the General Fund budget or the City budget for all funds. The respective percentage of total budget transferred from the water, sewer, garbage and storm water budgets was 11%, 7%, 11%, and 5%. The Water and Garbage Funds fall within the estimated range, the Sewer and Storm Sewer do not. We recommend the City consider adopting a policy for consistent administrative transfers across all funds based on support services provided.

### 3. Water Utility

#### Capital Outlay

To determine the appropriate future fees and rates needed for the operation of the Water Utility over the planning period, we have incorporated the anticipated future capital outlay needs provided by the City. In addition, we have estimated the annual renewal and replacement costs that should be included in the City's capital improvement plan.

The annual renewal and replacement costs were estimated based on the life of the assets, the acquisition cost, and an empirical probability of failure analysis. All of the Water Utility's assets were included in this analysis. Asset failures were projected based on the following probabilities:

- Failure at asset life 10%
- Failure at 1.25 times asset life 15%
- Failure at 1.5 times asset life 20%
- Failure at 1.75 times asset life 25%
- Failure at 2.0 times asset life 30%

This analysis assumed all of the assets would fail and need to be replaced within two times their expected life. Replacement costs were estimated to be the asset acquisition costs inflated to the year of construction using the most recent ten-year average of American City and County construction cost index.

The estimated Water Utility capital improvements used in the financial projections include those projected in the City's C.I.P. and the annual renewal and replacement cost determined above. Capital outlay is projected to be \$10,806,678 over the planning period. Many of the capital items are projected to be paid from cash in the Water Fund, except for two larger projects totaling \$3 million in 2027 which are projected to be financed with debt for a term of 10 years at 4.0%. These capital costs and their projected source of funding are shown in the table on the following page.

## Water Utility Capital Outlay

Year	Project	Dept.	Water Utility	G.O. Water Revenue Bond	Totals
2018	Washington Street Mill and Overlay	Water Utility	7,662		7,662
2018	2009 Wachs Valve Wrench	Water Utility	25,000		25,000
2018	2000 Case 580 Super L Backhoe	Water Utility	30,000		30,000
2018	Replacement of 1998 Chevy 2500 Pickup Truck	Water Utility	40,000		40,000
2018	Well 5 Generator (200kW)	Water Utility	120,000		120,000
2018	Spring Creek Road Reconstruction Project	Water Utility	274,000		274,000
2018	Division & Seventh Street Reconstruction	Water Utility	279,359		279,359
2019	Well No. 5 Maintenance	Water Utility	30,000		30,000
2019	NW Area Reclamation	Water Utility	54,969		54,969
2019	Monitoring Well	Water Utility	80,000		80,000
2019	Hall Ave. Elevated Water Tank Maintenance	Water Utility	300,000		300,000
2020	Replacement of 2010 Ford F-150 Pickup Truck	Water Utility	25,000		25,000
2020	NE Area Mill and Overlay	Water Utility	25,856		25,856
2020	Well No. 02 Maintenance	Water Utility	30,000		30,000
2020	Well No. 6 Generator	Water Utility	120,000		120,000
2020	St. Olaf South Ground Storage Tank Maintenance	Water Utility	300,000		300,000
2020	College & Winona Street Reconstruction	Water Utility	555,157		555,157
2021	Replacement of 2010 Ford F-150 Pickup Truck	Water Utility	25,000		25,000
2021	Mayflower Hill Reclamation	Water Utility	53,925		53,925
2021	Land Acquisition for Water Tank in NW Area	Water Utility	250,000		250,000
2021	St. Olaf North Ground Storage Tank Maintenance	Water Utility	300,000		300,000
2021	Water Street South Reconstruction	Water Utility	329,300		329,300
2022	Replacement of 2012 Ford F-150 Pickup Truck	Water Utility	25,000		25,000
2022	Odd Fellow Area Reconstruction	Water Utility	137,250		137,250
2023	Well No. 3 Maintenance	Water Utility	30,000		30,000
2023	Well No. 3 Generator Replacement	Water Utility	120,000		120,000
2023	Wall Street Road Reconstruction	Water Utility	155,700		155,700
2023	Well No. 3 MCC Replacement	Water Utility	200,000		200,000
2024	Well No. 4 Maintenance	Water Utility	30,000		30,000
2024	Well No. 4 Generator Replacement	Water Utility	120,000		120,000
2024	Well No. 4 MCC Replacement	Water Utility	200,000		200,000
2024	Misc Street Projects	Water Utility	287,000		287,000
2025	Replace John Deere Z930M Mower	Water Utility	10,000		10,000
2025	Misc Street Projects	Water Utility	295,500		295,500
2026	Misc Street Projects	Water Utility	304,500		304,500
2026	Hall Ave. Elevated Water Tank Painting	Water Utility	1,000,000		1,000,000
2027	Misc Street Projects	Water Utility	313,500		313,500
2027	Meter Replacement	Water Utility		2,000,000	2,000,000
2027	St. Olaf South Ground Storage Tank Painting	Water Utility		1,000,000	1,000,000
2028	Misc Street Projects	Water Utility	323,000		323,000
2028	St. Olaf South Ground Storage Tank Painting	Water Utility	1,000,000		1,000,000
	<b>Total</b>		<b>7,806,678</b>	<b>3,000,000</b>	<b>10,806,678</b>

## Water Utility Financial Projections

The financial projections assume the City would maintain a minimum cash balance in the Water Fund equal to three months of anticipated operating expenses and one-year's debt service within the planning period, as well as a \$500,000 reserve for rate stability due to large users. In addition, the City would maintain positive operating income.

To determine the appropriate user rates needed for the operation of the Water Fund, we have projected future revenue and expenses and have incorporated the anticipated future capital outlay needs for the time period covered by this study.

The financial projections began with the Water Utility expenses. Expenses were projected based on an analysis of past trends, capital improvements, and the assumptions previously stated. The 2018 budget figures were used as the base for expense projections. Revenues were projected to ensure the recommended income, cash flow, and level of ending cash balances were met each year.

The projections show that annual increase of 1.0% are needed in the current rate structure through 2023, increasing to 4.0% through 2028 in order to maintain positive operating income throughout the planning period. However, net income is projected to be negative in 2019 due to a transfer of \$1.7 million to the Sewer Fund to finance the construction of Sewer Fixed Assets. The Water Fund's ending cash balance is projected to decrease from approximately \$6.1 million at the end of 2018 to approximately \$4.2 million at the end of 2021 then increasing steadily each year to approximately \$5 million in 2028.

The financial projection is shown on the following pages.

