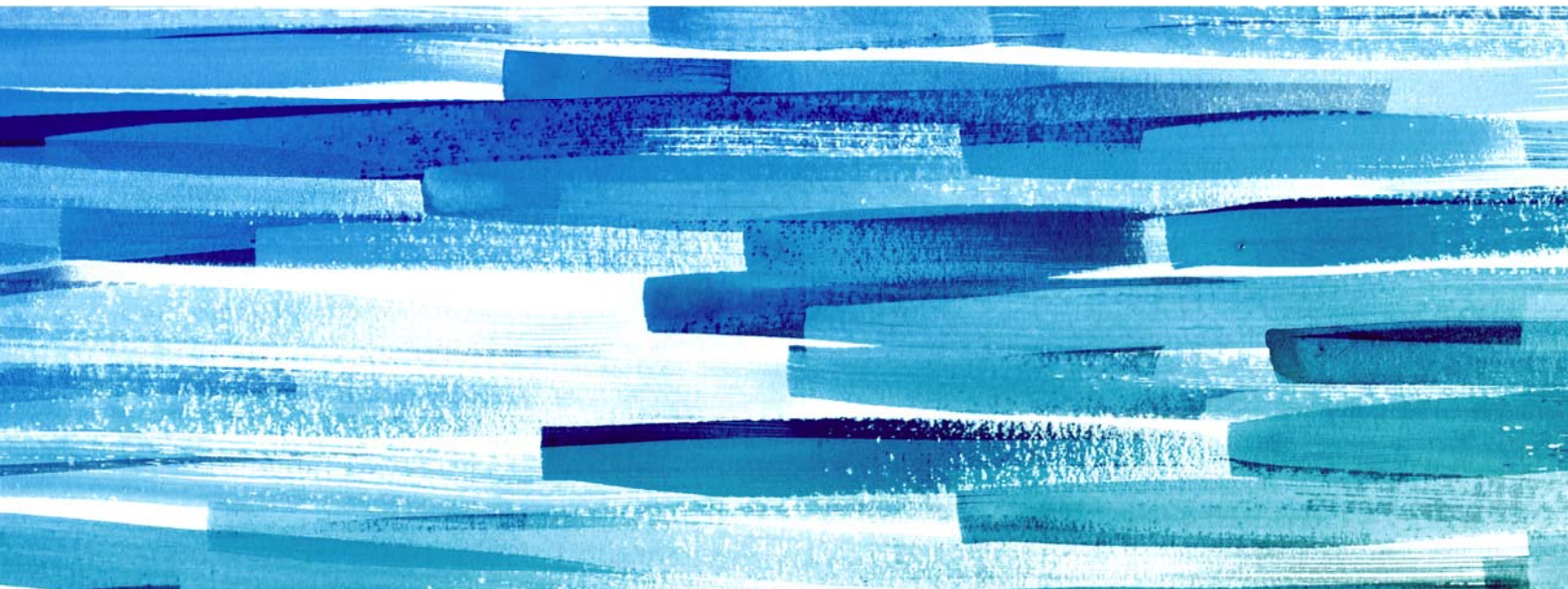


CITY OF CORNELIUS, OREGON

June 18, 2019

# UTILITY RATE STUDY



**GovRates, Inc.**  
Utility, Financial, Rate, and Management  
Consultants for Governments  
[www.govrates.com](http://www.govrates.com)

*Cornelius*

Oregon's Family Town

UTILITIES



June 18, 2019

Ms. Ellie Jones  
Finance Director  
City of Cornelius  
1355 N. Barlow Street  
Cornelius, Oregon 97113

**Subject: Utility Rate Study**

GovRates, Inc. ("GovRates") has completed our review of the water, sanitary sewer, and surface water management utility rates for the City of Cornelius (the "City") and has prepared this report which summarizes our analyses, findings, and recommendations. This utility rate study involved preparing a financial forecast through the Fiscal Year 2029. The proposed rates in this report reflect the direction provided by the City Council at a public meeting held on June 17, 2019.

Developing financial and rate plans for the City's water, sanitary sewer, and surface water management systems involved multiple considerations:

- The financial and rate plan for each system should consider utility best management practices and should promote financial sustainability and creditworthiness.
- The proposed monthly user rates should be considered equitable, affordable, and competitive.
- The proposed rate plan should not cause "rate shock" to customers. From a best financial management practices standpoint, smaller incremental increases over time can help avoid future rate shock and large "catch up" rate increases.
- The proposed rates should enable the utilities to perform the necessary capital improvements and operational changes to remain compliant with the regulatory requirements of the Oregon Department of Environmental Quality and the Oregon Health Authority.
- The proposed user rates should provide the water system with an adequate level of revenue stability given the seasonality and cyclicity of water sales.
- The water user rate structure should encourage conservation of water resources.

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- The system development charges for each utility should be calculated based on industry standards and the requirements of statutory and case law.

GovRates believes that the financial and rate plans presented in this report reflect a reasonable balance of the aforementioned considerations. Following this letter is an executive summary that provides an overview of our analyses, conclusions, and recommendations. The other sections of the report provide additional details regarding the financial forecast and rate development.

We greatly appreciate the opportunity to be of service to the City and would like to thank the City management and staff for their tremendous assistance and cooperation during the course of the utility rate study.

Yours in government service,  
**GovRates, Inc.**



Bryan A. Mantz, CMC, CGFM  
President

# CONTENTS

## Letter of Transmittal

### **EXECUTIVE SUMMARY AND RECOMMENDATIONS:**

<b>ES-1: General</b> .....	ES-1
<b>ES-2: Financial Targets</b> .....	ES-1
<b>ES-3: Summary of Recommendations – Water System</b> .....	ES-2
ES-3.1: Monthly Water User Rates .....	ES-2
Exhibit ES-1: Summarized Revenue Requirements Analysis for the Water System .....	ES-3
Exhibit ES-2: Projected Unrestricted Cash Balances for the Water System .....	ES-4
Exhibit ES-3: Projected Debt Service Coverage for the Water System .....	ES-4
ES-3.2: Water System Development Charges .....	ES-6
<b>ES-4: Summary of Recommendations – Sanitary Sewer System</b> .....	ES-6
ES-4.1: Monthly Sanitary Sewer Rates .....	ES-6
Exhibit ES-4: Summarized Revenue Requirements Analysis for the Sanitary Sewer System .....	ES-7
Exhibit ES-5: Projected Unrestricted Cash Balances for the Sanitary Sewer System Assuming Implementation of the Proposed Rate Adjustments .....	ES-8
Exhibit ES-6: Projected Unrestricted Cash Balances for the Sanitary Sewer System Without Rate Adjustments .....	ES-8
ES-4.2: Sanitary Sewer System Development Charges .....	ES-9
<b>ES-5: Summary of Recommendations – Surface Water Management System</b> .....	ES-9
ES-5.1: Monthly Surface Water Management Rates .....	ES-9
Exhibit ES-7: Summarized Revenue Requirements Analysis for the Surface Water Management System .....	ES-10
Exhibit ES-8: Projected Unrestricted Cash Balances for the Surface Water Management System .....	ES-10
ES-5.2: Surface Water Management System Development Charges .....	ES-10
<b>ES-6: Single Family Residential Combined Bill Under     Fiscal Year 2020 Monthly User Rates</b> .....	ES-11
Exhibit ES-9: Comparison of Single Family Residential Combined Bill Under Existing and Proposed Fiscal Year 2020 Monthly User Rates at Average Usage Level of 6,000 Gallons .....	ES-11
<b>ES-7: Financial Overview</b> .....	ES-12
<b>ES-8: Requested City Council Action</b> .....	ES-13
 <b>Tables:</b>	
<b>Table ES-1: Summary of Existing and Proposed Monthly Water User Rates</b> .....	ES-14
<b>Table ES-2: Summary of Existing and Proposed Monthly Sanitary Sewer and     Surface Water Management User Rates</b> .....	ES-18
<b>Table ES-3: Water System Financial Overview</b> .....	ES-19
<b>Table ES-4: Water System Multi-Year Financial Projections</b> .....	ES-24



# CONTENTS (cont.)

## EXECUTIVE SUMMARY AND RECOMMENDATIONS: (cont.)

### Tables: (cont.)

<b>Table ES-5:</b> Sanitary Sewer System Financial Overview .....	ES-26
<b>Table ES-6:</b> Sanitary Sewer System Multi-Year Financial Projections .....	ES-31
<b>Table ES-7:</b> Surface Water Management System Financial Overview .....	ES-33
<b>Table ES-8:</b> Surface Water Management System Multi-Year Financial Projections .....	ES-38

## SECTION 1: WATER SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN:

<b>1-1: Water System – Overview</b> .....	1-1
<b>1-2: Existing Water Monthly User Rates</b> .....	1-1
<b>1-3: Water System Customer Statistics</b> .....	1-2
Exhibit 1-1: Historical City Population Growth .....	1-2
Exhibit 1-2: Meter Equivalent Factors .....	1-2
Exhibit 1-3: Projected Water System Customer Statistics .....	1-3
<b>1-4: Revenues Under Existing Monthly User Rates</b> .....	1-3
Exhibit 1-4: Projected Rate Revenues Under Existing Monthly Water User Rates .....	1-4
<b>1-5: Revenue Requirements – Principal Assumptions and Considerations</b> .....	1-4
Exhibit 1-5: Projected Water System Development Charge Collections .....	1-6
Exhibit 1-6: Projection of Intergovernmental Services Expenses .....	1-7
Exhibit 1-7: Assumed Capital Improvement Program Funding Plan .....	1-8
<b>1-6: Summary of Water Revenue Requirements Analysis</b> .....	1-9
<b>1-7: Debt Service Coverage and Rate Covenants</b> .....	1-9
Exhibit 1-8: Projected Debt Service Coverage .....	1-10
<b>1-8: Projected Sources and Uses of Funds</b> .....	1-10
<b>1-9: User Rate Design – General</b> .....	1-10
Exhibit 1-9: Fiscal Year 2018 Percentages of Bill Consumption By Block (Bill Frequency Analysis) .....	1-11
<b>1-10: Proposed Monthly Water User Rate Design</b> .....	1-11
<b>1-11: Proposed Changes to Monthly Base Charges for Standby Meters</b> .....	1-12
<b>1-12: Single Family Residential Bill Comparison Under Proposed Water User Rates</b> .....	1-12
Exhibit 1-10: Single Family Residential Water Bill Comparison .....	1-13
<b>1-13: Bill Comparisons – Neighboring Utilities</b> .....	1-13

### Tables and Figures:

<b>Table 1-1:</b> Summary of Historical and Projected Water Customer Statistics .....	1-15
<b>Table 1-2:</b> Projected Water User Rate Revenues Under Existing Rates .....	1-17
<b>Table 1-3:</b> Development of Net Revenue Requirements from User Rates and Projected Revenue Adjustments – Water System .....	1-18
<b>Table 1-4:</b> Water System Historical and Budgeted Expenditures .....	1-19

# CONTENTS (cont.)

## SECTION 1: WATER SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN: (cont.)

### Tables and Figures (cont.):

<b>Table 1-5:</b> Projected Operating Expenses – Water System .....	1-20
<b>Table 1-6:</b> Projected Intergovernmental Services Expenses .....	1-21
<b>Table 1-7:</b> Estimated Multi-Year Capital Improvement Program and Funding Sources .....	1-22
<b>Table 1-8:</b> Projection of Fund Cash Balances and Interest Income .....	1-23
<b>Table 1-9:</b> Projected Other Operating Revenues .....	1-25
<b>Table 1-10:</b> Summary of Sources and Uses of Funds .....	1-26
<b>Table 1-11:</b> Comparison of Typical Monthly Residential Bills for Water Service .....	1-27
<b>Figure 1-1:</b> Comparison of Monthly Charges for Water Service for Single Family Residential Customers Using 6,000 Gallons (802 Cubic Feet) .....	1-28

## SECTION 2: SANITARY SEWER SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN:

<b>2-1: Sanitary Sewer System – Overview .....</b>	2-1
<b>2-2: Existing Sanitary Sewer Monthly User Rates .....</b>	2-1
<b>2-3: Sanitary Sewer System Customer Statistics .....</b>	2-2
Exhibit 2-1: Projected Sanitary Sewer System Customer Statistics .....	2-2
<b>2-4: Revenues Under Existing Monthly Sanitary Sewer Rates .....</b>	2-3
Exhibit 2-2: Projected Rate Revenues Under Existing Monthly Sanitary Sewer Rates .....	2-3
<b>2-5: Revenue Requirements – Principal Assumptions and Considerations .....</b>	2-3
Exhibit 2-3: Projected Sanitary Sewer System Development Charge Collections .....	2-5
Exhibit 2-4: Projection of Intergovernmental Services Expenses .....	2-6
Exhibit 2-5: Assumed Capital Improvement Program Funding Plan .....	2-7
<b>2-6: Summary of Sanitary Sewer Revenue Requirements Analysis .....</b>	2-8
<b>2-7: Projected Sources and Uses of Funds .....</b>	2-9
<b>2-8: Single Family Residential Bill Comparison Under Proposed Sanitary Sewer Rates .....</b>	2-9
Exhibit 2-10: Single Family Residential Sanitary Sewer Bill Comparison .....	2-9
<b>2-9: Bill Comparisons – Neighboring Utilities .....</b>	2-9

### Tables and Figures:

<b>Table 2-1:</b> Summary of Historical and Projected Sanitary Sewer Customer Statistics .....	2-11
<b>Table 2-2:</b> Projected Sanitary Sewer Rate Revenues Under Existing Rates .....	2-12
<b>Table 2-3:</b> Development of Net Revenue Requirements from User Rates and Projected Revenue Adjustments – Sanitary Sewer System .....	2-13
<b>Table 2-4:</b> Sanitary Sewer System Historical and Budgeted Expenditures .....	2-14
<b>Table 2-5:</b> Projected Operating Expenses – Sanitary Sewer System .....	2-15

# CONTENTS (cont.)

## **SECTION 2: SANITARY SEWER SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN: (cont.)**

### **Tables and Figures (cont.):**

<b>Table 2-6:</b> Estimated Multi-Year Capital Improvement Program and Funding Sources .....	2-16
<b>Table 2-7:</b> Projection of Fund Cash Balances and Interest Income .....	2-17
<b>Table 2-8:</b> Projected Other Operating Revenues .....	2-18
<b>Table 2-9:</b> Summary of Sources and Uses of Funds .....	2-19
<b>Table 2-10:</b> Comparison of Typical Monthly Residential Bills for Sanitary Sewer Service .....	2-20
<b>Figure 2-1:</b> Comparison of Monthly Charges for Sanitary Sewer Service for Single Family Residential Customers Using 6,000 Gallons (802 Cubic Feet) .....	2-21

## **SECTION 3: SURFACE WATER MANAGEMENT SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN:**

<b>3-1: Surface Water Management System – Overview .....</b>	<b>3-1</b>
<b>3-2: Existing Surface Water Management Monthly User Rates .....</b>	<b>3-1</b>
<b>3-3: Surface Water Management System Customer Statistics .....</b>	<b>3-2</b>
Exhibit 3-1: Projected Surface Water Management System Customer Statistics .....	3-2
<b>3-4: Revenues Under Existing Monthly Surface Water Management Rates .....</b>	<b>3-3</b>
Exhibit 3-2: Projected Rate Revenues Under Existing Monthly Surface Water Management Rates .....	3-3
<b>3-5: Revenue Requirements – Principal Assumptions and Considerations .....</b>	<b>3-4</b>
Exhibit 3-3: Projected Surface Water Management System Development Charge Collections .....	3-5
Exhibit 3-4: Projection of Intergovernmental Services Expenses .....	3-6
Exhibit 3-5: Assumed Capital Improvement Program Funding Plan .....	3-7
<b>3-6: Summary of Surface Water Management Revenue Requirements Analysis .....</b>	<b>3-8</b>
<b>3-7: Projected Sources and Uses of Funds .....</b>	<b>3-8</b>
<b>3-8: Bill Comparisons – Neighboring Utilities .....</b>	<b>3-9</b>

### **Tables and Figures:**

<b>Table 3-1:</b> Summary of Historical and Projected Surface Water Management Customer Statistics ..	3-10
<b>Table 3-2:</b> Projected Surface Water Management Rate Revenues Under Existing Rates .....	3-11
<b>Table 3-3:</b> Development of Net Revenue Requirements from User Rates and Projected Revenue Adjustments – Surface Water Management System .....	3-12
<b>Table 3-4:</b> Surface Water Management System Historical and Budgeted Expenditures .....	3-13
<b>Table 3-5:</b> Projected Operating Expenses – Surface Water Management System .....	3-14
<b>Table 3-6:</b> Estimated Multi-Year Capital Improvement Program and Funding Sources .....	3-15
<b>Table 3-7:</b> Projection of Fund Cash Balances and Interest Income .....	3-16
<b>Table 3-8:</b> Projected Other Operating Revenues .....	3-17

# CONTENTS (cont.)

## SECTION 3: SURFACE WATER MANAGEMENT SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN: (cont.)

### Tables and Figures (cont.):

<b>Table 3-9:</b> Summary of Sources and Uses of Funds .....	3-18
<b>Table 3-10:</b> Comparison of Surface Water Management Fees Per ESU .....	3-19
<b>Figure 3-1:</b> Comparison of Monthly Charges for Surface Water Management Service for Single Family Residential Customers .....	3-20

## APPENDIX: EXISTING RATE RESOLUTION





**EXECUTIVE SUMMARY  
AND RECOMMENDATIONS**

# EXECUTIVE SUMMARY AND RECOMMENDATIONS

## ES-1: General

---

The City of Cornelius (the "City") owns water, sanitary sewer, and surface water management systems that provide essential services on a continual basis and that operate in a highly-regulated environment. Regulatory agencies for the utility systems include the Oregon Department of Environmental Quality and the Oregon Health Authority. The utility systems currently provides service to approximately 3,049 water customers, 2,952 sanitary sewer customers, and 2,963 surface water management customers.