## Water Utility Financial Projections

Projected Water Rate Adjustment	Projected Change	<i>Calculate</i>	1.00%	1.00%	1.00%	1.00%	1.00%
	2019-2028	2018	2019	2020	2021	2022	2023
<b>Operating Revenues</b>							
Charges for Services (Growth from new customers only!)	0.50%	2,015,000	2,045,326	2,076,108	2,107,353	2,139,069	2,171,262
Penalties	3.00%	16,000	16,645	17,316	18,013	18,739	19,495
Other Revenue	1.00%	-	-	-	-	-	-
<b>Total Operating Revenue</b>		<b>2,031,000</b>	<b>2,061,971</b>	<b>2,093,423</b>	<b>2,125,367</b>	<b>2,157,808</b>	<b>2,190,757</b>
<b>Operating Expenses</b>							
Personal services	4.50%	508,274	650,779	680,064	710,667	742,647	776,066
Supplies	2.00%	260,660	265,873	271,191	276,614	282,147	287,790
Other services and charges	5.00%	434,946	361,000	379,050	398,003	417,903	438,798
Insurance	0.00%	19,800	19,800	19,800	19,800	19,800	19,800
Utilities	5.00%	130,000	136,500	143,325	150,491	158,016	165,917
Existing Depreciation		330,000	313,500	297,825	282,934	268,787	255,348
New Depreciation		-	47,218	70,466	124,517	173,678	183,041
<b>Total Operating Expenses</b>		<b>1,683,680</b>	<b>1,794,670</b>	<b>1,861,721</b>	<b>1,963,026</b>	<b>2,062,977</b>	<b>2,126,758</b>
<b>Operating Income (Loss)</b>		<b>347,320</b>	<b>267,301</b>	<b>231,703</b>	<b>162,341</b>	<b>94,831</b>	<b>63,998</b>
<b>Non Operating Revenues (Expenses)</b>							
Intergovernmental		-					
Investment income		55,000	61,581	46,233	44,043	42,507	48,590
Other income (expense)		1,000	1,000	1,000	1,000	1,000	1,000
Rents		13,200	13,200	13,200	13,200	13,200	13,200
Interest expense-existing		(9,477)	(1,180)	(385)	(286)	(183)	(77)
Interest expense-new			-	-	-	-	-
<b>Total Non Operating Revenues (Expenses)</b>		<b>59,723</b>	<b>74,601</b>	<b>60,048</b>	<b>57,957</b>	<b>56,524</b>	<b>62,713</b>
<b>Net Income (Loss) Before Transfers</b>		<b>407,043</b>	<b>341,902</b>	<b>291,751</b>	<b>220,298</b>	<b>151,355</b>	<b>126,711</b>
<b>Operating Transfers</b>							
Transfers In		-		\$179,490	\$179,490	179,490	179,490
Transfers (Out)		-	(1,700,000)				
<b>Total Operating Transfers</b>		<b>-</b>	<b>(1,700,000)</b>	<b>179,490</b>	<b>179,490</b>	<b>179,490</b>	<b>179,490</b>
<b>Net Income (Loss)</b>		<b>407,043</b>	<b>(1,358,098)</b>	<b>471,240</b>	<b>399,788</b>	<b>330,844</b>	<b>306,201</b>
<b>Beginning Cash &amp; Investments</b>		<b>6,379,406</b>	<b>6,158,088</b>	<b>4,623,306</b>	<b>4,404,298</b>	<b>4,250,685</b>	<b>4,859,016</b>
Net Income		407,043	(1,358,098)	471,240	399,788	330,844	306,201
Depreciation		330,000	360,718	368,291	407,451	442,465	438,388
Amortization							
Acquisition and Construction of Assets		(776,021)	(464,969)	(1,056,013)	(958,225)	(162,250)	(505,700)
Proceeds from New Long-Term Debt		-	-	-	-	-	-
Payments on New Long-Term Debt			-	-	-	-	-
Payments on Existing Long-Term Debt		(182,340)	(72,432)	(2,527)	(2,626)	(2,728)	(2,675)
<b>Ending Cash Balance</b>		<b>6,158,088</b>	<b>4,623,306</b>	<b>4,404,298</b>	<b>4,250,685</b>	<b>4,859,016</b>	<b>5,095,230</b>

## Water Utility Financial Projections

Projected Water Rate Adjustment	Projected Change	4.00%	4.00%	4.00%	4.00%	4.00%
	2019-2028	2024	2025	2026	2027	2028
<b>Operating Revenues</b>						
Charges for Services (Growth from new customers only!)	0.50%	2,269,403	2,371,980	2,479,194	2,591,253	2,708,378
Penalties	3.00%	20,883	22,369	23,962	25,668	27,496
Other Revenue	1.00%	-	-	-	-	-
<b>Total Operating Revenue</b>		<b>2,290,286</b>	<b>2,394,349</b>	<b>2,503,156</b>	<b>2,616,921</b>	<b>2,735,873</b>
<b>Operating Expenses</b>						
Personal services	4.50%	810,989	847,484	885,620	925,473	967,120
Supplies	2.00%	293,545	299,416	305,405	311,513	317,743
Other services and charges	5.00%	460,738	483,775	507,963	533,361	560,029
Insurance	0.00%	19,800	19,800	19,800	19,800	19,800
Utilities	5.00%	174,212	182,923	192,069	201,673	211,756
Existing Depreciation		242,580	230,451	218,929	207,982	197,583
New Depreciation		214,326	246,176	261,284	326,509	415,517
<b>Total Operating Expenses</b>		<b>2,216,190</b>	<b>2,310,024</b>	<b>2,391,070</b>	<b>2,526,311</b>	<b>2,689,549</b>
<b>Operating Income (Loss)</b>		<b>74,095</b>	<b>84,325</b>	<b>112,085</b>	<b>90,610</b>	<b>46,325</b>
<b>Non Operating Revenues (Expenses)</b>						
Intergovernmental						
Investment income		50,952	52,339	57,354	52,742	58,322
Other income (expense)		1,000	1,000	1,000	1,000	1,000
Rents		13,200	13,200	13,200	13,200	13,200
Interest expense-existing		-	-	-	-	-
Interest expense-new		-	-	-	-	(120,000)
<b>Total Non Operating Revenues (Expenses)</b>		<b>65,152</b>	<b>66,539</b>	<b>71,554</b>	<b>66,942</b>	<b>(47,478)</b>
<b>Net Income (Loss) Before Transfers</b>		<b>139,247</b>	<b>150,864</b>	<b>183,639</b>	<b>157,552</b>	<b>(1,153)</b>
<b>Operating Transfers</b>						
Transfers In		179,490	179,490	179,490	179,490	179,490
Transfers (Out)						
<b>Total Operating Transfers</b>		<b>179,490</b>	<b>179,490</b>	<b>179,490</b>	<b>179,490</b>	<b>179,490</b>
<b>Net Income (Loss)</b>		<b>318,737</b>	<b>330,353</b>	<b>363,129</b>	<b>337,041</b>	<b>178,336</b>
<b>Beginning Cash &amp; Investments</b>		5,095,230	5,233,873	5,735,353	5,274,194	5,832,227
Net Income		318,737	330,353	363,129	337,041	178,336
Depreciation		456,906	476,627	480,213	534,491	613,100
Amortization						
Acquisition and Construction of Assets		(637,000)	(305,500)	(1,304,500)	(3,313,500)	(1,323,000)
Proceeds from New Long-Term Debt		-	-	-	3,000,000	-
Payments on New Long-Term Debt		-	-	-	-	(249,873)
Payments on Existing Long-Term Debt		-	-	-	-	-
<b>Ending Cash Balance</b>		<b>5,233,873</b>	<b>5,735,353</b>	<b>5,274,194</b>	<b>5,832,227</b>	<b>5,050,791</b>

## Water Utility Recommended Reserves

### 2018 - 2023

Projected Water Rate Adjustment	<i>Calculate</i>	1.00%	1.00%	1.00%	1.00%	1.00%
	2018	2019	2020	2021	2022	2023
<b>Minimum Cash Balance</b>						
For ongoing operations	420,920	448,667	465,430	490,756	515,744	531,690
For debt service	73,612	2,912	2,912	2,911	2,752	-
For large user rate stability	500,000	500,000	500,000	500,000	500,000	500,000
<b>Minimum Cash Balance Required</b>	<b>994,532</b>	<b>951,579</b>	<b>968,342</b>	<b>993,667</b>	<b>1,018,496</b>	<b>1,031,690</b>
Amount Over (Under) Minimum	5,163,556	3,671,727	3,435,955	3,257,017	3,840,520	4,063,541

### 2024 - 2028

Projected Water Rate Adjustment	4.00%	4.00%	4.00%	4.00%	4.00%
	2024	2025	2026	2027	2028
<b>Minimum Cash Balance</b>					
For ongoing operations	554,048	577,506	597,768	631,578	672,387
For debt service	-	-	-	369,873	259,868
For large user rate stability	500,000	500,000	500,000	500,000	500,000
<b>Minimum Cash Balance Required</b>	<b>1,054,048</b>	<b>1,077,506</b>	<b>1,097,768</b>	<b>1,501,451</b>	<b>1,432,255</b>
Amount Over (Under) Minimum	4,179,825	4,657,847	4,176,427	4,330,776	3,618,536

## 4. Sewer Utility

### Capital Outlay

To determine the appropriate future fees and rates needed for the operation of the Sewer Utility over the planning period, we have incorporated the anticipated future capital outlay needs provided by the City. We have also estimated the annual renewal and replacement costs that should be included in the City's capital improvement plan as we did for the Sewer Utility.

The annual renewal and replacement costs were estimated based on the life of the assets, the acquisition cost, and an empirical probability of failure analysis. All of the Water Utility's assets were included in this analysis. Asset failures were projected based on the following probabilities:

- Failure at asset life 10%
- Failure at 1.25 times asset life 15%
- Failure at 1.5 times asset life 20%
- Failure at 1.75 times asset life 25%
- Failure at 2.0 times asset life 30%

This analysis assumed all of the assets would fail and need to be replaced within two times their expected life. Replacement costs were estimated to be the asset acquisition costs inflated to the year of construction using the most recent ten-year average of American City and County construction cost index.

The estimated capital improvements used in the financial projections include those projected in the City's C.I.P. and the annual renewal and replacement cost determined above. Capital outlay is projected to be \$22,588,702 over the planning period. Approximately \$9.2 million of the capital items are projected to be paid from cash in the Sewer Fund, with \$13.4 million projected to be financed with debt with a term of 15 years at 4.5%. These capital costs and their projected source of funding are shown in the table on the following page.



## Sewer Utility

### Capital Outlay

Year	Project	Dept.	Sanitary Sewer Utility	G.O. Sewer Revenue Bonds	Totals
2018	2000 Case 580 Super L Backhoe	Sewer Utility	30,000		30,000
2018	2002 Caterpillar 938G Front End Loader	Sewer Utility	105,000		105,000
2018	Division & Seventh Street Reconstruction	Sewer Utility	264,936		264,936
2018	In-line Phosphorous Analyzer	Sewer Utility	70,000		70,000
2018	MAU-9 Replacement	Sewer Utility	16,000		16,000
2018	Replacement of 2007 Chevy Colorado	Sewer Utility	25,000		25,000
2018	Spring Creek Road Reconstruction Project	Sewer Utility	49,600		49,600
2018	Washington Street Mill and Overlay	Sewer Utility	6,271		6,271
2019	BAF Stop Log and Cell Work	Sewer Utility	824,310		824,310
2019	MAU-3 Pretreatment Roof Replacement	Sewer Utility	25,428		25,428
2019	NW Area Reclamation	Sewer Utility	107,190		107,190
2019	Replacement of 2001 Ford E-450 TV Van	Sewer Utility	250,000		250,000
2019	Upgrades at WWTP	Sewer Utility	500,000		500,000
2020	Babcock Generator	Sewer Utility	200,000		200,000
2020	College & Winona Street Reconstruction	Sewer Utility	410,752		410,752
2020	MAU-2 Pretreatment Roof Replacement	Sewer Utility	53,147		53,147
2020	NE Area Mill and Overlay	Sewer Utility	82,270		82,270
2020	Replacement of 2009 Sterling Jet Vac Truck	Sewer Utility	500,000		500,000
2021	BioSolids Cake Storage	Sewer Utility		711,563	711,563
2021	Biosolids Liquid Storage	Sewer Utility		1,193,844	1,193,844
2021	BioSolids Roof Replacement	Sewer Utility	115,000		115,000
2021	Influent Lift Pumps Replacement	Sewer Utility		1,372,594	1,372,594
2021	MAU-5 Replacement	Sewer Utility	24,345		24,345
2021	Mayflower Hill Reclamation	Sewer Utility	105,153		105,153
2021	Operations Building Roof Replacement	Sewer Utility	106,000		106,000
2021	Replacement of 2011 JCB Utility Machine	Sewer Utility	120,000		120,000
2021	SCADA Upgrade	Sewer Utility		1,622,500	1,622,500
2021	Shop Radiant Heaters	Sewer Utility	20,000		20,000
2021	UV Disinfection Roof Replacement	Sewer Utility	34,500		34,500
2021	Water Street South Reconstruction	Sewer Utility	244,200		244,200
2022	BAF Blower Replacements	Sewer Utility	843,975		843,975
2022	BAF Roof Replacement	Sewer Utility	324,500		324,500
2022	MAU-6 Replacement	Sewer Utility	62,172		62,172
2022	Odd Fellow Area Reconstruction	Sewer Utility	102,000		102,000
2022	Pretreatment Roof Replacement	Sewer Utility	359,900		359,900
2023	MAU-7 Replacement	Sewer Utility	31,805		31,805
2023	North Avenue/Jefferson Parkway M&O	Sewer Utility	98,344		98,344
2023	Renew and Replace	Sewer Utility		1,680,000	1,680,000
2023	Replacement of 2013 Ford C-Max	Sewer Utility	25,000		25,000
2023	Wall Street Road Reconstruction	Sewer Utility	115,200		115,200
2024	MAU-8 Replacement	Sewer Utility	36,027		36,027
2024	Misc Street Projects	Sewer Utility	229,500		229,500
2024	Renew and Replace	Sewer Utility		1,685,000	1,685,000
2025	MAU-1 Replacement	Sewer Utility	29,938		29,938
2025	MAU-2 Replacement	Sewer Utility	61,611		61,611
2025	MAU-4 BAF Pipe Gallery Replacement	Sewer Utility	37,539		37,539
2025	Misc Street Projects	Sewer Utility	236,500		236,500
2025	Renew and Replace	Sewer Utility	220,000		220,000
2025	Water Reuse System	Sewer Utility	192,088		192,088
2025	WWTP Generator Replacement	Sewer Utility	1,175,000		1,175,000
2026	Misc Street Projects	Sewer Utility	243,500		243,500
2026	Renew and Replace	Sewer Utility		1,700,000	1,700,000
2027	Misc Street Projects	Sewer Utility	251,000		251,000
2027	Renew and Replace	Sewer Utility		1,700,000	1,700,000
2028	Misc Street Projects	Sewer Utility	258,500		258,500
2028	Renew and Replace	Sewer Utility		1,700,000	1,700,000
	<b>Total</b>		<b>9,223,201</b>	<b>13,365,501</b>	<b>22,588,702</b>

## **Sewer Utility Financial Projections**

The financial projections for the Sewer Fund assume the City would maintain a minimum cash balance equal to three months of anticipated operating expenses and one-year's debt service within the planning period, as well as a \$1 million reserve for rate stability due to large users. In addition, the fund would maintain positive operating income.

To determine the appropriate user rates needed for the operation of the Sewer Fund, we have projected future revenue and expenses and have incorporated the anticipated future capital outlay needs from the C.I.P. The financial projections began with the Sewer Utility expenses. Expenses were projected based on an analysis of past trends, capital improvements, and the assumptions previously stated. The 2018 budget figures were used as the base for expense projections. Revenues were projected to ensure the recommended income, cash flow, and level of ending cash balances were met each year.

The projection shows that annual increases of 1.0% are needed in the current rate structure to maintain positive operating income throughout the planning period. Net income is projected to be positive over the period from 2018 through 2024 and becoming negative in 2025 primarily as a result of interest expense on existing and projected debt. Ending cash is projected to decrease from approximately \$3.2 million at the end of 2018 to approximately \$2.0 million at the end of 2022 where it is then projected to increase reaching approximately \$4.0 million at the end of 2028.

The financial projection is shown on the following pages.

## Sewer Utility Financial Projections

Projected Sewer Rate Adjustment	Projected Change	<i>Calculate</i>	1.00%	1.00%	1.00%	1.00%	1.00%
	2019-2029	2018	2019	2020	2021	2022	2023
<b>Revenues</b>							
Charges for Services (Growth from new customers only!)	0.50%	4,370,236	4,436,008	4,502,770	4,570,537	4,639,323	4,709,145
Penalties	3.00%	28,000	29,128	30,302	31,523	32,794	34,115
Other Revenue	3.00%	-	-	-	-	-	-
<b>Total Revenue</b>		<b>4,398,236</b>	<b>4,465,136</b>	<b>4,533,072</b>	<b>4,602,060</b>	<b>4,672,117</b>	<b>4,743,260</b>
<b>Operating Expenses</b>							
Personal services	4.50%	658,180	687,798	718,749	751,093	784,892	820,212
Supplies	2.00%	592,000	603,840	615,917	628,235	640,800	653,616
Other services and charges	5.00%	514,926	768,000	656,400	689,220	723,681	759,865
Insurance	0.00%	27,167	27,167	27,167	27,167	27,167	27,167
Utilities	2.50%	404,500	414,613	424,978	435,602	446,492	457,655
Existing Depreciation		1,145,000	1,087,750	1,033,363	981,694	932,610	885,979
New Depreciation			31,840	121,353	218,662	508,147	592,774
<b>Total Operating Expenses</b>		<b>3,341,773</b>	<b>3,621,008</b>	<b>3,597,927</b>	<b>3,731,673</b>	<b>4,063,789</b>	<b>4,197,268</b>
<b>Operating Income (Loss)</b>		<b>1,056,463</b>	<b>844,129</b>	<b>935,146</b>	<b>870,387</b>	<b>608,329</b>	<b>545,993</b>
<b>Non Operating Revenues (Expenses)</b>							
Intergovernmental		-					
Investment income		35,000	31,778	35,072	26,992	24,200	19,587
Other income (expense)		1,000	1,000	1,000	1,000	1,000	1,000
Interest expense-existing		(163,717)	(128,288)	(95,494)	(60,698)	(22,613)	(17,522)
Interest expense-new			-	-	-	(220,523)	(209,912)
<b>Total Non Operating Revenues (Expenses)</b>		<b>(127,717)</b>	<b>(95,510)</b>	<b>(59,421)</b>	<b>(32,705)</b>	<b>(217,935)</b>	<b>(206,846)</b>
<b>Net Income (Loss) Before Transfers</b>		<b>928,746</b>	<b>748,619</b>	<b>875,724</b>	<b>837,682</b>	<b>390,393</b>	<b>339,146</b>
<b>Operating Transfers</b>							
Transfers In		-	1,700,000				
Transfers (Out)		-		(179,490)	(179,490)	(179,490)	(179,490)
<b>Total Operating Transfers</b>		<b>-</b>	<b>1,700,000</b>	<b>(179,490)</b>	<b>(179,490)</b>	<b>(179,490)</b>	<b>(179,490)</b>
<b>Net Income (Loss)</b>		<b>928,746</b>	<b>2,448,619</b>	<b>696,235</b>	<b>658,192</b>	<b>210,904</b>	<b>159,657</b>
<b>Beginning Cash &amp; Investments</b>		<b>3,186,931</b>	<b>3,177,811</b>	<b>3,507,208</b>	<b>2,699,250</b>	<b>2,419,969</b>	<b>1,958,744</b>
Net Income		928,746	2,448,619	696,235	658,192	210,904	159,657
Depreciation		1,145,000	1,119,590	1,154,716	1,200,356	1,440,756	1,478,753
Acquisition and Construction of Assets		(566,807)	(1,706,928)	(1,246,169)	(5,669,699)	(1,692,547)	(1,950,349)
Proceeds from New Long-Term Debt		-	-	-	4,900,501	-	1,680,000
Payments on New Long-Term Debt			-	-	-	(235,782)	(246,392)
Payments on Existing Long-Term Debt		(1,516,059)	(1,531,884)	(1,412,740)	(1,368,631)	(184,556)	(189,073)
<b>Ending Cash Balance</b>		<b>3,177,811</b>	<b>3,507,208</b>	<b>2,699,250</b>	<b>2,419,969</b>	<b>1,958,744</b>	<b>2,891,341</b>