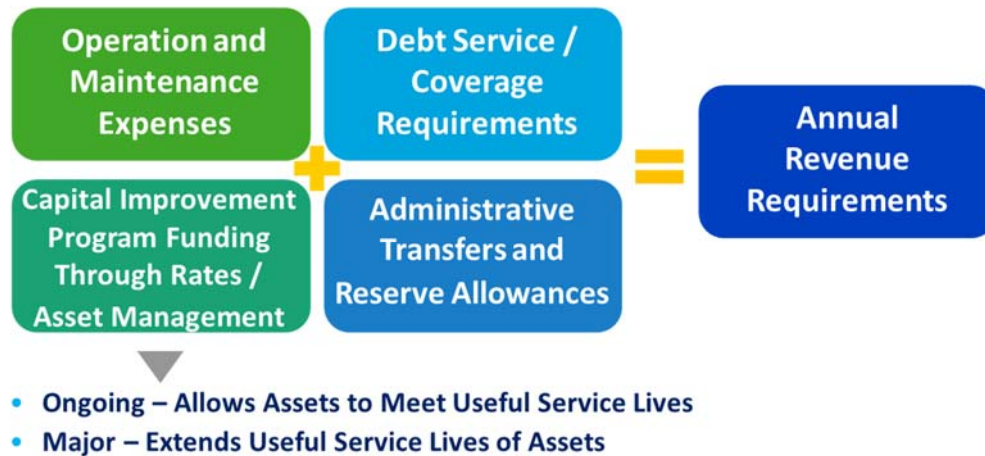
Each utility system is established as an enterprise fund and is one of the City's "businesses." According to the Governmental Accounting Standards Board, "Enterprise Funds should be used to account for operations that are financed and operated in a manner similar to private business enterprises – where the intent of the governing body is that costs of providing services to the general public on a continuing basis should be financed or recovered primarily through user charges."

The installed cost of utility assets under City management as of June 30, 2018 was over \$7.7 million for the water system, \$1.4 million for the sanitary sewer system, and \$2.2 million for the surface water management system. Each system should have revenues equal to the costs of the services provided by the utility, and the City should establish rates sufficient to cover the cost of operating, maintaining, repairing and financing the system. There are also rate covenants associated with the water system's outstanding debt that require the City to establish the water rates at certain levels to meet the debt obligations. To assist the City in reviewing the sufficiency of its rates, GovRates, Inc. ("GovRates") was retained to perform a utility rate study.

## ES-2: Financial Targets

---

The costs associated with operating and maintaining a utility system, as well as the costs of financing the renewals and replacements of existing facilities and the capital improvements for upgrades and expansions, are generally considered to be the revenue requirements of public utilities such as the City's. With respect to identifying revenue requirements for the forecast period of Fiscal Year 2019 through the Fiscal Year 2029 (the "Forecast Period"), the following elements are considered:



The financial and rate plan should recognize the need to maintain appropriate debt service coverage ratios and adequate operating margins and reserves to fund ongoing capital needs and maintain the financial condition of each system. **A target all-in net revenues debt service coverage ratio of 200% is recommended, and it is proposed that each utility target an operating (working capital) reserve balance equal to at least 90 days of operating revenues.** Over the long-term, GovRates recommends that each utility target one year days cash on hand (essentially one year of operating expenses excluding depreciation and amortization expenses) for unrestricted cash balances, as this metric is used by rating agencies to determine whether a utility is a strong credit. A stronger credit rating can position the utility to secure lower interest rates when debt financing high-priority capital improvements for the betterment of the system.

The City may want to consider adopting a formal financial policy document for its enterprise funds that could help guide rate and financial decisions. Such a policy document is looked upon favorably by credit rating agencies and could address financial targets (e.g., cash and coverage), capital reinvestment, and debt management.

### ES-3: Summary of Recommendations – Water System

#### ES-3.1: Monthly Water User Rates

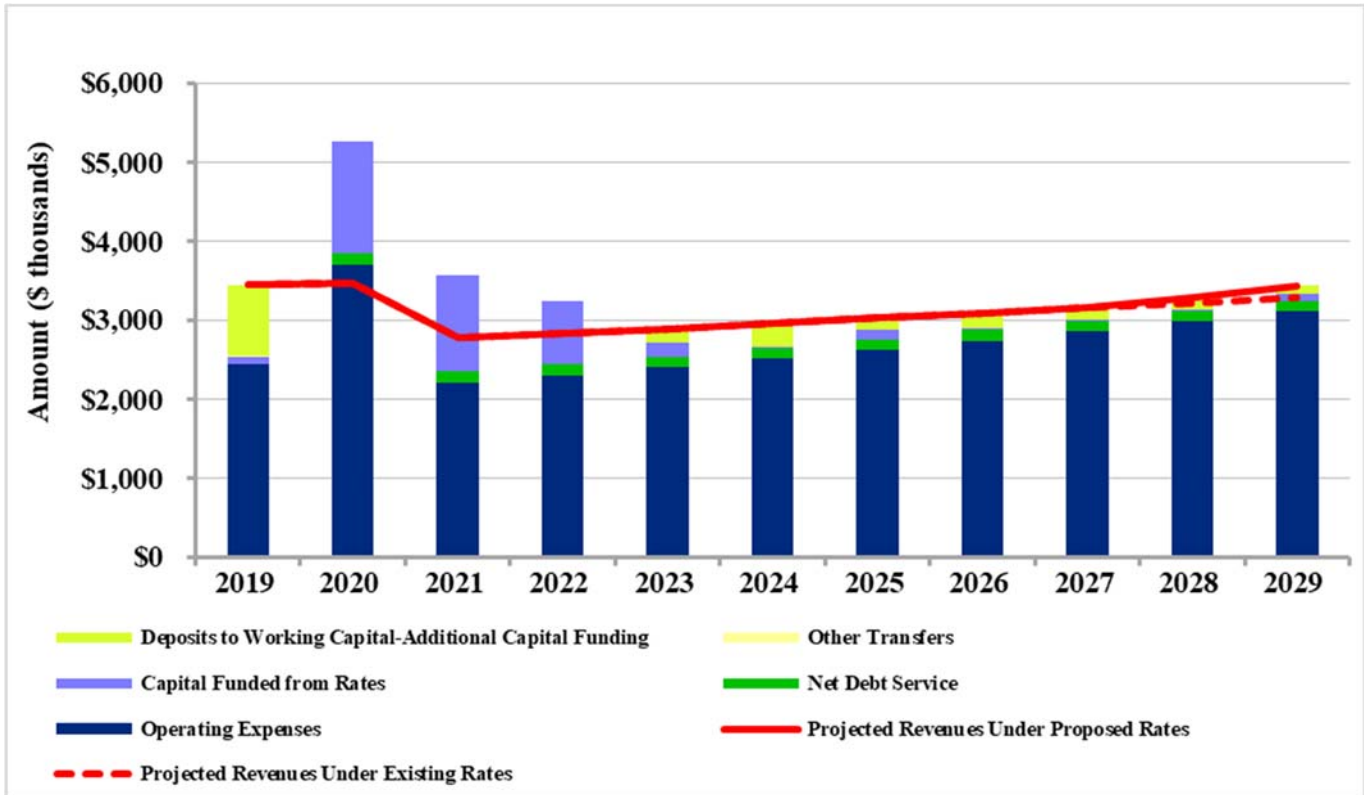
Although the City annually reviews the financial position of the water system, the last formal rate analysis was completed in 2013. The City’s current water user rates have been in effect since July 1, 2018. As part of the current utility rate study, financial projections were prepared for the water system for the Forecast Period.

Based on the assumptions relied upon in the development of the water system revenue requirements, which are detailed in Section 1 of this report, GovRates considers that the water system’s revenues and unrestricted cash balances are sufficient such that no water rate increases are recommended for the Fiscal Year 2020. There may be a debt service coverage issue in Fiscal Year 2020, but it is due to nonrecurring operating expenses. The issue was discussed with City staff, and there was consensus that raising rates in one fiscal year to meet coverage requirements and then lowering rates the following fiscal year is not

practical. Beyond Fiscal Year 2020, the City should monitor the water system's cash position and debt service coverage and possibly implement indexing adjustments (e.g., based on changes in the *Engineering News-Record* Construction Cost Index or Consumer Price Index) to the monthly water rates to maintain the water system's favorable financial position.

The following Exhibit ES-1 shows how the revenue requirements for the water system (the bars) compare against projected revenues (the red lines). In the years in which the total revenue requirements exceed the revenues, available cash reserves must be utilized to make up the difference. It should be noted that projected revenues include system development charges ("SDCs") collected on behalf of the City of Hillsboro which are then remitted to Hillsboro through an intergovernmental services operating expense. (For this item, the revenues equal the expenses.) The decrease in revenues shown in the following Exhibit ES-1 from Fiscal Year 2020 to 2021 simply reflects an assumed decrease in Hillsboro SDC collections, and the associated operating expense is also lower.

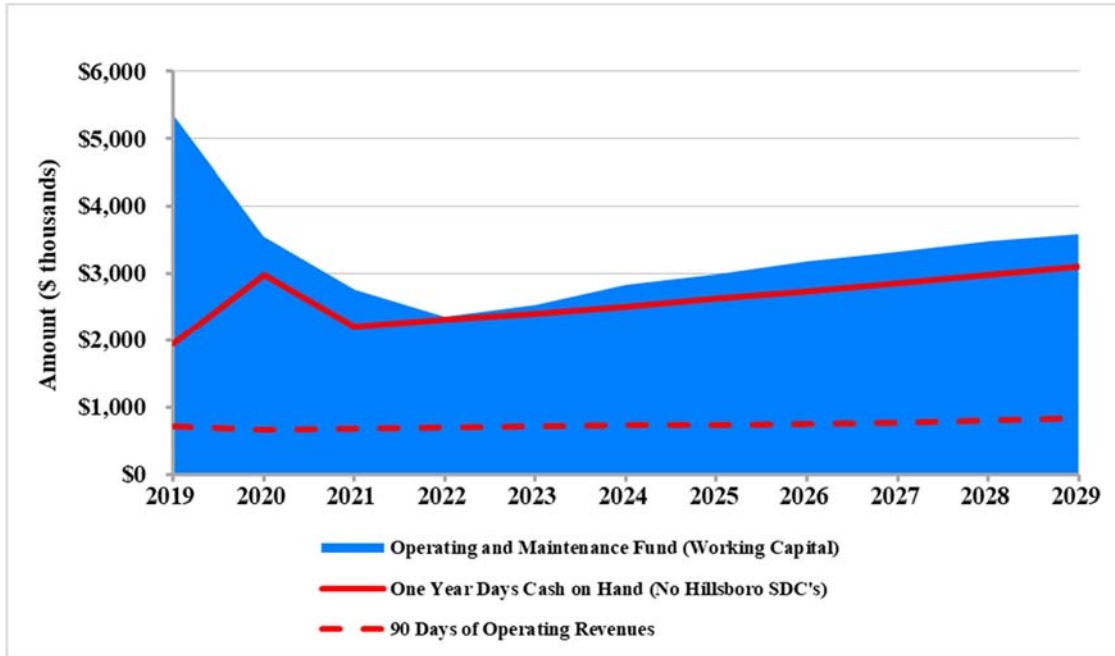
**Exhibit ES-1: Summarized Revenue Requirements Analysis for the Water System**



In Fiscal Year 2020, the City is implementing an automatic meter reading system, and this implementation will cause a nonrecurring increase in operating expenses as shown in the preceding Exhibit ES-1. It should be noted that capital funded from rates declines after Fiscal Year 2022. The City's capital needs beyond Fiscal Year 2022 may not be fully vetted at this time.

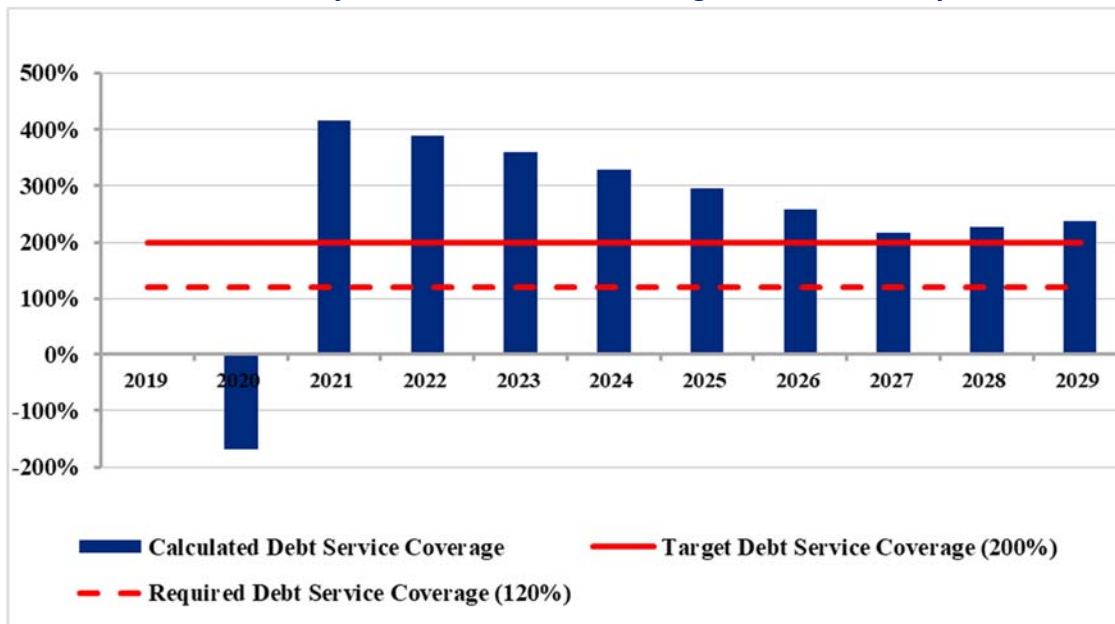
The following Exhibit ES-2 indicates the projected unrestricted cash balances for the water system. Since revenue requirements exceed revenues in Fiscal Years 2020 through 2022, cash reserves decline during these fiscal years but remain above the target levels.

**Exhibit ES-2: Projected Unrestricted Cash Balances for the Water System**



The following Exhibit ES-3 indicates the projected debt service coverage for the water system. The water system currently has one (1) low-cost Safe Drinking Water Revolving Loan Fund ("SDWRLF") loan outstanding that was used to finance the City's Aquifer Storage and Recovery ("ASR") facilities.

**Exhibit ES-3: Projected Debt Service Coverage for the Water System**





The City staff is aware that the nonrecurring operating expenses in Fiscal Year 2020 may cause the water system to not meet the 120% debt service coverage requirement on its existing SDWRLF loan as shown in the preceding Exhibit ES-3. Since debt service coverage under existing water rates is anticipated to be healthy (i.e., above targeted levels) in the fiscal years immediately following the Fiscal Year 2020, raising rates just to meet the coverage requirement in Fiscal Year 2020 is not practical.