## Sewer Utility Financial Projections

Projected Sewer Rate Adjustment	Projected Change	1.00%	1.00%	1.00%	1.00%	1.00%
	2019-2029	2024	2025	2026	2027	2028
<b>Revenues</b>						
Charges for Services (Growth from new customers only!)	0.50%	4,780,018	4,851,957	4,924,979	4,999,100	5,074,336
Penalties	3.00%	35,490	36,921	38,408	39,956	41,567
Other Revenue	3.00%	-	-	-	-	-
<b>Total Revenue</b>		<b>4,815,508</b>	<b>4,888,878</b>	<b>4,963,387</b>	<b>5,039,056</b>	<b>5,115,903</b>
<b>Operating Expenses</b>						
Personal services	4.50%	857,122	895,692	935,998	978,118	1,022,133
Supplies	2.00%	666,688	680,022	693,622	707,495	721,645
Other services and charges	5.00%	797,858	837,751	879,639	923,621	969,802
Insurance	0.00%	27,167	27,167	27,167	27,167	27,167
Utilities	2.50%	469,096	480,823	492,844	505,165	517,794
Existing Depreciation		841,680	799,596	759,616	721,636	685,554
New Depreciation		691,542	789,068	945,452	1,042,627	1,140,177
<b>Total Operating Expenses</b>		<b>4,351,153</b>	<b>4,510,120</b>	<b>4,734,338</b>	<b>4,905,828</b>	<b>5,084,272</b>
<b>Operating Income (Loss)</b>		<b>464,355</b>	<b>378,758</b>	<b>229,049</b>	<b>133,228</b>	<b>31,631</b>
<b>Non Operating Revenues (Expenses)</b>						
Intergovernmental						
Investment income		28,913	36,785	25,988	31,883	36,393
Other income (expense)		1,000	1,000	1,000	1,000	1,000
Interest expense-existing		(12,563)	(8,153)	(3,951)	(990)	-
Interest expense-new		(274,425)	(335,026)	(315,468)	(371,531)	(422,993)
<b>Total Non Operating Revenues (Expenses)</b>		<b>(257,074)</b>	<b>(305,393)</b>	<b>(292,432)</b>	<b>(339,638)</b>	<b>(385,601)</b>
<b>Net Income (Loss) Before Transfers</b>		<b>207,281</b>	<b>73,365</b>	<b>(63,383)</b>	<b>(206,410)</b>	<b>(353,969)</b>
<b>Operating Transfers</b>						
Transfers In						
Transfers (Out)		(179,490)	(179,490)	(179,490)	(179,490)	(179,490)
<b>Total Operating Transfers</b>		<b>(179,490)</b>	<b>(179,490)</b>	<b>(179,490)</b>	<b>(179,490)</b>	<b>(179,490)</b>
<b>Net Income (Loss)</b>		<b>27,792</b>	<b>(106,125)</b>	<b>(242,873)</b>	<b>(385,899)</b>	<b>(533,459)</b>
<b>Beginning Cash &amp; Investments</b>		2,891,341	3,678,516	2,598,773	3,188,305	3,639,273
Net Income		27,792	(106,125)	(242,873)	(385,899)	(533,459)
Depreciation		1,533,222	1,588,664	1,705,068	1,764,262	1,825,731
Acquisition and Construction of Assets		(1,950,527)	(1,952,676)	(1,943,500)	(1,951,000)	(1,958,500)
Proceeds from New Long-Term Debt		1,685,000	-	1,700,000	1,700,000	1,700,000
Payments on New Long-Term Debt		(338,311)	(434,607)	(454,164)	(556,395)	(663,226)
Payments on Existing Long-Term Debt		(170,000)	(175,000)	(175,000)	(120,000)	-
<b>Ending Cash Balance</b>		<b>3,678,516</b>	<b>2,598,773</b>	<b>3,188,305</b>	<b>3,639,273</b>	<b>4,009,819</b>

## Sewer Utility Recommended Reserves

### 2018 - 2023

Projected Sewer Rate Adjustment	<i>Calculate</i>	1.00%	1.00%	1.00%	1.00%	1.00%
	2018	2019	2020	2021	2022	2023
<b>Minimum Cash Balance</b>						
For ongoing operations	835,443	905,252	899,482	932,918	1,015,947	1,049,317
For debt service	1,660,172	1,508,234	1,429,329	663,473	662,899	795,298
For large user rate stabilization	499,999	500,000	500,000	500,000	500,000	750,000
<b>Minimum Cash Balance Required</b>	<b>2,995,614</b>	<b>2,913,485</b>	<b>2,828,810</b>	<b>2,096,391</b>	<b>2,178,846</b>	<b>2,594,615</b>
Amount Over (Under) Minimum	182,197	593,722	(129,561)	323,578	(220,101)	296,726

### 2024 - 2028

Projected Sewer Rate Adjustment	Projected Change	1.00%	1.00%	1.00%	1.00%	1.00%
	2019-2029	2024	2025	2026	2027	2028
<b>Minimum Cash Balance</b>						
For ongoing operations		1,087,788	1,127,530	1,183,585	1,226,457	1,271,068
For debt service		952,785	948,584	1,048,916	1,086,219	954,865
For large user rate stabilization		965,000	980,000	995,000	1,010,000	1,025,000
<b>Minimum Cash Balance Required</b>		<b>3,005,573</b>	<b>3,056,113</b>	<b>3,227,500</b>	<b>3,322,676</b>	<b>3,250,932</b>
Amount Over (Under) Minimum		672,943	(457,340)	(39,195)	316,597	758,886

## 5. Storm Water Utility

### Capital Outlay

To determine the appropriate future fees and rates needed for the operation of the Storm Water Utility over the planning period, we have incorporated the anticipated future capital outlay needs provided by the City. We have also estimated the annual renewal and replacement costs that should be included in the City's capital improvement plan as we did for the Storm Water Utility.

The annual renewal and replacement costs were estimated based on the life of the assets, the acquisition cost, and an empirical probability of failure analysis. All of the Storm Water Utility's assets were included in this analysis. Asset failures were projected based on the following probabilities:

- Failure at asset life 10%
- Failure at 1.25 times asset life 15%
- Failure at 1.5 times asset life 20%
- Failure at 1.75 times asset life 25%
- Failure at 2.0 times asset life 30%

This analysis assumed all of the assets would fail and need to be replaced within two times their expected life. Replacement costs were estimated to be the asset acquisition costs inflated to the year of construction using the most recent ten-year average of American City and County construction cost index.

The estimated capital improvements used in the financial projections include those projected in the City's C.I.P. and the annual renewal and replacement cost determined above. Capital outlay is projected to be \$7,642,587 over the planning period. Approximately \$3.6M of the capital items are projected to be paid from cash in the Storm Water Fund, with other \$4.0M projected to be financed with debt. These capital costs and their projected source of funding are shown in the table below.

Year	Project	Dept.	Storm Water Utility	G.O. Storm Water Revenue Bond	Totals
2018	Washington Street Mill and Overlay	Storm Water Utility	17,115		17,115
2018	Downtown Parking Lots Rehabilitation	Storm Water Utility	40,517		40,517
2018	Division and Seventh Street Reconstruction	Storm Water Utility	179,102		179,102
2019	NW Area Reclamation	Storm Water Utility	112,667		112,667
2019	TH 246 and Jefferson Parkway	Storm Water Utility	122,239		122,239
2020	NE Area Mill and Overlay	Storm Water Utility	126,931		126,931
2020	College and Winona Street Reconstruction	Storm Water Utility	218,050		218,050
2020	Golf Course, Parmeadow Park #1 & #3 Pond Dredging	Storm Water Utility		690,470	690,470
2021	Water Street South Reconstruction	Storm Water Utility	36,800		36,800
2021	Mayflower Hill Reconstruction	Storm Water Utility	110,546		110,546
2022	Odd Fellow Area Reconstruction	Storm Water Utility	37,800		37,800
2022	2006 Ford Water Truck	Storm Water Utility	108,000		108,000
2022	Prairie Hills #1 and Hidden Valley Pond Dredging	Storm Water Utility		789,610	789,610
2023	Wall Street Road Reconstruction	Storm Water Utility	459,240		459,240
2023	West Riverwall Floodwall Extension	Storm Water Utility		2,000,000	2,000,000
2024	Misc Street Projects	Storm Water Utility	266,500		266,500
2024	Hills #3 Cannon & Locust Pond Dredging	Storm Water Utility		600,000	600,000
2025	2017 Elgin Pelican NP Street Sweeper	Storm Water Utility	87,000		87,000
2025	Misc Street Projects	Storm Water Utility	410,000		410,000
2026	Misc Street Projects	Storm Water Utility	410,000		410,000
2027	Misc Street Projects	Storm Water Utility	410,000		410,000
2028	Misc Street Projects	Storm Water Utility	410,000		410,000
	<b>Total</b>		<b>3,562,507</b>	<b>4,080,080</b>	<b>7,642,587</b>

## **Storm Water Utility Financial Projections**

As with the Water and Sewer Funds, financial projections for the Storm Water Fund assume the City would maintain a minimum cash balance equal to three months of anticipated operating expenses and one-year's debt service within the planning period. Stormwater run-off and resulting revenues are unlikely to be impacted considerably should Post stop operating in the City. Therefore, there is no recommendation for an additional large user rate stability reserve.

To determine the appropriate user rates needed for the operation of the Sewer Fund, we have projected future revenue and expenses and have incorporated the anticipated future capital outlay needs from the C.I.P. The financial projections began with the Storm Water Utility expenses. Expenses were projected based on an analysis of past trends, capital improvements, and the assumptions previously stated. The 2018 budget figures were used as the base for expense projections. Revenues were projected to ensure the recommended income, cash flow, and level of ending cash balances were met each year.

The projection shows that annual increases of 4.0% are needed in the current rate structure to maintain positive operating income throughout the planning period. Ending cash is projected to increase from approximately \$368,000 at the end of 2018 to approximately \$1.2 million at the end of 2024 where it is then projected to decrease reaching approximately \$752,000 at the end of 2028.

The financial projection is shown on the following pages.

## Storm Water Utility Financial Projections

Projected Storm Water Rate Adjustment	Projected Change	Calculate	4.00%	4.00%	4.00%	4.00%	4.00%
	2019-2028	2018	2019	2020	2021	2022	2023
<b>Operating Revenues</b>							
Charges for Services (Growth from new customers only!)	0.50%	875,607	915,184	956,551	999,787	1,044,977	1,092,210
Other Revenue	3.00%	-	-	-	-	-	-
<b>Total Operating Revenue</b>		<b>875,607</b>	<b>915,184</b>	<b>956,551</b>	<b>999,787</b>	<b>1,044,977</b>	<b>1,092,210</b>
<b>Operating Expenses</b>							
Personal services	4.50%	110,873	115,862	121,076	126,525	132,218	138,168
Supplies	2.00%	64,925	66,224	67,548	68,899	70,277	71,682
Other services and charges	5.00%	213,403	224,073	235,277	247,041	259,393	272,362
Insurance	0.00%	1,220	1,220	1,220	1,220	1,220	1,220
Existing Depreciation		225,000	213,750	203,063	192,909	183,264	174,101
New Depreciation		-	11,837	23,582	75,355	82,722	131,292
<b>Total Operating Expenses</b>		<b>615,421</b>	<b>632,966</b>	<b>651,765</b>	<b>711,948</b>	<b>729,093</b>	<b>788,826</b>
<b>Operating Income (Loss)</b>		<b>260,186</b>	<b>282,219</b>	<b>304,785</b>	<b>287,839</b>	<b>315,884</b>	<b>303,384</b>
<b>Non Operating Revenues (Expenses)</b>							
Intergovernmental		-					
Investment income		5,000	3,676	5,166	5,976	8,456	11,376
Other income (expense)		(22,000)	(22,000)	(22,000)	(22,000)	(22,000)	(22,000)
Interest expense-new			-	-	-	-	-
Interest expense-existing		(16,209)	(6,099)	(4,158)	(2,324)	(700)	-
New Special Assessments			-	-	-	-	-
<b>Total Non Operating Revenues (Expenses)</b>		<b>(33,209)</b>	<b>(24,423)</b>	<b>(20,992)</b>	<b>(18,348)</b>	<b>(14,244)</b>	<b>(10,624)</b>
<b>Net Income (Loss) Before Transfers</b>		<b>226,977</b>	<b>257,796</b>	<b>283,793</b>	<b>269,491</b>	<b>301,639</b>	<b>292,760</b>
<b>Beginning Cash &amp; Investments</b>		<b>416,437</b>	<b>367,618</b>	<b>516,606</b>	<b>597,575</b>	<b>845,559</b>	<b>1,137,574</b>
Net Income		226,977	257,796	283,793	269,491	301,639	292,760
Depreciation		225,000	225,587	226,645	268,264	265,986	305,393
Acquisition and Construction of Assets		(236,734)	(234,906)	(1,035,451)	(147,346)	(935,410)	(2,459,240)
Proceeds from New Long-Term Debt		-	-	690,470	-	789,610	2,000,000
Payments on New Long-Term Debt			-	-	(57,510)	(59,810)	(127,970)
Payments on Existing Long-Term Debt		(264,062)	(99,488)	(84,488)	(84,915)	(70,000)	-
<b>Ending Cash Balance</b>		<b>367,618</b>	<b>516,606</b>	<b>597,575</b>	<b>845,559</b>	<b>1,137,574</b>	<b>1,148,517</b>