Tables ES-1 at the end of this section shows the existing and proposed monthly water user rates, which reflect the City Council direction at a public meeting held on June 17, 2019. As further discussed in Section 1 of this report, while GovRates does not recommend any water revenue increases for the Fiscal Year, we have recommend the following simple changes to the water rate structure:

- 1. Reduce the monthly base charges.** The monthly water base charges are high compared to those of other Oregon utilities. GovRates considers that the water base charges could be lowered (and the volumetric charges increased) while still providing the water system with adequate revenue stability. Based on discussions with the City staff, an approximate 15% decrease in the base charges and a corresponding increase in the volume charges have been recognized.
- 2. Make the single family residential base charges and the multi-family residential base charges the same.** There is currently a negligible difference between the single family residential base charges and the multi-family residential base charges, and GovRates considers that there is no value in maintaining this difference.

These changes are intended to be revenue-neutral, meaning that the City should recognize the same amount of water revenue under both the existing rates and the proposed rates assuming that there is not a material change in consumption.

GovRates considers that additional changes to the water rate structure could be explored, but is not recommending further adjustments at this time. The City should consider rate options for billing customers located outside the City. The outside-City customers are currently billed a commercial base charge and residential usage charge. Instead of charging commercial and residential rate elements for these residential customers, the City could consider applying an outside-City surcharge (e.g., 25%) to the inside-City residential rates. Outside-City surcharges are common in the utility industry and have been implemented by other Oregon utilities. Another rate structure change that could be considered in the future is unit-based billing for the multi-family class.

The City currently has separate standby meter base charge schedules for the single family residential, multi-family residential, and commercial classes. The City currently has about 16 standby meters for fire protection service, and all of these meters are commercial. Since most utilities do not have class differentials for fire protection service, GovRates recommends that the single-family residential and multi-family residential standby monthly base charges be eliminated. We recommend that the commercial standby monthly base charges become applicable for all standby meter services and that they be decreased proportional to the reductions in the standard base charges for water service.

### ES-3.2: Water System Development Charges

Based on our review of the water system development charges ("SDCs"), GovRates considers that the existing water SDC's are sufficient at this time and does not recommend an increase in these fees. Per discussions with City staff, the water system capital needs required to accommodate system growth may not be fully identified at this time. GovRates recommends that the City not adjust the water system SDCs until the City considers that it has a good representation of the proforma capital needs through buildout of the water service area.

## ES-4: Summary of Recommendations – Sanitary Sewer System

### ES-4.1: Monthly Sanitary Sewer Rates

Although the City annually reviews the financial position of the sanitary sewer system, the last formal rate analysis was completed in 2013. The City's current sanitary sewer rates have been in effect since July 1, 2018. As part of the current utility rate study, financial projections were prepared for the sanitary sewer system for the Forecast Period.

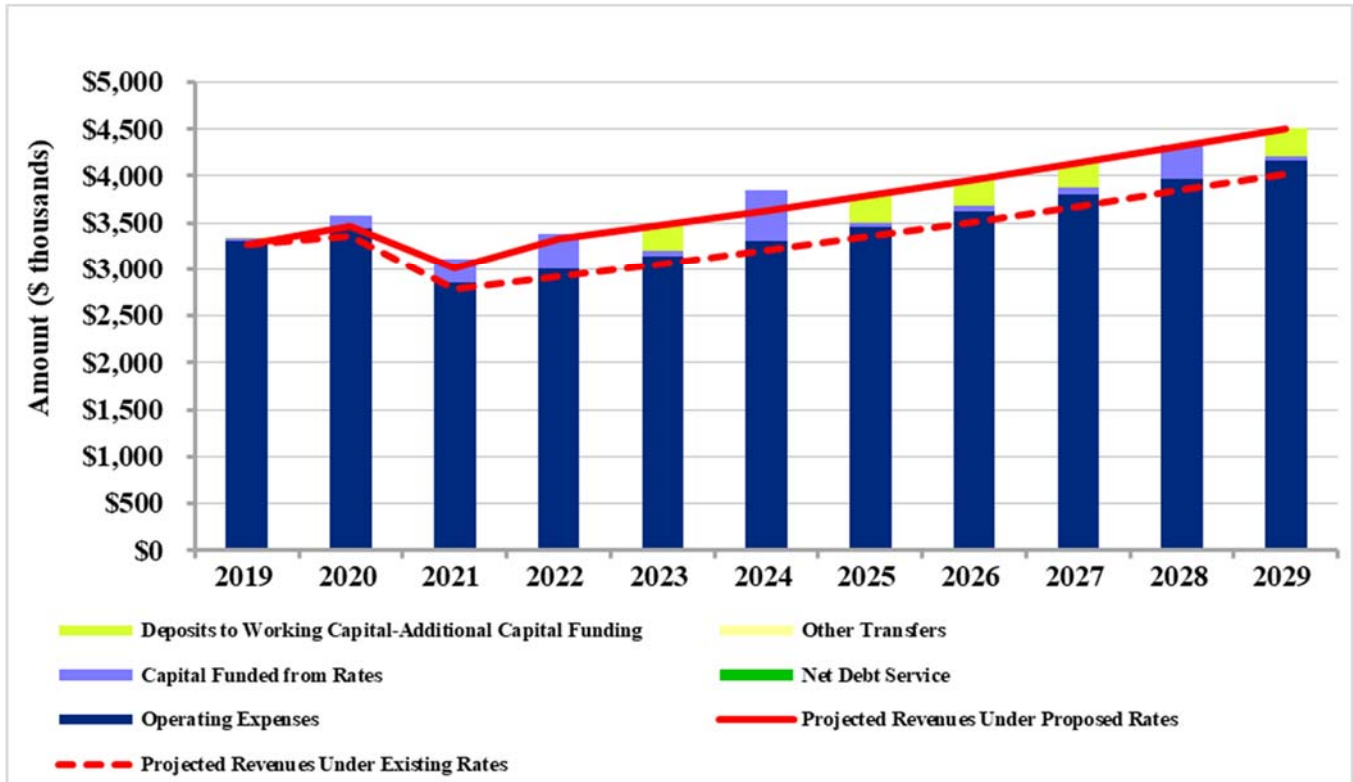
The City's wastewater flows through underground pipes to Clean Water Services collection facilities where the flow is then routed to a regional treatment facility in the City of Forest Grove. Clean Water Services ("CWS") is the water resources management utility for more than 600,000 residents in urban Washington County and small portions of Multnomah County and Clackamas County in Oregon. It should be noted that the only sanitary sewer rate under the City's control is the City's base fee per equivalent dwelling unit ("EDU"). The CWS base fees and the volumetric charges are adopted by Clean Water Services, and the City retains a portion of these revenue streams as discussed in this report.

Based on the assumptions relied upon in the development of the sanitary sewer system revenue requirements, which are detailed in Section 2 of this report, GovRates considers that the sanitary sewer system's revenues and unrestricted cash balances are insufficient to meet all of the projected revenue requirements during the Forecast Period. Annual adjustments of 25% for the Fiscal Years 2020 through 2022 have been recognized for the City's base fee per EDU. Although these increases sound high, the monthly dollar amount per EDU associated with the increases is an additional \$2.01 in Fiscal Year 2020, \$2.51 in Fiscal Year 2021, and \$3.14 in Fiscal Year 2022. No adjustments in the City's base fee per EDU have been recognized for Fiscal Years 2023 through 2029. However, it has been assumed that Clean Water Services would continue to adjust their fees. Under the City's agreement with Clean Water Services and as discussed in Section 2 of this report, the City retains 16.377% of the revenues collected under the sanitary sewer rates adopted by Clean Water Services.

The following Exhibit ES-4 shows how the revenue requirements for the sanitary sewer system (the bars) compare against projected revenues (the red lines). The solid red line represents projected revenues under the proposed rates while the dotted red line represents projected revenues under existing rates. In the years in which the total revenue requirements exceed the revenues, available cash reserves must be

utilized to make up the difference. It should be noted that projected revenues include: i) the Clean Water Services portion of the user rate revenues; and ii) the Clean Water Services portion of the SDCs. Both of these revenue streams are remitted to Clean Water Services through an intergovernmental services operating expense. (For these items, the revenues equal the expenses.) The decrease in revenues shown in the following Exhibit ES-4 from Fiscal Year 2020 to 2021 simply reflects an assumed decrease in Clean Water Services SDC collections, and the associated operating expense is also lower.

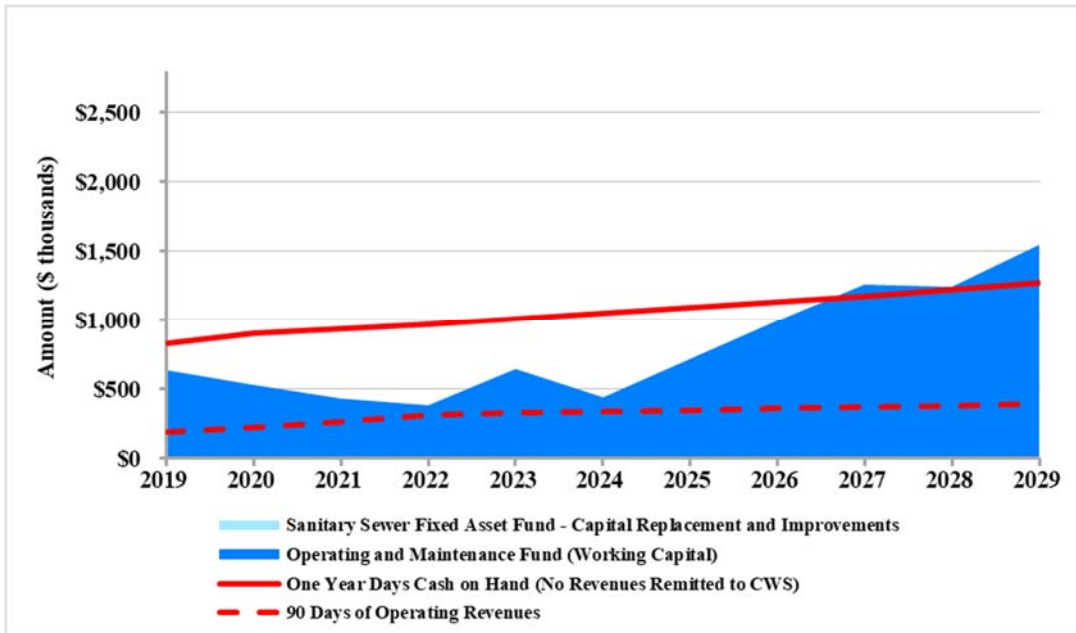
**Exhibit ES-4: Summarized Revenue Requirements Analysis for the Sanitary Sewer System**



Based on discussions with the City staff, the City's capital needs for the sanitary sewer system during the later years of the Forecast Period may not be fully vetted at this time. As these future capital needs are identified, the financial and rate plan should be adjusted accordingly.

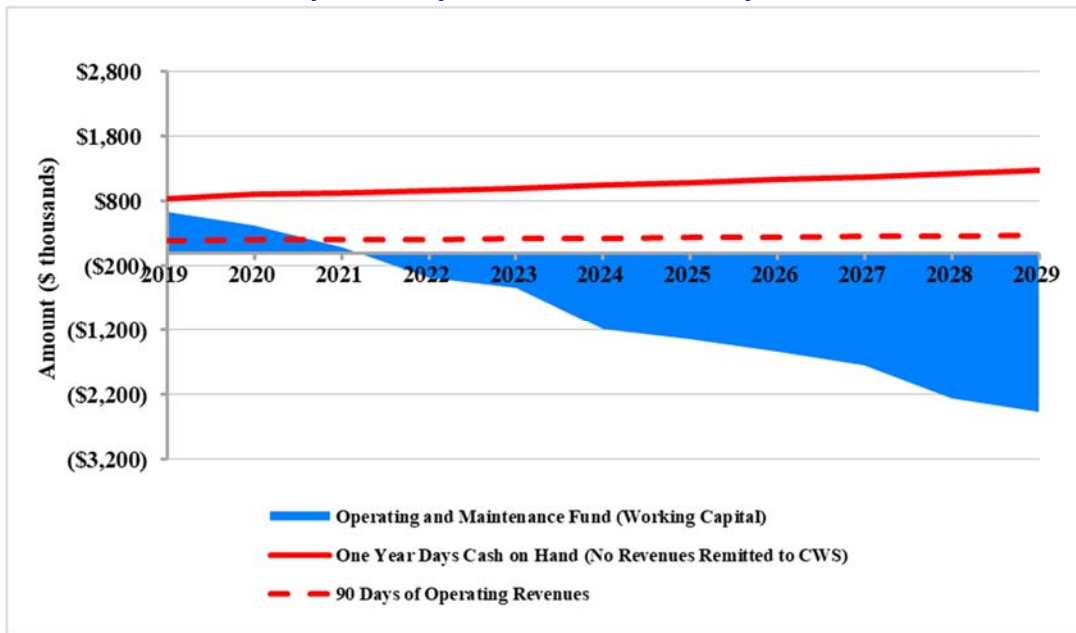
The following Exhibit ES-5 indicates the projected unrestricted cash balances for the sanitary sewer system assuming implementation of the proposed rate adjustments. The City has recognized the need for over \$1.1 million of vehicle replacements for the sanitary sewer system over the next 10 years, and these replacements are the primary driver for the need for the sanitary sewer rate adjustments.

**Exhibit ES-5: Projected Unrestricted Cash Balances for the Sanitary Sewer System Assuming Implementation of the Proposed Rate Adjustments**



The following Exhibit ES-6 indicates the projected unrestricted cash balances if the proposed rate adjustments were not implemented but the capital spending curve were maintained.

**Exhibit ES-6: Projected Unrestricted Cash Balances for the Sanitary Sewer System Without Rate Adjustments**



As shown in the preceding Exhibit ES-6, the City would be unable to fund the necessary vehicle replacements without rate adjustments.

Tables ES-2 at the end of this section shows the existing and proposed monthly sanitary sewer rates. The user rate analysis for the sanitary sewer system is further detailed in Section 2 of this report.

#### **ES-4.2: Sanitary Sewer System Development Charges**

Based on our review of the sanitary sewer system development charges ("SDCs"), GovRates considers that the existing sanitary sewer SDC's are sufficient at this time and does not recommend an increase in these fees. Per discussions with City staff, the master plan for the sanitary sewer system was last updated in 2004, or about 15 years ago. The 2004 sanitary sewer master plan does not reflect the development activity currently being experienced by the City. GovRates recommends that the City not adjust the sanitary sewer system SDCs until the City considers that it has a good representation of the proforma capital needs through buildout of the sanitary sewer service area.

### **ES-5: Summary of Recommendations – Surface Water Management System**

#### **ES-5.1: Monthly Surface Water Management Rates**

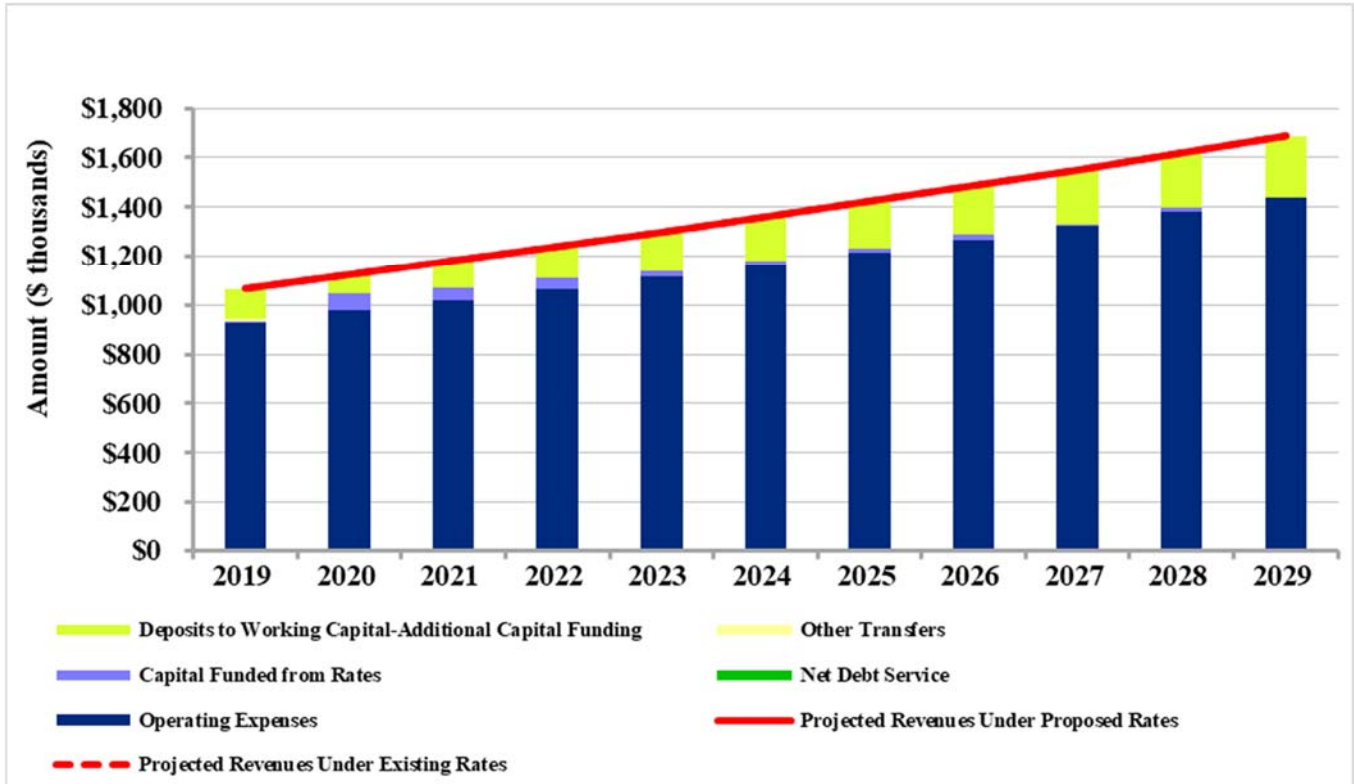
Although the City annually reviews the financial position of the surface water management system, the last formal rate analysis was completed in 2013. The City's current surface water management fees have been in effect since July 1, 2018. As part of the current utility rate study, financial projections were prepared for the surface water system for the Forecast Period.