## Storm Water Utility Financial Projections

Projected Storm Water Rate Adjustment	Projected Change	4.00%	4.00%	4.00%	4.00%	4.00%
	2019-2028	2024	2025	2026	2027	2028
<b>Operating Revenues</b>						
Charges for Services (Growth from new customers only!)	0.50%	1,141,578	1,193,177	1,247,109	1,303,478	1,362,396
Other Revenue	3.00%	-	-	-	-	-
<b>Total Operating Revenue</b>		<b>1,141,578</b>	<b>1,193,177</b>	<b>1,247,109</b>	<b>1,303,478</b>	<b>1,362,396</b>
<b>Operating Expenses</b>						
Personal services	4.50%	144,385	150,883	157,673	164,768	172,182
Supplies	2.00%	73,116	74,578	76,070	77,591	79,143
Other services and charges	5.00%	285,980	300,279	315,293	331,058	347,611
Insurance	0.00%	1,220	1,220	1,220	1,220	1,220
Existing Depreciation		165,396	157,126	149,270	141,806	134,716
New Depreciation		254,254	297,579	328,954	349,454	369,954
<b>Total Operating Expenses</b>		<b>924,352</b>	<b>981,666</b>	<b>1,028,480</b>	<b>1,065,898</b>	<b>1,104,827</b>
<b>Operating Income (Loss)</b>		<b>217,226</b>	<b>211,511</b>	<b>218,629</b>	<b>237,581</b>	<b>257,569</b>
<b>Non Operating Revenues (Expenses)</b>						
Intergovernmental						
Investment income		11,485	12,087	10,064	9,052	8,200
Other income (expense)		(22,000)	(22,000)	(22,000)	(22,000)	(22,000)
Interest expense-new		-	-	-	-	-
Interest expense-existing		-	-	-	-	-
New Special Assessments		-	-	-	-	-
<b>Total Non Operating Revenues (Expenses)</b>		<b>(10,515)</b>	<b>(9,913)</b>	<b>(11,936)</b>	<b>(12,948)</b>	<b>(13,800)</b>
<b>Net Income (Loss) Before Transfers</b>		<b>206,711</b>	<b>201,599</b>	<b>206,693</b>	<b>224,633</b>	<b>243,768</b>
<b>Beginning Cash &amp; Investments</b>		1,148,517	1,208,708	1,006,379	905,199	819,950
Net Income		206,711	201,599	206,693	224,633	243,768
Depreciation		419,650	454,705	478,224	491,260	504,670
Acquisition and Construction of Assets		(866,500)	(497,000)	(410,000)	(410,000)	(410,000)
Proceeds from New Long-Term Debt		600,000	-	-	-	-
Payments on New Long-Term Debt		(299,671)	(361,632)	(376,097)	(391,141)	(406,787)
Payments on Existing Long-Term Debt		-	-	-	-	-
<b>Ending Cash Balance</b>		<b>1,208,708</b>	<b>1,006,379</b>	<b>905,199</b>	<b>819,950</b>	<b>751,602</b>

## Storm Water Utility Recommended Reserves

### 2018 - 2023

Projected Storm Water Rate Adjustment	<b>Calculate</b>	4.00%	4.00%	4.00%	4.00%	4.00%
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Minimum Cash Balance</b>						
For ongoing operations	153,855	158,241	162,941	177,987	182,273	197,206
For debt service	105,587	88,646	144,748	130,510	127,970	299,671
<b>Minimum Cash Balance Required</b>	<b>259,443</b>	<b>246,888</b>	<b>307,690</b>	<b>308,497</b>	<b>310,243</b>	<b>496,877</b>
Amount Over (Under) Minimum	108,175	269,718	289,885	537,062	827,330	651,640

### 2024 - 2028

Projected Storm Water Rate Adjustment	Projected Change	4.00%	4.00%	4.00%	4.00%	4.00%
	<b>2019-2028</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
<b>Minimum Cash Balance</b>						
For ongoing operations		231,088	245,416	257,120	266,474	276,207
For debt service		361,632	376,097	391,141	406,787	423,058
<b>Minimum Cash Balance Required</b>		<b>592,720</b>	<b>621,514</b>	<b>648,261</b>	<b>673,261</b>	<b>699,265</b>
Amount Over (Under) Minimum		615,987	384,865	256,937	146,689	52,337

## 6. Garbage Utility

### Capital Outlay

To determine the appropriate future fees and rates needed for the operation of the Garbage Utility over the planning period, we have incorporated the anticipated future capital outlay needs provided by the City.

The estimated capital improvements used in the financial projections include those projected in the City's C.I.P. Capital outlay is projected to be \$148,000 over the planning period. The capital items are projected to be paid from cash in the Garbage Fund. These capital costs and their projected source of funding are shown in the table below.

Year	Project	Dept.	Garbage Utility	G.O. Garbage Revenue Bonds	Totals
2022	2006 Ford Water Truck	Garbage Utility	72,000		72,000
2024	2009 Caterpillar 938H Front End Loader	Garbage Utility	76,000		76,000
	<b>Total</b>		<b>148,000</b>	<b>-</b>	<b>148,000</b>

## Garbage Utility Financial Projections

The financial projections for the Garbage Fund assume the City would maintain a minimum cash balance equal to three months of anticipated operating expenses and one-year's debt service within the planning period. In addition, the fund would maintain positive operating income.

To determine the appropriate user rates needed for the operation of the Garbage Fund, we have projected future revenue and expenses and have incorporated the anticipated future capital outlay needs from the C.I.P. The financial projections began with the Garbage Utility expenses. Expenses were projected based on an analysis of past trends, capital improvements, and the assumptions previously stated. The 2018 budget figures were used as the base for expense projections. Revenues were projected to ensure the recommended income, cash flow, and level of ending cash balances were met each year.

With operating expenses projected to increase higher than operating revenues in the early years, we recommend annual increases of 1% beginning in 2023 to maintain the current cash position. However, operating income is projected to be negative 2024 through 2028. The City should monitor this fund as hauling contracts are renewed and adjust rates accordingly.

The financial projection is shown on the following pages.

## Garbage Utility Financial Projections

Projected Garbage Rate Adjustment	<i>Calculate</i>	0.00%	0.00%	0.00%	0.00%	1.00%
	2018	2019	2020	2021	2022	2023
<b>Revenues</b>						
Charges for Services (Growth from new customers only!)	892,252	896,713	901,197	905,703	910,231	923,930
Penalties	11,000	11,330	11,670	12,020	12,381	12,880
Other Revenue	-	-	-	-	-	-
<b>Total Revenue</b>	<b>903,252</b>	<b>908,043</b>	<b>912,867</b>	<b>917,723</b>	<b>922,612</b>	<b>936,810</b>
<b>Operating Expenses</b>						
Personal services	47,525	49,664	51,898	54,234	56,674	59,225
Supplies	3,100	3,162	3,225	3,290	3,356	3,423
Other services and charges	138,494	145,419	152,690	160,324	168,340	176,757
Garbage hauling	440,000	448,800	457,776	466,932	476,270	485,796
Landfill charges	183,000	186,660	190,393	194,201	198,085	202,047
Insurance	4,239	4,239	4,239	4,239	4,239	4,239
Utilities	370	392	416	441	467	495
Existing Depreciation	-	-	-	-	-	-
New Depreciation	-	-	-	-	-	4,800
<b>Total Operating Expenses</b>	<b>816,728</b>	<b>838,336</b>	<b>860,637</b>	<b>883,660</b>	<b>907,432</b>	<b>936,781</b>
<b>Operating Income (Loss)</b>	<b>86,524</b>	<b>69,708</b>	<b>52,229</b>	<b>34,063</b>	<b>15,180</b>	<b>29</b>
<b>Non Operating Revenues (Expenses)</b>						
Intergovernmental	-	-	-	-	-	-
Investment income	3,000	9,104	9,892	10,513	10,959	10,500
Interest expense-existing	-	-	-	-	-	-
Interest expense-new	-	-	-	-	-	-
Other	-	-	-	-	-	-
<b>Total Non Operating Revenues (Expenses)</b>	<b>3,000</b>	<b>9,104</b>	<b>9,892</b>	<b>10,513</b>	<b>10,959</b>	<b>10,500</b>
<b>Net Income (Loss) Before Transfers</b>	<b>89,524</b>	<b>78,811</b>	<b>62,121</b>	<b>44,576</b>	<b>26,139</b>	<b>10,529</b>
<b>Operating Transfers</b>						
Transfers In	-	-	-	-	-	-
Transfers (Out)	(302,081)	-	-	-	-	-
<b>Total Operating Transfers</b>	<b>(302,081)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Net Income (Loss)</b>	<b>(212,557)</b>	<b>78,811</b>	<b>62,121</b>	<b>44,576</b>	<b>26,139</b>	<b>10,529</b>
<b>Beginning Cash &amp; Investments</b>	<b>1,122,921</b>	<b>910,364</b>	<b>989,175</b>	<b>1,051,297</b>	<b>1,095,872</b>	<b>1,050,011</b>
Net Income	(212,557)	78,811	62,121	44,576	26,139	10,529
Depreciation	-	-	-	-	-	4,800
Amortization	-	-	-	-	-	-
Acquisition and Construction of Assets	-	-	-	-	(72,000)	-
Proceeds from New Long-Term Debt	-	-	-	-	-	-
Payments on New Long-Term Debt	-	-	-	-	-	-
Payments on Existing Long-Term Debt	-	-	-	-	-	-
<b>Ending Cash Balance</b>	<b>910,364</b>	<b>989,175</b>	<b>1,051,297</b>	<b>1,095,872</b>	<b>1,050,011</b>	<b>1,065,340</b>

## Garbage Utility

### Financial Projections

Projected Garbage Rate Adjustment	1.00%	1.00%	1.00%	1.00%	1.00%
	2024	2025	2026	2027	2028
<b>Revenues</b>					
Charges for Services (Growth from new customers only!)	937,835	951,950	966,277	980,819	995,581
Penalties	13,399	13,939	14,500	15,085	15,693
Other Revenue	-	-	-	-	-
<b>Total Revenue</b>	<b>951,234</b>	<b>965,888</b>	<b>980,777</b>	<b>995,904</b>	<b>1,011,273</b>
<b>Operating Expenses</b>					
Personal services	61,890	64,675	67,585	70,627	73,805
Supplies	3,491	3,561	3,632	3,705	3,779
Other services and charges	185,595	194,875	204,619	214,850	225,592
Garbage hauling	495,511	505,422	515,530	525,841	536,358
Landfill charges	206,088	210,209	214,414	218,702	223,076
Insurance	4,239	4,239	4,239	4,239	4,239
Utilities	525	556	590	625	663
Existing Depreciation					
New Depreciation	4,800	9,867	9,867	9,867	9,867
<b>Total Operating Expenses</b>	<b>962,139</b>	<b>993,404</b>	<b>1,020,475</b>	<b>1,048,455</b>	<b>1,077,378</b>
<b>Operating Income (Loss)</b>	<b>(10,905)</b>	<b>(27,516)</b>	<b>(39,698)</b>	<b>(52,551)</b>	<b>(66,105)</b>
<b>Non Operating Revenues (Expenses)</b>					
Intergovernmental					
Investment income	10,653	9,939	9,862	9,662	9,332
Interest expense-existing	-	-	-	-	-
Interest expense-new	-	-	-	-	-
Other					
<b>Total Non Operating Revenues (Expenses)</b>	<b>10,653</b>	<b>9,939</b>	<b>9,862</b>	<b>9,662</b>	<b>9,332</b>
<b>Net Income (Loss) Before Transfers</b>	<b>(252)</b>	<b>(17,577)</b>	<b>(29,837)</b>	<b>(42,889)</b>	<b>(56,773)</b>
<b>Operating Transfers</b>					
Transfers In					
Transfers (Out)					
<b>Total Operating Transfers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Net Income (Loss)</b>	<b>(252)</b>	<b>(17,577)</b>	<b>(29,837)</b>	<b>(42,889)</b>	<b>(56,773)</b>
<b>Beginning Cash &amp; Investments</b>	<b>1,065,340</b>	<b>993,888</b>	<b>986,178</b>	<b>966,208</b>	<b>933,186</b>
Net Income	(252)	(17,577)	(29,837)	(42,889)	(56,773)
Depreciation	4,800	9,867	9,867	9,867	9,867
Amortization					
Acquisition and Construction of Assets	(76,000)	-	-	-	-
Proceeds from New Long-Term Debt	-	-	-	-	-
Payments on New Long-Term Debt	-	-	-	-	-
Payments on Existing Long-Term Debt	-	-	-	-	-
<b>Ending Cash Balance</b>	<b>993,888</b>	<b>986,178</b>	<b>966,208</b>	<b>933,186</b>	<b>886,280</b>

## Garbage Utility

### Recommended Reserves

#### 2018 - 2023

Projected Garbage Rate Adjustment	<i>Calculate</i>	0.00%	0.00%	0.00%	0.00%	1.00%
	2018	2019	2020	2021	2022	2023
<b>Minimum Cash Balance</b>						
For ongoing operations	204,182	209,584	215,159	220,915	226,858	234,195
For debt service	-	-	-	-	-	-
<b>Minimum Cash Balance Required</b>	204,182	209,584	215,159	220,915	226,858	234,195
Amount Over (Under) Minimum	706,182	779,591	836,137	874,957	823,153	831,145

#### 2024 - 2028

Projected Garbage Rate Adjustment	1.00%	1.00%	1.00%	1.00%	1.00%
	2024	2025	2026	2027	2028
<b>Minimum Cash Balance</b>					
For ongoing operations	240,535	248,351	255,119	262,114	269,344
For debt service	-	-	-	-	-
<b>Minimum Cash Balance Required</b>	240,535	248,351	255,119	262,114	269,344
Amount Over (Under) Minimum	753,353	737,827	711,089	671,073	616,936

## 7. Sample Bills

Sample bills, based on the current and proposed rates, were prepared for the following users:

- Average Single Family Residential User – uses 589 cubic feet of water/month
- Large Single Family Residential User – uses 1,150 gallons of water/month
- Colleges – use of gallons of water/month varies with Carleton operating several of their own wells.
- Commercial Users – use of gallons of water/month varies

An average residential user with 589 cubic feet of water consumption/month currently pays \$14.16 monthly for water and \$35.05 monthly for sewer. The combined cost of all utilities is \$67.69/month. Water Utility costs are projected to increase to \$14.31/month an increase of \$0.15 and Sewer Utility costs are projected to increase to \$35.40/month an increase of \$0.35 in 2019. Storm Water costs are projected to increase \$0.16 in 2019. The combined costs of all utilities are projected to increase to \$68.34/month an increase of \$0.65 in 2019. The sample monthly cost of water, sewer, garbage and storm water utilities based on the financial projections are shown in the tables below.

Sample Bills - Residential						
<b>Average Residential</b>						
589	cubic feet					
0.33	acre lot					
	2018	2019	2020	2021	2022	2023
Water	\$ 14.16	\$ 14.31	\$ 14.45	\$ 14.59	\$ 14.74	\$ 14.89
Sewer	\$ 35.05	\$ 35.40	\$ 35.76	\$ 36.12	\$ 36.48	\$ 36.84
Garbage	\$ 12.30	\$ 12.30	\$ 12.30	\$ 12.30	\$ 12.66	\$ 13.14
Storm Water	\$ 6.17	\$ 6.33	\$ 6.49	\$ 6.65	\$ 6.82	\$ 6.99
	\$ 67.69	\$ 68.34	\$ 68.99	\$ 69.66	\$ 70.69	\$ 71.86
<b>Average Residential-Winter Water Use</b>						
1,150	cf-summer					
784	cf-winter					
0.33	acre lot					
	2018	2019	2020	2021	2022	2023
Water	\$ 22.67	\$ 22.90	\$ 23.13	\$ 23.36	\$ 23.59	\$ 23.83
Sewer	\$ 43.85	\$ 44.29	\$ 44.73	\$ 45.18	\$ 45.63	\$ 46.09
Garbage	\$ 12.30	\$ 12.30	\$ 12.30	\$ 12.30	\$ 12.66	\$ 13.14
Storm Water	\$ 6.17	\$ 6.33	\$ 6.49	\$ 6.65	\$ 6.82	\$ 6.99
	\$ 84.99	\$ 85.81	\$ 86.64	\$ 87.48	\$ 88.69	\$ 90.04