Based on the assumptions relied upon in the development of the surface water management system revenue requirements, which are detailed in Section 3 of this report, GovRates considers that the sanitary sewer system's revenues and unrestricted cash balances are sufficient to meet all of the projected revenue requirements during the Forecast Period. As such, we do not recommend a surface water rate adjustment for the Fiscal Year 2020.

The following Exhibit ES-7 shows how the revenue requirements for the surface water system (the bars) compare against projected revenues (the red line). In the years in which the total revenue requirements exceed the revenues, available cash reserves must be utilized to make up the difference. It should be noted that projected revenues include the Clean Water Services portion of the user rate revenues. This revenue stream is then remitted to Clean Water Services through an intergovernmental services operating expense. (For this item, the revenues equal the expenses.)

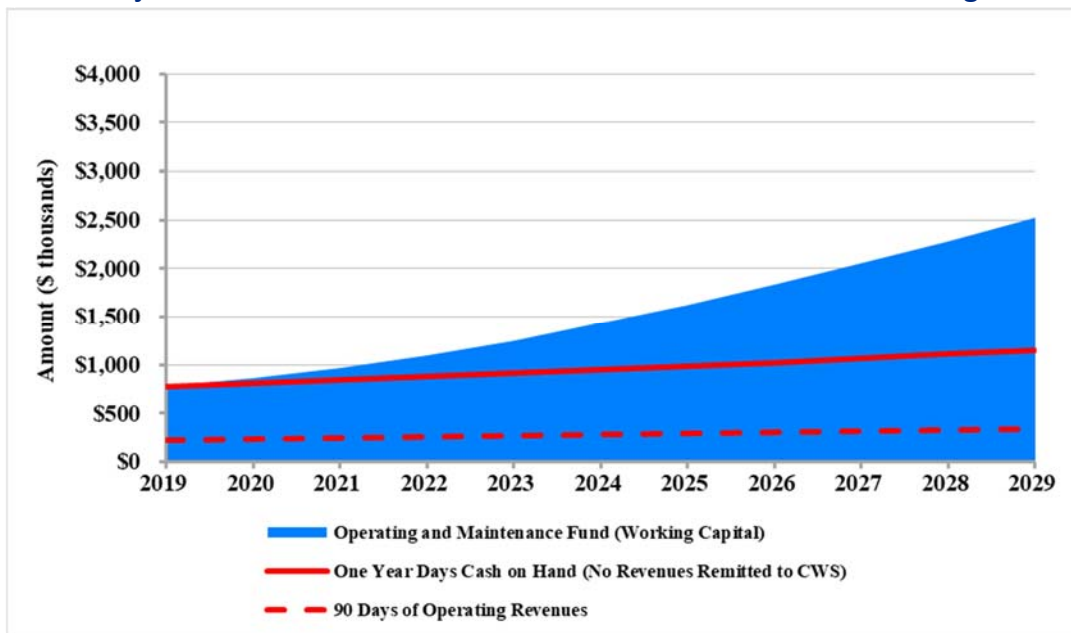


**Exhibit ES-7: Summarized Revenue Requirements Analysis for the Surface Water Management System**



Based on discussions with the City staff, the capital needs of surface water management system during the later years of the Forecast Period may not be fully vetted at this time. As these capital needs are identified, the financial and rate plan should be adjusted accordingly. The following Exhibit ES-8 indicates the projected unrestricted cash balances for the surface water management system.

**Exhibit ES-8: Projected Unrestricted Cash Balances for the Surface Water Management System**



Tables ES-2 at the end of this section shows the existing and proposed monthly surface water management rates. The user rate analysis for the surface water management system is further detailed in Section 3 of this report.

### ES-5.2: Surface Water Management System Development Charges

Based on our review of the surface water management system development charges ("SDCs"), GovRates considers that the existing surface water management SDC's are sufficient at this time and does not recommend an increase in these fees. Per discussions with City staff, the master plan for the surface water management system was last updated in 2004, or about 15 years ago. The 2004 surface water management master plan does not reflect the development activity currently being experienced by the City. GovRates recommends that the City not adjust the surface water system SDCs until the City considers that it has a good representation of the proforma capital needs through buildout of the surface water management service area.

## ES-6: Single Family Residential Combined Bill Under Proposed Fiscal Year 2020 Monthly User Rates

Single family residential customers comprise about 89% of the water system customer base. At the average monthly usage level for this class of 6,000 gallons, the combined water, sanitary sewer, and surface water bill under the existing and proposed Fiscal Year 2020 rates for a customer with a 5/8-inch water meter is shown in the following Exhibit ES-9:

### Exhibit ES-9: Comparison of Single Family Residential Combined Bill Under Existing and Proposed Fiscal Year 2020 Monthly User Rates at Average Usage Level of 6,000 Gallons

Description	Fiscal Year Ending June 30,	
	Existing 2019	Proposed 2020
<b>WATER SERVICE</b>		
Base Charge - 5/8" Meter	\$ 27.14	\$ 23.02
Volume Charges @ 6,000 Gallons of Use	22.38	25.74
Total Monthly Water Bill @ 6,000 Gallons of Usage	\$ 49.52	\$ 48.76
Difference - Amount		\$ (0.76)
Difference - Percent		-1.5%
<b>SANITARY SEWER SERVICE</b>		
Base Charges		
Sewer Rate - Clean Water Services - Per EDU	\$ 29.12	\$ 30.03
Sewer Rate - City - Per EDU	8.02	10.03
Total Base Charges	\$ 37.14	\$ 40.06
Volume Charges @ 6,000 Gallons of Use	15.48	15.94
Total Monthly Sanitary Sewer Bill @ 6,000 Gallons of Usage	\$ 52.62	\$ 56.00
Difference - Amount		\$ 3.38
Difference - Percent		6.4%

**SURFACE WATER MANAGEMENT SERVICE**

Base Charges			
Storm Drain Rate - Clean Water Services - Per ESU	\$	8.75	\$ 9.25
Storm Drain Rate - City - Per ESU		5.40	5.40
<b>Total Base Charges - Surface Water Management</b>	<b>\$</b>	<b>14.15</b>	<b>\$ 14.65</b>
Difference - Amount			\$ 0.50
Difference - Percent			3.5%
<b>COMBINED MONTHLY BILL</b>			
	<b>\$</b>	<b>116.29</b>	<b>\$ 119.41</b>
<b>Difference - Amount</b>			<b>\$ 3.12</b>
<b>Difference - Percent</b>			<b>2.7%</b>

As shown in the preceding table, the combined single family residential bill at a usage of 6,000 gallons under the proposed Fiscal Year 2020 rates (includes Clean Water Services rate increases) reflects an additional \$3.12 per month, or a 2.7% increase when compared to the combined bill under existing rates.

**ES-7: Financial Overview**

Tables ES-3 through ES-8 at the end of this executive summary section provide financial overviews of the forecasted system operations. These tables indicate the following, assuming that the projected user rate adjustments for all fiscal years are implemented:

1. Debt service coverage above targeted levels for the water system after the Fiscal Year 2020. Utility best management practices recognize the need to target coverage ratios greater than the minimum required so that the utility has sufficient operating margins to fund annual or recurring renewal and replacement capital needs. Revenues remaining after the payment of operating expenses and debt service should be used for these "pay-as-you-go" reinvestments in the water system to help ensure that the system remains operationally sustainable and that service interruptions to customers are avoided.
2. Maintenance of adequate operating reserves.
3. Full funding of each system's multi-year capital improvement program.
4. Maintenance of affordable rates. According to the Environmental Protection Agency, combined monthly water and wastewater bills less than 4.5% of median household income are considered affordable. For the City, the combined water, sanitary sewer, and surface water management bill is projected to be less than 3.0% of the median household income throughout the Forecast Period.

Based on the financial forecast and assuming the implementation of the proposed rate adjustments, each utility system is projected to remain in a good financial position through the Fiscal Year 2029.

## ES-8: Requested City Council Action

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Based on our review of existing utility rates as summarized in this section of the report and as further detailed in Sections 1 through 3 of this report, GovRates recommends the following items for the City Council's consideration:

- 1. Adopt the restructured water rates.**
- 2. Adopt the proposed increases in the City's sanitary sewer rates.**
- 3. Approve the Clean Water Services-adopted sanitary sewer and surface water management fees.**
- 4. Continue to monitor the financial position of each utility system and adjust the financial and rate plan as needed. If the growth as projected does not materialize, additional rate adjustments may be needed. The City staff has been provided with copies of the rate study financial models for internal use.**
- 5. Re-evaluate the system development charges once the City considers that it has a good representation of the proforma capital needs through buildout of each utility's service area.**
- 6. In the future, consider adopting a formal financial policy document for the City's enterprise funds.**

**Table ES-1**

**City of Cornelius, Oregon  
Utility Rate Study**

**Summary of Existing and Proposed Monthly Water User Rates**

Line No.	Description	Fiscal Year Ending June 30,	
		Existing 2019	Proposed 2020
<b>WATER SERVICE - INSIDE CITY</b>			
<b><u>Single-Family Residential Customers - Monthly User Rates</u></b>			
Base Charge			
	<u>Meter Size</u>		
1	5/8"	\$ 27.14	\$ 23.02
2	3/4"	38.68	32.87
3	1"	61.75	52.38
4	1-1/2"	119.39	101.27
5	2"	188.58	159.95
6	3"	373.06	316.43
7	4"	580.61	492.47
8	6"	1,157.14	981.48
Volume Charges per 1,000 Gallons			
9	0 to 6,000 gallons	\$ 3.73	\$ 4.29
10	6,000 to 12,000 gallons	5.42	6.23
11	Over 12,000 gallons	7.98	9.18
<b><u>Single-Family Residential Customers - Monthly Base Charges for Standby Meters [*]</u></b>			
Base Charge			
	<u>Meter Size</u>		
12	5/8"	\$ 6.81	Eliminate
13	3/4"	8.18	Eliminate
14	1"	10.89	Eliminate
15	1-1/2"	17.69	Eliminate
16	2"	25.85	Eliminate
17	3"	47.62	Eliminate
18	4"	72.12	Eliminate
19	6"	140.15	Eliminate



**Table ES-1**

**City of Cornelius, Oregon  
Utility Rate Study**

**Summary of Existing and Proposed Monthly Water User Rates**

Line No.	Description	Fiscal Year Ending June 30,	
		Existing 2019	Proposed 2020
<b><u>Multi-Family Residential Customers - Monthly User Rates</u></b>			
Base Charge			
<u>Meter Size</u>			
20	5/8"	\$ 27.09	\$ 23.02
21	3/4"	38.58	32.87
22	1"	61.55	52.38
23	1-1/2"	119.03	101.27
24	2"	187.99	159.95
25	3"	371.91	316.43
26	4"	578.82	492.47
27	6"	1,153.56	981.48
Volume Charges per 1,000 Gallons			
28	All Usage	\$ 3.73	\$ 4.29
<b><u>Multi-Family Residential Customers - Monthly Base Charges for Standby Meters [*]</u></b>			
Base Charge			
<u>Meter Size</u>			
29	5/8"	\$ 9.35	Eliminate
30	3/4"	12.01	Eliminate
31	1"	17.27	Eliminate
32	1-1/2"	30.44	Eliminate
33	2"	46.27	Eliminate
34	3"	88.46	Eliminate
35	4"	135.90	Eliminate
36	6"	267.72	Eliminate

**Table ES-1**

**City of Cornelius, Oregon  
Utility Rate Study**

**Summary of Existing and Proposed Monthly Water User Rates**

Line No.	Description	Fiscal Year Ending June 30,	
		Existing 2019	Proposed 2020
<b><u>Commercial Customers - Monthly User Rates</u></b>			
Base Charge			
<u>Meter Size</u>			
37	5/8"	\$ 31.20	\$ 26.46
38	3/4"	44.76	37.97
39	1"	71.88	60.97
40	1-1/2"	139.68	118.48
41	2"	221.03	187.48
42	3"	437.99	371.50
43	4"	682.07	578.53
44	6"	1,360.04	1,153.58
Volume Charges per 1,000 Gallons			
45	All Usage	\$ 3.89	\$ 4.47
<b><u>Commercial Customers - Monthly Base Charges for Standby Meters [*]</u></b>			
Base Charge			
<u>Meter Size</u>			
46	5/8"	\$ 7.37	\$ 6.25
47	3/4"	9.02	7.65
48	1"	12.31	10.44
49	1-1/2"	20.56	17.44
50	2"	30.44	25.82
51	3"	56.78	48.16
52	4"	86.44	73.32
53	6"	168.78	143.16

**Table ES-1**

**City of Cornelius, Oregon  
Utility Rate Study**

**Summary of Existing and Proposed Monthly Water User Rates**

Line No.	Description	Fiscal Year Ending June 30,	
		Existing 2019	Proposed 2020
<b>WATER SERVICE - OUTSIDE CITY</b>			
<b><u>All Customers</u></b>			
Base Charge			
<u>Meter Size</u>			
54	5/8"	\$ 31.20	\$ 26.46
55	3/4"	44.76	37.97
56	1"	71.88	60.97
57	1-1/2"	139.68	118.48
58	2"	221.03	187.48
59	3"	437.99	371.50
60	4"	682.07	578.53
61	6"	1,360.04	1,153.58
Volume Charges per 1,000 Gallons			
62	0 to 6,000 gallons	\$ 3.73	\$ 4.29
63	6,000 to 12,000 gallons	5.42	6.23
64	Over 12,000 gallons	7.98	9.18

[\*] All standby service is proposed to be billed based on the proposed commercial standby base rates. Currently, the City only has commercial standby meter customers.

Table ES-2

City of Cornelius, Oregon  
Utility Rate Study

Summary of Existing and Proposed Monthly Sanitary Sewer and Surface Water Management User Rates

Line No.	Description	Fiscal Year Ending June 30,	
		Existing 2019	Proposed 2020
<b>SANITARY SEWER SERVICE</b>			
<b>Base Charges</b>			
1	Sewer Rate - Clean Water Services - Per EDU	\$29.12	As Adopted By Clean Water Services
2	Sewer Rate - City - Per EDU	8.02	\$10.03
<b>Volume Charges per 1,000 Gallons</b>			
3	Sewer Average - Usage Charge per 1,000 Gallons	\$2.58	As Adopted By Clean Water Services
4	Rate Code 996 (Car Wash) - Usage Charge per 1,000 Gallons	2.58	As Adopted By Clean Water Services
<b>SURFACE WATER MANAGEMENT SERVICE</b>			
<b>Base Charges</b>			
5	Storm Drain Rate - Clean Water Services - Per ESU	\$8.75	As Adopted By Clean Water Services
6	Storm Drain Rate - City - Per ESU	5.40	\$5.40



Table ES-3

City of Cornelius, Oregon  
Utility Rate Study

Water System Financial Overview

High-Level Summary	Fiscal Year Ending June 30,											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Identified Revenue Adjustments</b>												
Water System	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.50%	2.50%	
Effective Months	12	12	12	12	12	12	12	12	12	12	12	
<b>Unrestricted Cash Balance (\$ 000's)</b>	\$ 5,337	\$ 3,548	\$ 2,764	\$ 2,362	\$ 2,540	\$ 2,837	\$ 2,989	\$ 3,186	\$ 3,327	\$ 3,486	\$ 3,589	
One Year Days Cash on Hand	1,944	2,986	2,215	2,308	2,406	2,511	2,621	2,735	2,854	2,978	3,108	
<b>All-In Net Revenues Debt Coverage</b>	N/A	-169%	417%	389%	360%	329%	296%	258%	218%	228%	238%	
<b>Revenue Surplus / (Deficiency) (\$ 000's)</b>	\$ 890	\$ (1,790)	\$ (784)	\$ (402)	\$ 177	\$ 297	\$ 152	\$ 197	\$ 140	\$ 159	\$ 103	
<b>Monthly Water Bill @ 6,000 Gallons</b>	\$ 49.52	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 49.98	\$ 51.23	
Increase		(0.76)	-	-	-	-	-	-	-	1.22	1.25	
Cost Per Gallon of Total Bill	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.008	\$ 0.009	
Percent of MHI (Target < 2%)	0.98%	0.95%	0.94%	0.93%	0.93%	0.92%	0.91%	0.90%	0.89%	0.90%	0.92%	
<b>Customers - Water</b>	3,049	3,149	3,249	3,349	3,449	3,549	3,649	3,749	3,849	3,949	4,049	
Difference - Amount	25	100	100	100	100	100	100	100	100	100	100	
Difference - Percent	0.83%	3.28%	3.18%	3.08%	2.99%	2.90%	2.82%	2.74%	2.67%	2.60%	2.53%	
<b>City SDC Collection Level (\$ 000's)</b>	\$ 318	\$ 509	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

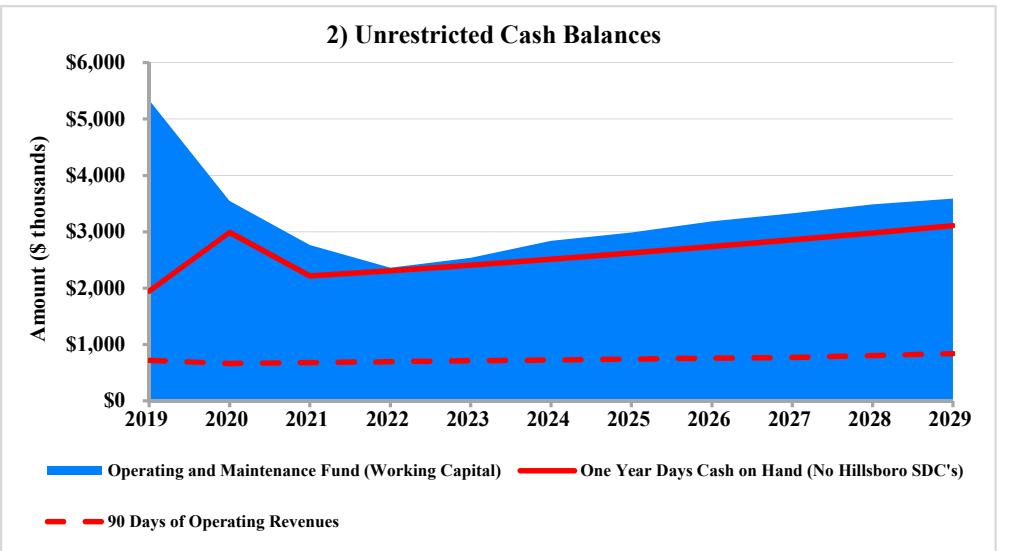
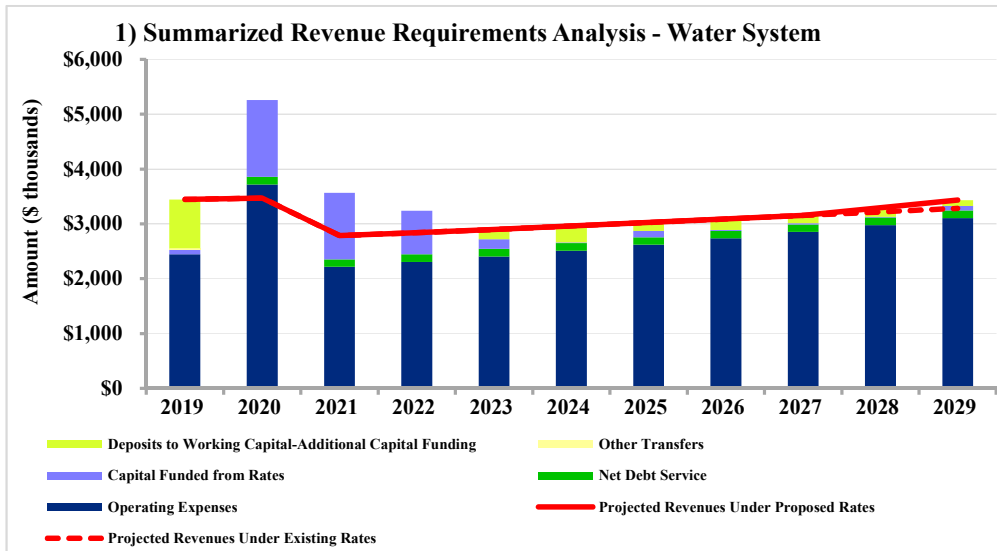




Table ES-3

City of Cornelius, Oregon  
Utility Rate Study

Water System Financial Overview

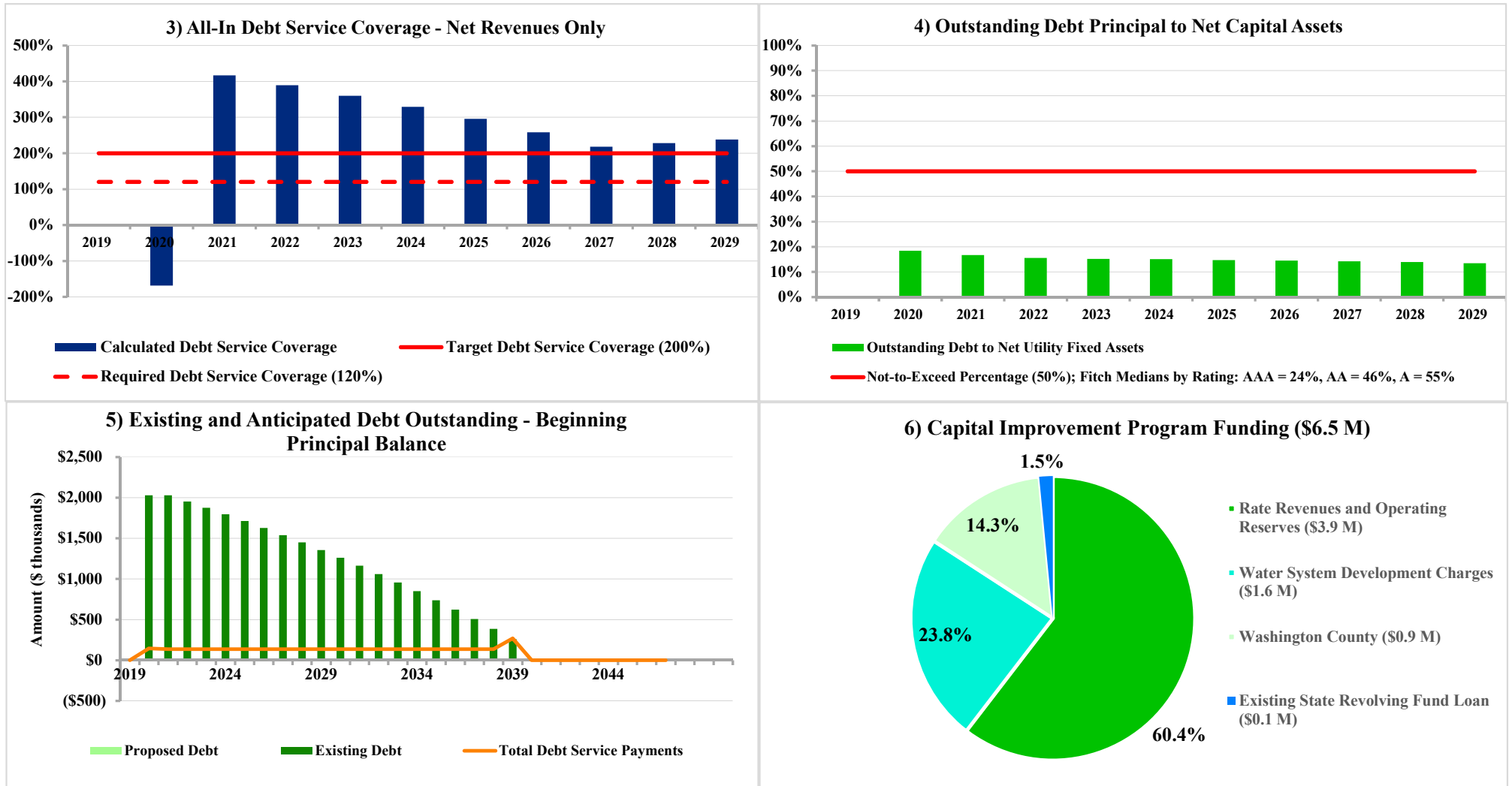




Table ES-3

City of Cornelius, Oregon  
Utility Rate Study

Water System Financial Overview

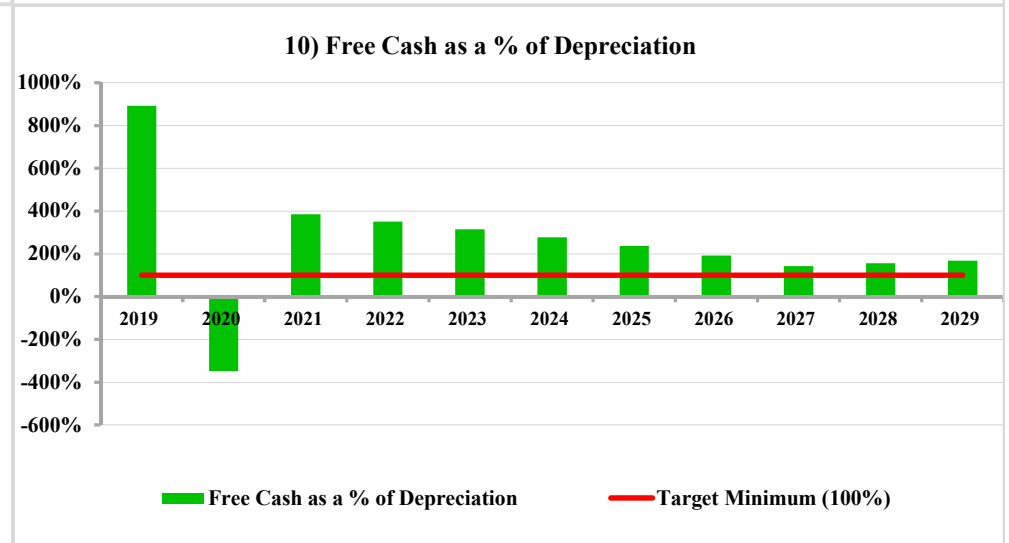
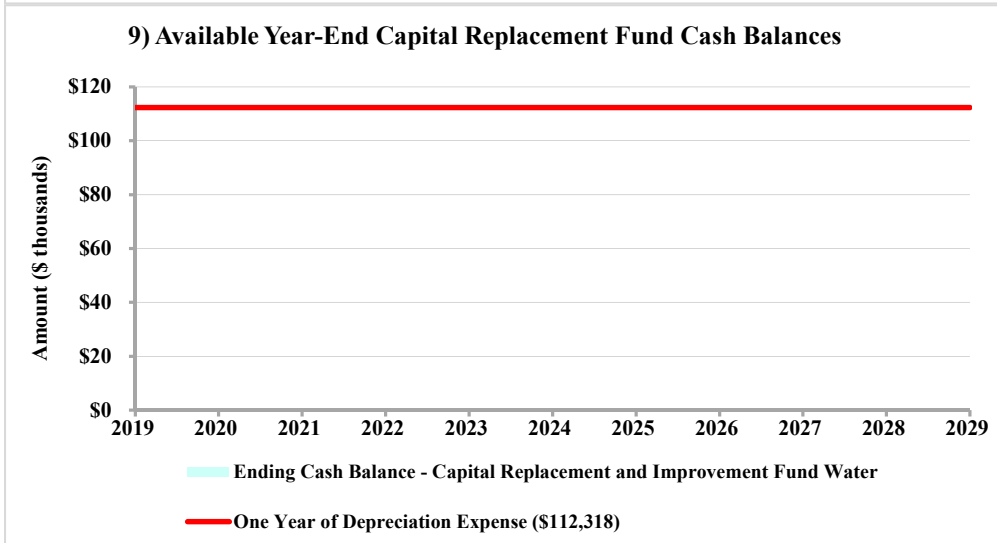
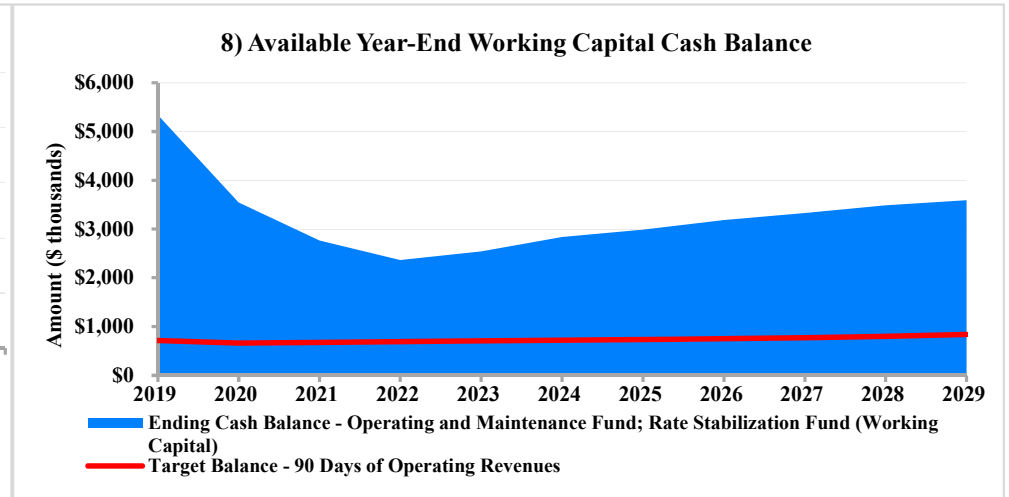
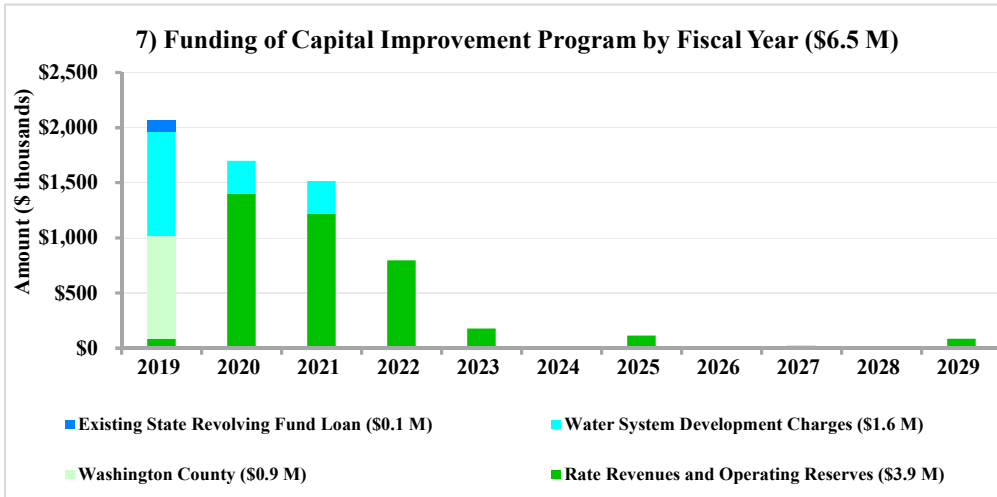