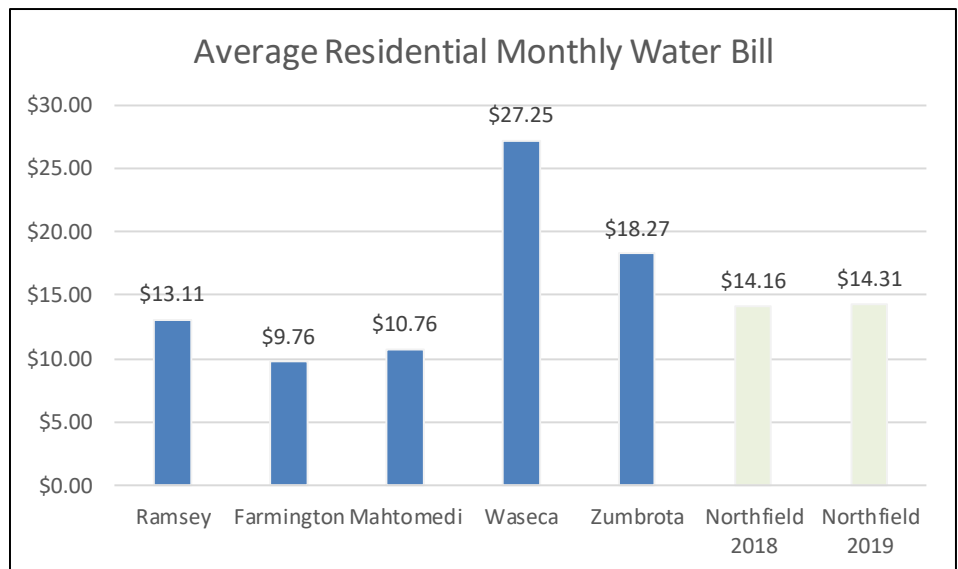
## Sample Bills

<b>Sample Bills - Colleges</b>						
<b>St. Olaf College</b>						
multiple meters						
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Water	\$ 13,424.43	\$ 13,558.68	\$ 13,694.26	\$ 13,831.21	\$ 13,969.52	\$ 14,109.21
Sewer	\$ 20,253.79	\$ 20,456.32	\$ 20,660.89	\$ 20,867.50	\$ 21,076.17	\$ 21,286.93
Garbage	\$ 456.01	\$ 456.01	\$ 456.01	\$ 456.01	\$ 467.38	\$ 476.15
Storm Water	\$ 5,822.50	\$ 5,968.06	\$ 6,117.26	\$ 6,270.19	\$ 6,426.95	\$ 6,587.62
	\$ 39,956.72	\$ 40,439.07	\$ 40,928.42	\$ 41,424.90	\$ 41,940.02	\$ 42,459.91
<b>Carleton College</b>						
multiple meters						
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Water	\$ 2,176.56	\$ 2,198.33	\$ 2,220.31	\$ 2,242.52	\$ 2,264.94	\$ 2,287.59
Sewer	\$ 23,695.71	\$ 23,932.67	\$ 24,172.00	\$ 24,413.72	\$ 24,657.85	\$ 24,904.43
Garbage	\$ 735.76	\$ 735.76	\$ 735.76	\$ 735.76	\$ 757.26	\$ 786.30
Storm Water	\$ 5,786.60	\$ 5,931.16	\$ 6,079.33	\$ 6,231.21	\$ 6,387.01	\$ 6,546.74
	\$ 32,394.63	\$ 32,797.92	\$ 33,207.40	\$ 33,623.20	\$ 34,067.06	\$ 34,525.06
<b>Sample Bills - Commercial</b>						
<b>Econo Foods</b>						
multiple meters						
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Water	\$ 391.62	\$ 395.54	\$ 399.49	\$ 403.49	\$ 407.52	\$ 411.60
Sewer	\$ 852.49	\$ 861.02	\$ 869.63	\$ 878.32	\$ 887.11	\$ 895.98
Garbage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Storm Water	\$ 152.17	\$ 155.97	\$ 159.87	\$ 163.87	\$ 167.97	\$ 172.16
	\$ 1,396.28	\$ 1,412.53	\$ 1,428.99	\$ 1,445.68	\$ 1,462.60	\$ 1,479.74
<b>Multek Flexible Circuits Inc</b>						
multiple meters						
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Water	\$ 13,289.88	\$ 13,422.78	\$ 13,557.01	\$ 13,692.58	\$ 13,829.51	\$ 13,967.80
Sewer	\$ 28,901.30	\$ 29,161.83	\$ 29,316.93	\$ 29,493.48	\$ 29,671.80	\$ 29,851.90
Garbage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Storm Water	\$ 1,259.05	\$ 1,290.53	\$ 1,322.79	\$ 1,355.86	\$ 1,389.76	\$ 1,424.50
	\$ 43,450.23	\$ 43,875.14	\$ 44,196.73	\$ 44,541.92	\$ 44,891.06	\$ 45,244.20
<b>Post</b>						
multiple meters						
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Water	\$ 33,301.75	\$ 33,634.77	\$ 33,971.12	\$ 34,310.83	\$ 34,653.94	\$ 35,000.48
Sewer	\$ 64,805.83	\$ 65,453.89	\$ 65,466.83	\$ 65,479.90	\$ 65,493.11	\$ 65,506.44
Garbage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Storm Water	\$ 2,920.17	\$ 2,985.14	\$ 3,059.71	\$ 3,136.15	\$ 3,214.49	\$ 3,294.80
	\$ 101,027.76	\$ 102,073.80	\$ 102,497.66	\$ 102,926.88	\$ 103,361.54	\$ 103,801.72

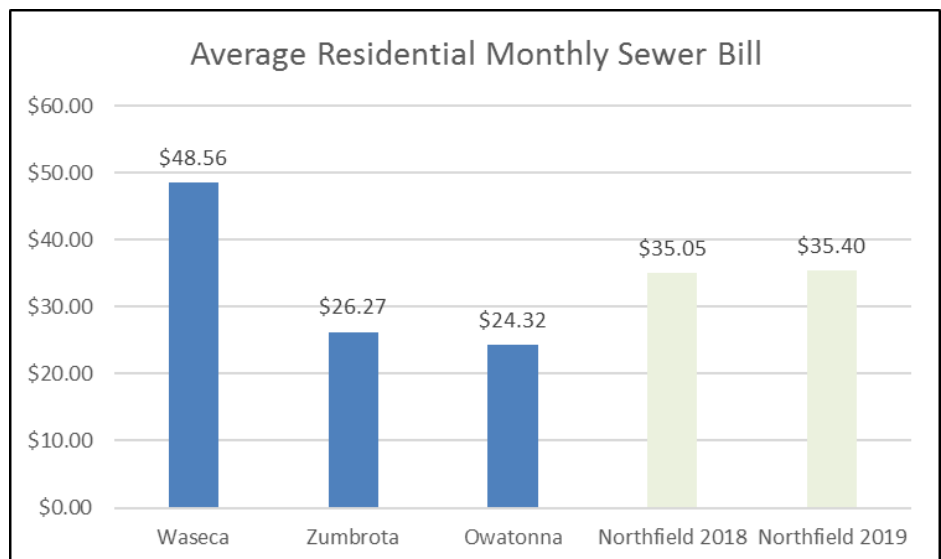
## 8. Comparison to Neighboring Communities

Although each City's utility system is unique, we understand the need to try to keep rates competitive. The charts below show the 2018 monthly water bills for an average residential customer for five neighboring communities and the 2018 and proposed 2019 water bill for Northfield. Northfield's current and projected monthly water bills are less than two of the neighboring communities with three having lower bills.

The comparison communities are based on those with groundwater sources and those that don't operate water treatment plants.



We compared Northfield's average residential sewer bill to three neighboring communities that are not linked to the Metropolitan Council's Regional Treatment Operations. Northfield's 2018 and proposed 2019 average sewer bills are higher than two of the three neighboring communities and lower than one.



## 9. Conclusions and Recommendations

This study was undertaken to review and analyze Northfield's Water, Sewer, Storm Water and Garbage Utility Funds to determine the appropriate rate structure and rate levels needed to pay for anticipated operating expenses, to provide for anticipated capital improvements, and to ensure adequate levels of cash reserves.

The following conclusions were determined as a result of this study and the financial projections prepared:

1. We recommend the City increase water rates by 1.0% annually through 2023 and 4.0% through 2028. These increases are needed to pay for anticipated operating expenses, debt service and capital outlay including the targeted amount to maintain adequate cash reserves.
2. Assuming 0.5% annual growth in sewer volume related to new growth in the City coupled the \$3 million cash balance, we recommend sewer rates should be increased annually by 1.0% for 2019 through 2028. These increases are needed to maintain positive operating income as well as to pay for anticipated operating expenses, capital outlay and debt service.
3. We recommend the City increase storm water rates by 4.0% annually through 2028. These increases are needed to pay for anticipated operating expenses, debt service and capital outlay including the targeted amount to maintain adequate cash reserves.
4. Assuming 0.5% annual growth in garbage volume related to new growth in the City coupled the \$900,000 cash balance, we recommend keeping garbage rates the same through 2022 and then increased annually by 1.0% through 2028. These increases will maintain the current cash position. However, operating income is projected to be negative 2024-2028. These rates should be monitored as new agreements with the hauler are negotiated.
5. The City should adopt a cash reserve policy that will maintain a minimum cash balance in the Utility Funds of at least three months of anticipated operating expenses and one year's debt service at the end of each year and for the Water and Sewer Funds the large user rate stabilization reserve. The current cash position in each fund is able to fund the recommended reserves, with the exception of four years in the Sewer Utility Fund.
6. We recommend the City consider adopting a policy for consistent administrative transfers across all funds based on support services provided.
7. The City should establish the user rates for all the Utility Funds for a three to five-year period. The rates should be reviewed on an annual basis concurrent with the development of the following year's budget.

These recommendations are based on information provided to us by city staff. The City will need to monitor the performance of the Water, Sewer, Storm Water and Garbage Funds and make any necessary adjustments based upon its actual performance and on the actual construction costs of the anticipated capital improvement.