Table ES-3

City of Cornelius, Oregon  
Utility Rate Study

Water System Financial Overview

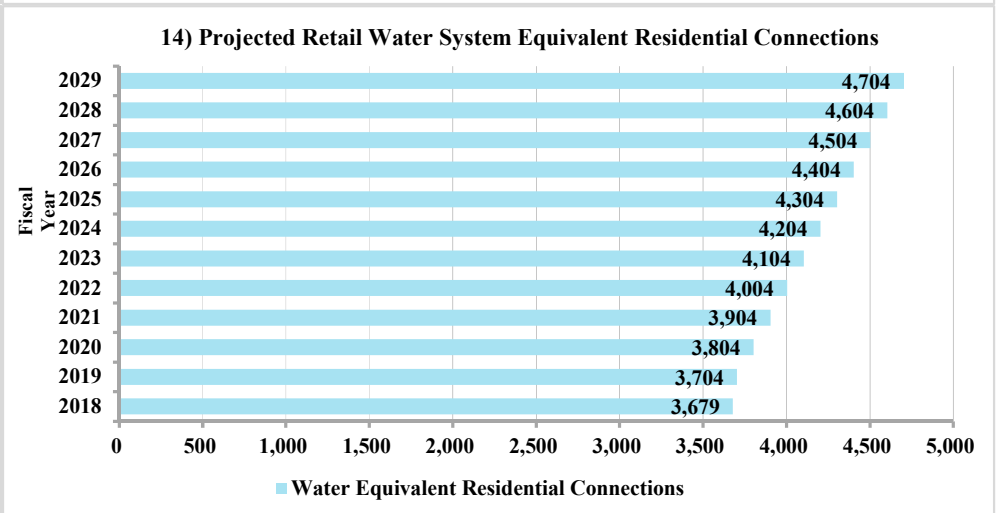
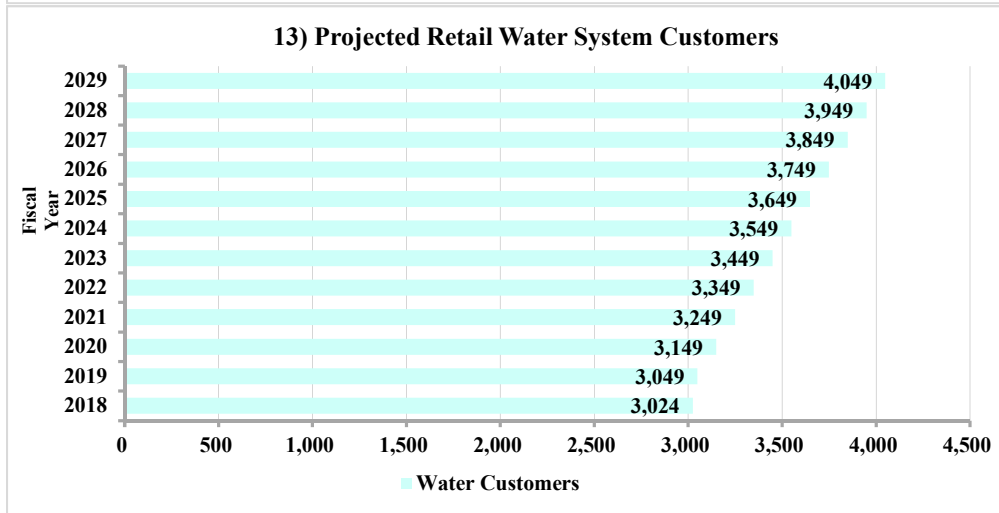
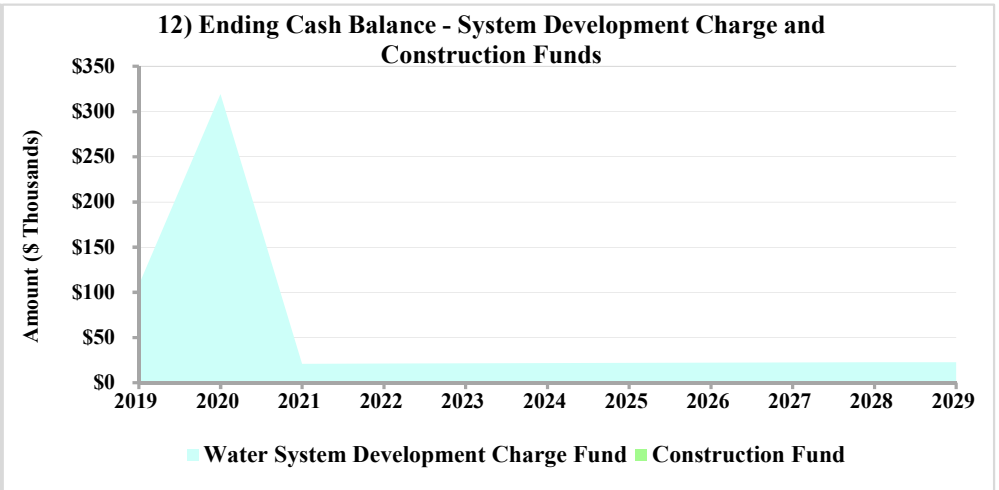
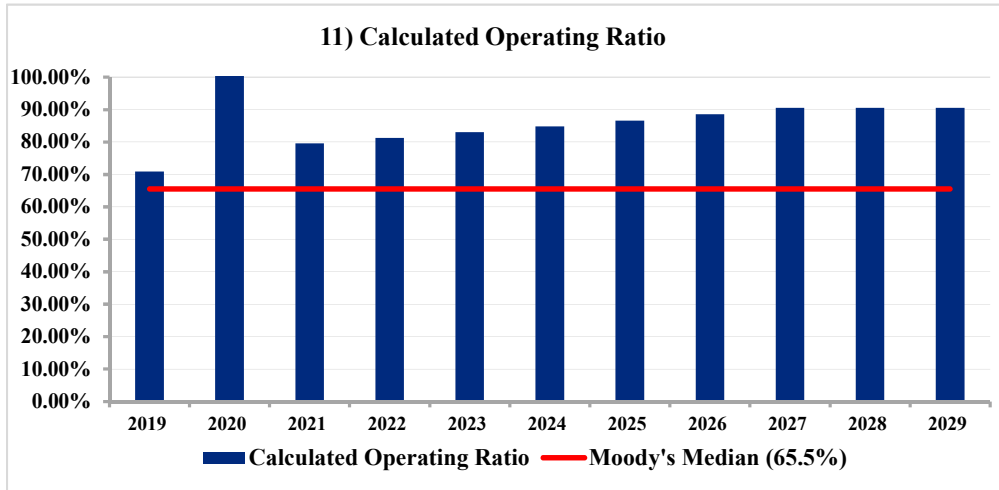




Table ES-3

City of Cornelius, Oregon  
Utility Rate Study

Water System Financial Overview

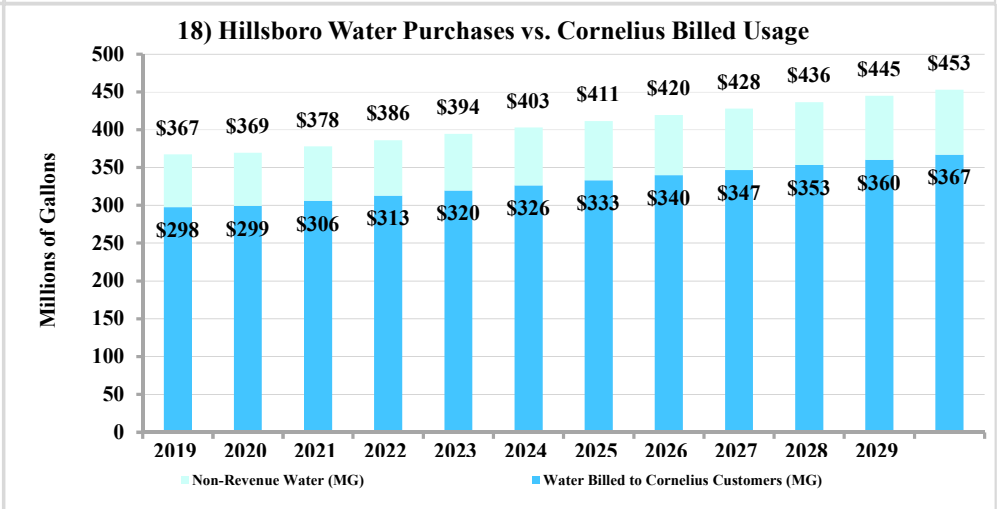
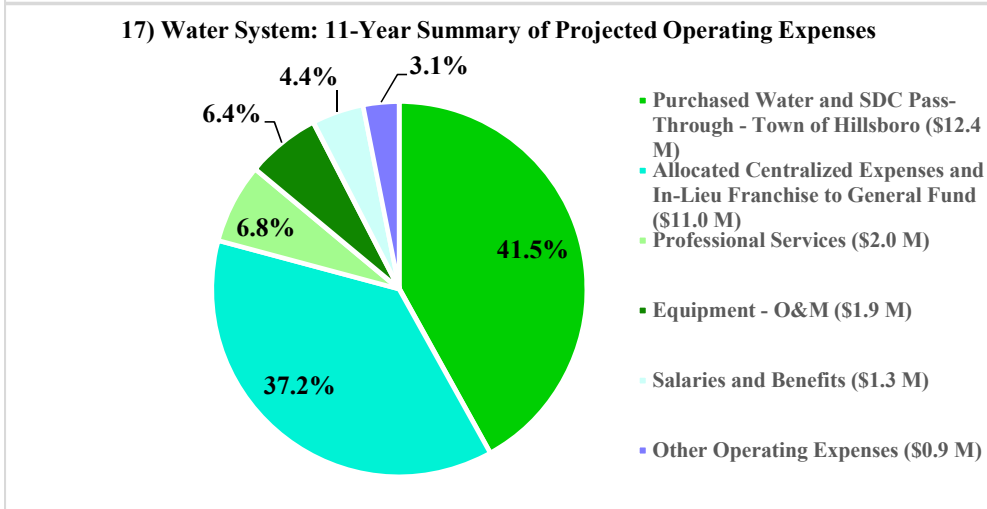
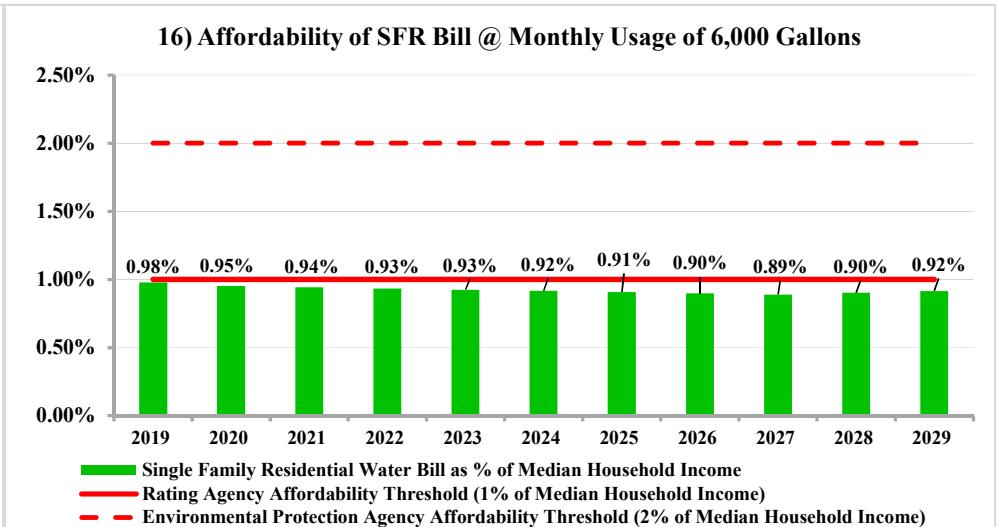
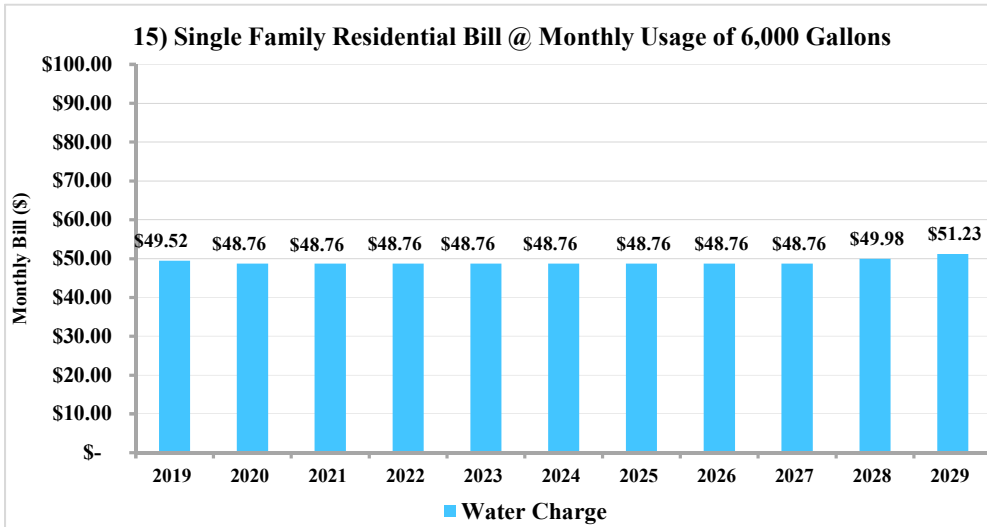




Table ES-4  
City of Cornelius, Oregon  
Water System

Water System Multi-Year Financial Projections

High-Level Summary	Actual FY	Fiscal Year Ending June 30,											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Operating Revenue</b>													
User Rate Revenue - Retail													
Water User Rate Revenue Before Current Year Adjustment			\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 2,994,105	\$ 3,132,309	
Additional User Rate Increase - Water			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	2.5%	
<b>Total User Rate Revenue - Retail</b>	\$ 2,310,435	\$ 2,437,869	\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 3,069,005	\$ 3,210,609	
Other Operating Revenue	\$ 473,281	\$ 962,925	\$ 915,650	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635
<b>TOTAL OPERATING REVENUE</b>	\$ 2,783,716	\$ 3,400,794	\$ 3,415,323	\$ 2,748,112	\$ 2,809,916	\$ 2,871,720	\$ 2,933,524	\$ 2,995,328	\$ 3,057,132	\$ 3,118,936	\$ 3,255,640	\$ 3,397,244	
<b>Operating Expenses [1]</b>													
Water System Operating Expenses	\$ 1,799,528	\$ 2,443,590	\$ 3,714,771	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642	
Percent Change		35.8%	52.0%	-40.4%	4.2%	4.2%	4.4%	4.4%	4.4%	4.4%	4.3%	4.3%	
<b>Operating Revenues Less Operating Expenses</b>	\$ 984,188	\$ 957,204	\$ (299,448)	\$ 532,642	\$ 502,252	\$ 466,160	\$ 422,482	\$ 374,465	\$ 321,924	\$ 264,677	\$ 277,247	\$ 289,602	
<b>Non-Operating Revenue</b>													
Unrestricted Interest Income	\$ 62,665	\$ 44,478	\$ 53,739	\$ 35,819	\$ 27,982	\$ 23,963	\$ 25,738	\$ 28,712	\$ 30,235	\$ 32,206	\$ 33,609	\$ 35,198	
<b>Net Revenue Available for Debt Service</b>	\$ 1,046,853	\$ 1,001,682	\$ (245,709)	\$ 568,461	\$ 530,235	\$ 490,123	\$ 448,220	\$ 403,177	\$ 352,159	\$ 296,882	\$ 310,856	\$ 324,800	
<b>City Debt Service</b>													
Existing Debt Service - Principal and Interest	\$ -	\$ 145,663	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327
New Debt Service - Principal and Interest	-	-	-	-	-	-	-	-	-	-	-	-	-
Less System Development Fees Used for City Growth-Related Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>NET DEBT SERVICE</b>	\$ -	\$ 145,663	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327
<b>Allocations and Other Transfers</b>	\$ 27,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Inter-Utility Loan Activity</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue Available for Capital Rehabilitations / Improvements</b>	\$ 974,682	\$ (391,372)	\$ 432,134	\$ 393,907	\$ 353,796	\$ 311,893	\$ 266,850	\$ 215,831	\$ 160,555	\$ 174,529	\$ 188,473	\$ 188,473	
<b>Capital Expenditures</b>													
Capital Program as Scheduled													
Capital Projects - Water	\$ 2,067,000	\$ 1,698,300	\$ 1,515,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000	\$ 85,000	
Departmental Capital - Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Program as Scheduled	\$ 2,067,000	\$ 1,698,300	\$ 1,515,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000	\$ 85,000	
<b>Adjustments</b>													
Capital Projects - Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Departmental Capital - Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Adjustments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Capital Projects as Adjusted</b>													
Capital Projects - Water	\$ 2,067,000	\$ 1,698,300	\$ 1,515,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000	\$ 85,000	
Departmental Capital - Water	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>ADJUSTED CAPITAL EXPENDITURES</b>	\$ 2,067,000	\$ 1,698,300	\$ 1,515,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000	\$ 85,000	
<b>Cash Surplus / (Deficiency)</b>													
Base Surplus / (Deficiency)	\$ (1,092,318)	\$ (2,089,672)	\$ (1,083,666)	\$ (401,893)	\$ 177,496	\$ 297,343	\$ 152,300	\$ 197,081	\$ 140,355	\$ 158,929	\$ 103,473	\$ 103,473	
Less Projects to Be Funded by Developers	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded by Washington County	932,000	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded Through System Development Charges	950,000	300,000	300,000	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded Through Proceeds from Existing and Proposed Debt	100,000	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded Through Traffic Development Fund	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>INCREASE / DECREASE IN UNRESTRICTED FUND BALANCES</b>	\$ 889,682	\$ (1,789,672)	\$ (783,666)	\$ (401,893)	\$ 177,496	\$ 297,343	\$ 152,300	\$ 197,081	\$ 140,355	\$ 158,929	\$ 103,473	\$ 103,473	



**Table ES-4  
City of Cornelius, Oregon  
Water System**

**Water System Multi-Year Financial Projections**

High-Level Summary	Actual FY	Fiscal Year Ending June 30,										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Debt Service Coverage</b>												
Net Revenue Available for Debt Service	\$ 1,001,682	\$ (245,709)	\$ 568,461	\$ 530,235	\$ 490,123	\$ 448,220	\$ 403,177	\$ 352,159	\$ 296,882	\$ 310,856	\$ 324,800	\$ 324,800
Total Debt Service	-	145,663	136,327	136,327	136,327	136,327	136,327	136,327	136,327	136,327	136,327	136,327
<b>ALL-IN DEBT SERVICE COVERAGE - 2.00x MIN TARGET</b>	<b>N/A</b>	<b>(1.69)</b>	<b>4.17</b>	<b>3.89</b>	<b>3.60</b>	<b>3.29</b>	<b>2.96</b>	<b>2.58</b>	<b>2.18</b>	<b>2.28</b>	<b>2.38</b>	<b>2.38</b>
<b>Cash Balances</b>												
Beginning of Year Cash Balances	\$ 5,271,673											
Less Construction / Loan Fund Balance	-											
Less Customer Deposits	(88,189)											
Less Debt Service Reserve Account	-											
Less System Development Charges	(735,686)											
Less Carryforward Projects	-											
Beginning of Year Fund Balance - Net Cash	\$ 4,447,798	\$ 5,337,480	\$ 3,547,808	\$ 2,764,142	\$ 2,362,249	\$ 2,539,745	\$ 2,837,088	\$ 2,989,387	\$ 3,186,469	\$ 3,326,823	\$ 3,485,752	\$ 3,485,752
Operating/Capital Reserve (Increase/Decrease)	889,682	(1,789,672)	(783,666)	(401,893)	177,496	297,343	152,300	197,081	140,355	158,929	103,473	103,473
<b>ENDING CASH RESERVES - \$</b>	<b>\$ 5,337,480</b>	<b>\$ 3,547,808</b>	<b>\$ 2,764,142</b>	<b>\$ 2,362,249</b>	<b>\$ 2,539,745</b>	<b>\$ 2,837,088</b>	<b>\$ 2,989,387</b>	<b>\$ 3,186,469</b>	<b>\$ 3,326,823</b>	<b>\$ 3,485,752</b>	<b>\$ 3,589,225</b>	<b>\$ 3,589,225</b>
Target Minimum Cash Reserves - One Year of Operating Expenses - \$ [2]	\$ 1,943,590	\$ 2,985,756	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642	\$ 3,107,642
Cash Reserves Balance - % of Operating Expenses [2]	275%	119%	125%	102%	106%	113%	114%	117%	117%	117%	117%	116%
Cash Reserves Balance - Days Cash on Hand [2]	1,002	434	455	374	385	412	416	425	425	427	422	422
<b>Monthly Bill and Rate Affordability</b>												
Average Monthly Residential Water Bill (6,000 Gallons)	\$49.52	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 48.76	\$ 49.98	\$ 51.23
Amount Increase	\$	\$(0.76)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.22	\$ 1.25
Percent Increase		-1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	2.5%
Cumulative Increase - %		-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	0.9%	3.5%
Median Household Income in City of Cornelius (Monthly) [3]	\$ 5,064	\$ 5,114	\$ 5,166	\$ 5,217	\$ 5,269	\$ 5,322	\$ 5,375	\$ 5,429	\$ 5,483	\$ 5,538	\$ 5,594	\$ 5,594
Percent of Median Household Income (Target < 2.0%)	0.98%	0.95%	0.94%	0.93%	0.93%	0.92%	0.91%	0.90%	0.89%	0.90%	0.92%	0.92%

**Footnotes:**

[1] Historical Operating Expenses excluding depreciation are shown as follows:

Expenses Summary	Fiscal Year Ended June 30,					Compound Annual Growth Rate
	2014	2015	2016	2017	2018	
Total Operating Expenses	\$ 1,628,959	\$ 1,642,045	\$ 1,601,512	\$ 1,588,164	\$ 1,799,528	2.5%
Percent Change		0.8%	-2.5%	-0.8%	13.3%	

[2] Fitch Ratings considers that utilities with the strongest financial profiles would have cash reserve balances equal to at least 100% of annual Operating Expenses. For purposes of determining one year days cash on hand, pass-through system development charges for the City of Hillsboro are The targeted days cash on hand is calculated as follows:

Description	Fiscal Year Ending June 30,										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Expenses	\$ 2,443,590	\$ 3,714,771	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642
Less Pass-Through of City of Hillsboro System Development Charges	(500,000)	(729,015)	-	-	-	-	-	-	-	-	-
Days Cash on Hand Target	\$ 1,943,590	\$ 2,985,756	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642

[3] \$60,766 median household income per United States Census Bureau (www.census.gov) divided by 12 months. Assumed to increase by 1.0% per year after Fiscal Year 2019.

Additional Personnel	Fiscal Year Ending June 30,										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Additional Full Time Employees (FTE) per Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Additional FTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

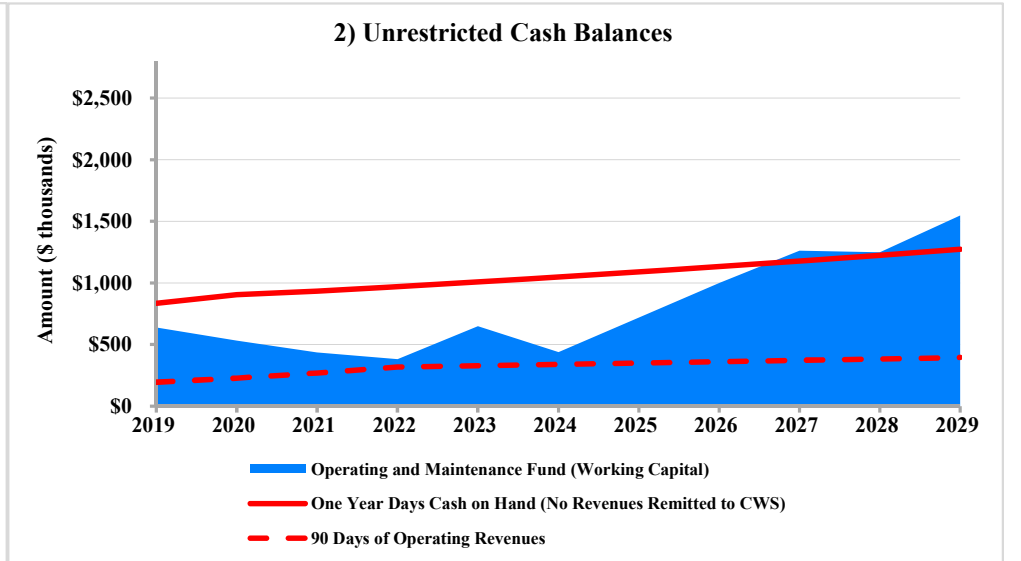
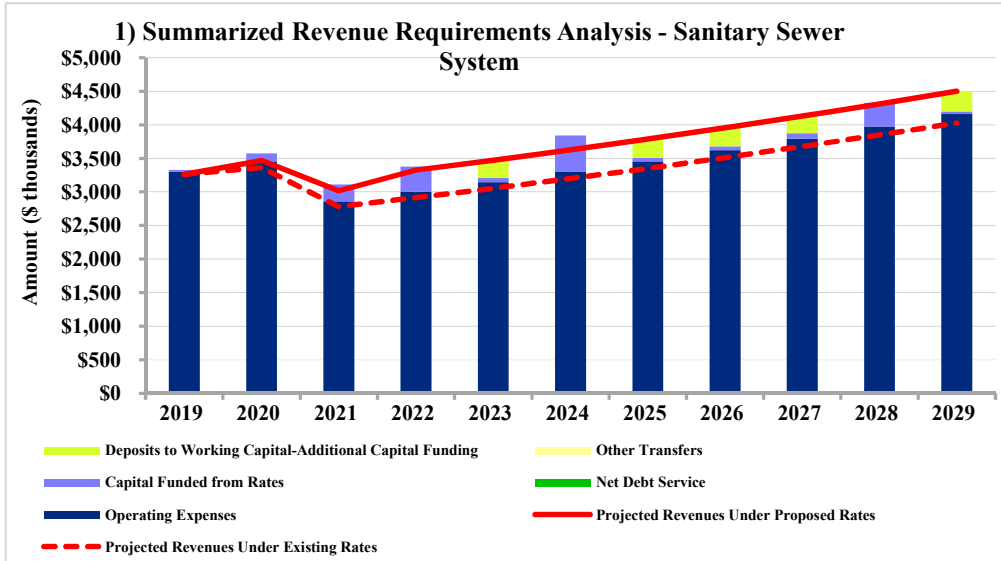


Table ES-5

City of Cornelius, Oregon  
Utility Rate Study

Sanitary Sewer System Financial Overview

High-Level Summary	Fiscal Year Ending June 30,											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Identified Revenue Adjustments</b>												
Sanitary Sewer System	0.00%	25.00%	25.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Effective Months	12	12	12	12	12	12	12	12	12	12	12	12
<b>Unrestricted Cash Balance (\$ 000's)</b>	\$ 637	\$ 531	\$ 435	\$ 381	\$ 648	\$ 438	\$ 719	\$ 1,000	\$ 1,261	\$ 1,248	\$ 1,548	
One Year Days Cash on Hand	835	905	934	971	1,009	1,049	1,090	1,133	1,178	1,225	1,273	
<b>All-In Net Revenues Debt Coverage</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Revenue Surplus / (Deficiency) (\$ 000's)</b>	\$ (84)	\$ (106)	\$ (95)	\$ (54)	\$ 267	\$ (210)	\$ 281	\$ 280	\$ 261	\$ (13)	\$ 300	
<b>Monthly Sewer Bill @ 6,000 Gallons</b>	\$ 52.62	\$ 56.00	\$ 59.89	\$ 64.45	\$ 65.92	\$ 67.42	\$ 68.98	\$ 70.58	\$ 72.22	\$ 73.92	\$ 75.67	
Increase		3.38	3.89	4.56	1.46	1.51	1.55	1.60	1.65	1.70	1.75	
Cost Per Gallon of Total Bill	\$ 0.009	\$ 0.009	\$ 0.010	\$ 0.011	\$ 0.011	\$ 0.011	\$ 0.011	\$ 0.012	\$ 0.012	\$ 0.012	\$ 0.013	
Percent of MHI (Target < 2%)	1.04%	1.10%	1.16%	1.24%	1.25%	1.27%	1.28%	1.30%	1.32%	1.33%	1.35%	
<b>EDUs - Sewer</b>	4,171	4,271	4,371	4,471	4,571	4,671	4,771	4,871	4,971	5,071	5,171	
Difference - Amount	25	100	100	100	100	100	100	100	100	100	100	
Difference - Percent	0.60%	2.40%	2.34%	2.29%	2.24%	2.19%	2.14%	2.10%	2.05%	2.01%	1.97%	
<b>City SDC Collection Level (\$ 000's)</b>	\$ 79	\$ 60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	





**Table ES-5**  
**City of Cornelius, Oregon**  
**Utility Rate Study**

**Sanitary Sewer System Financial Overview**

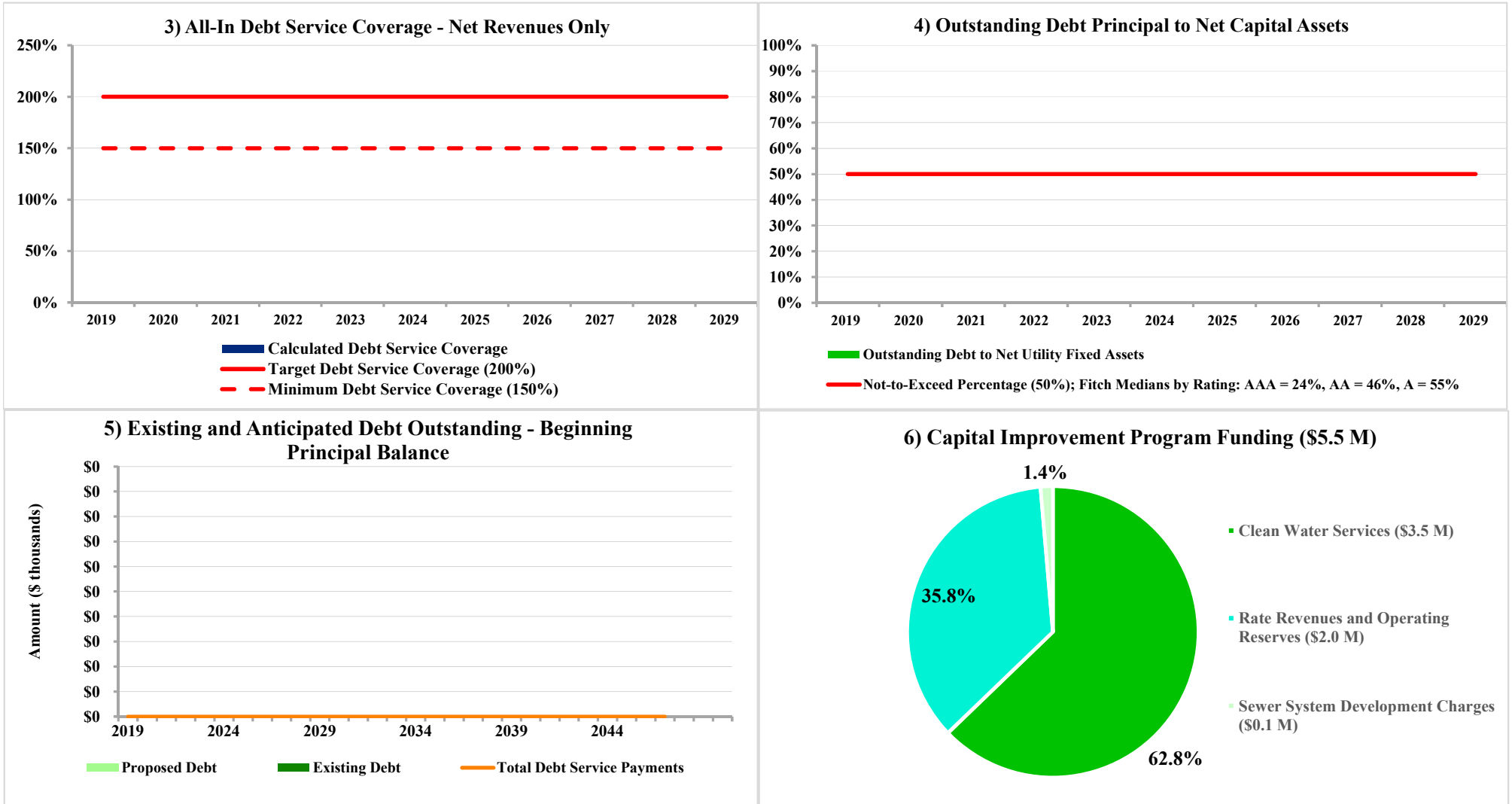




Table ES-5

City of Cornelius, Oregon  
Utility Rate Study

Sanitary Sewer System Financial Overview

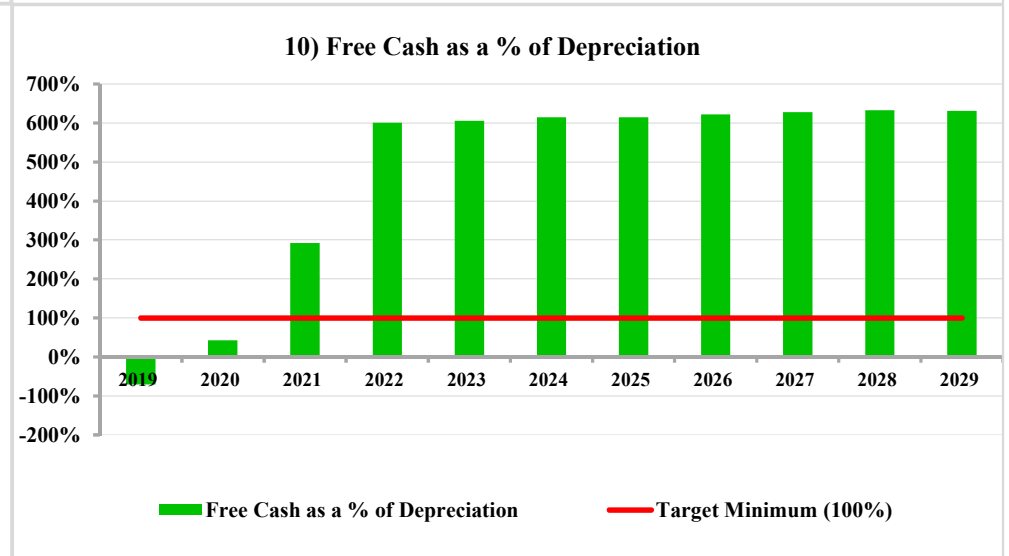
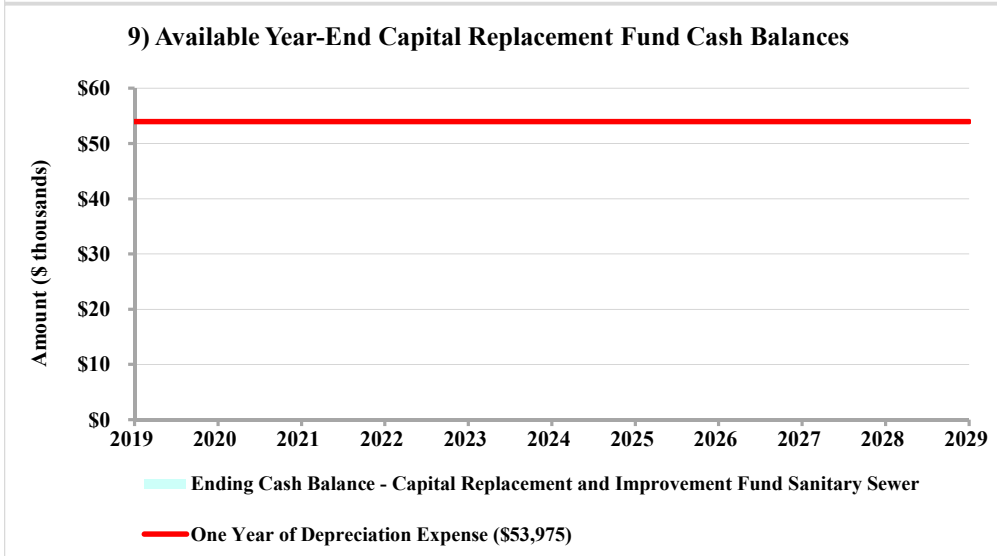
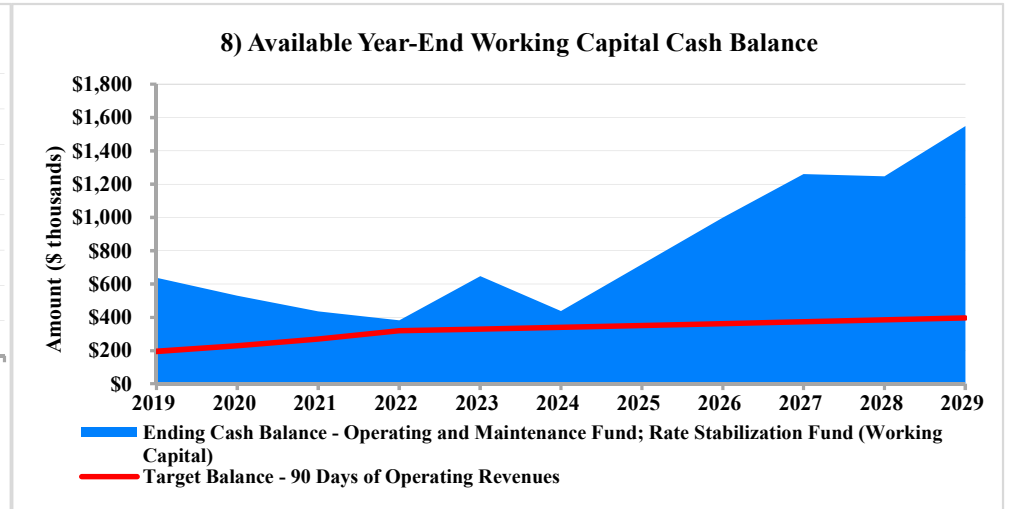
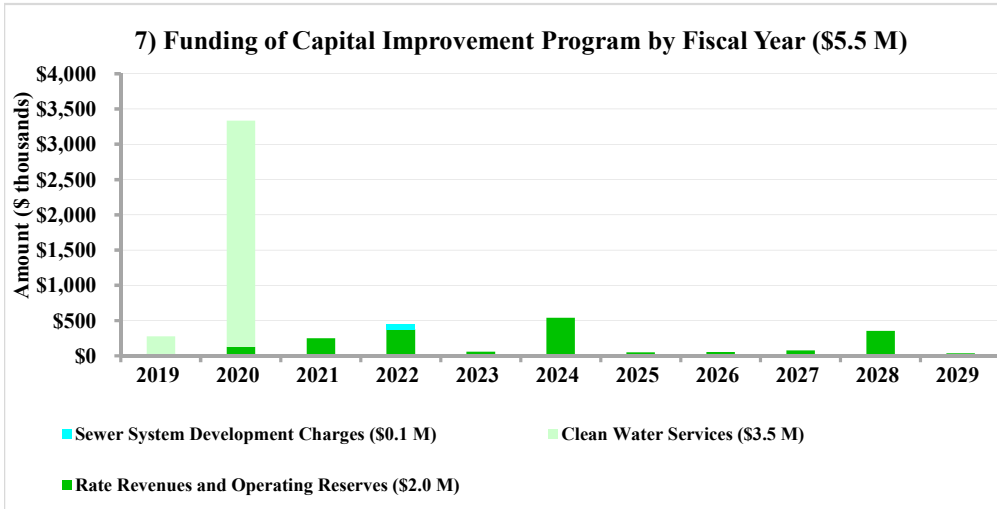






Table ES-5

City of Cornelius, Oregon  
Utility Rate Study

Sanitary Sewer System Financial Overview

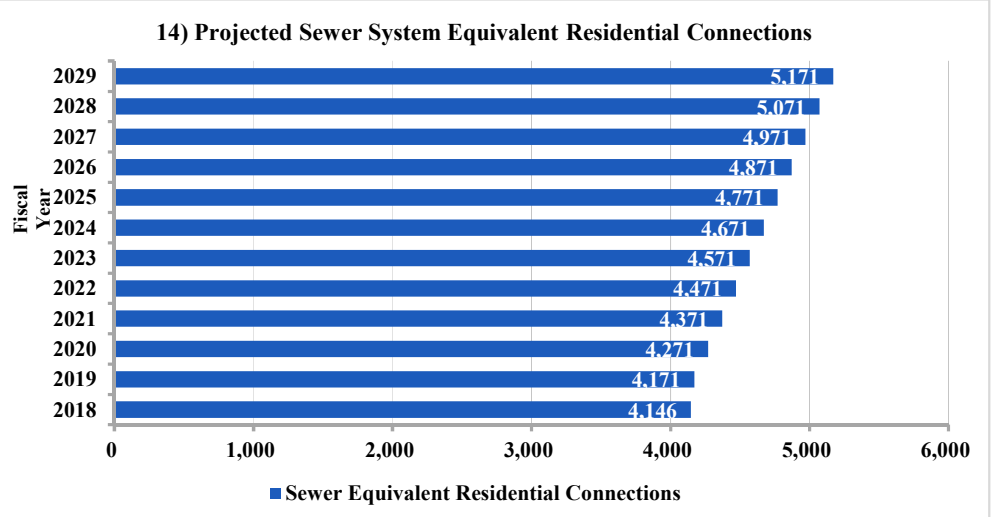
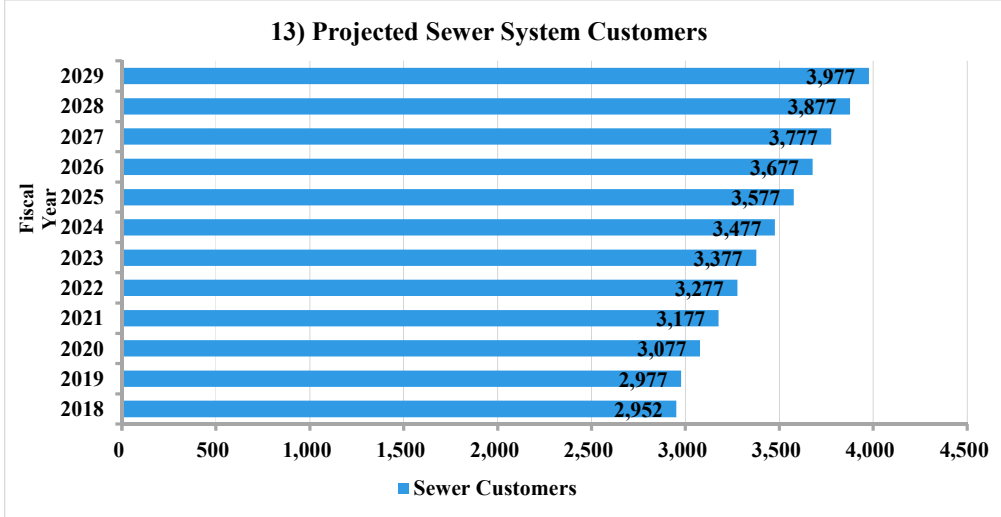
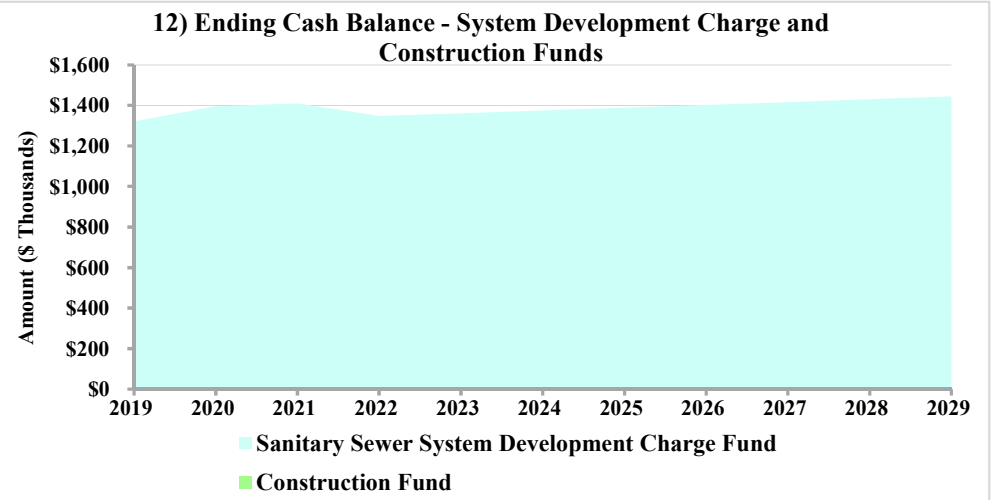
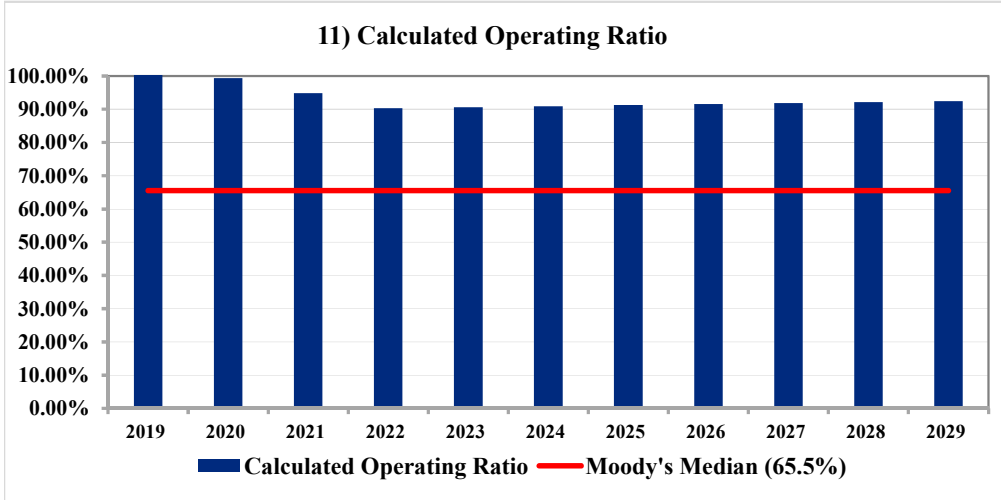
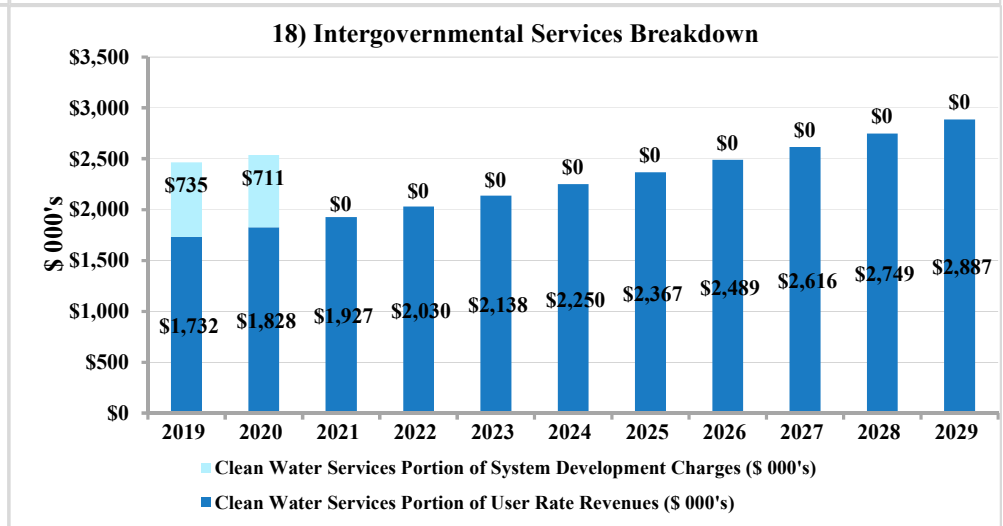
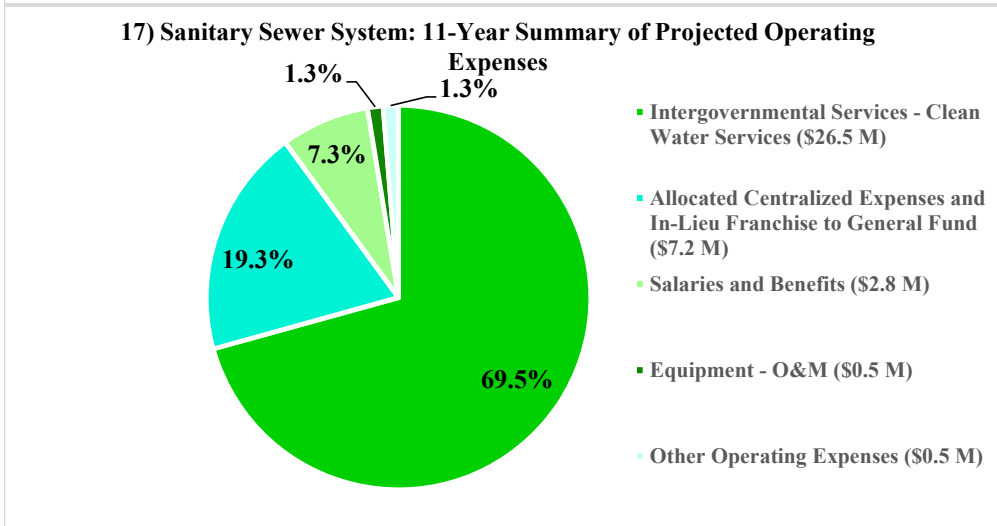
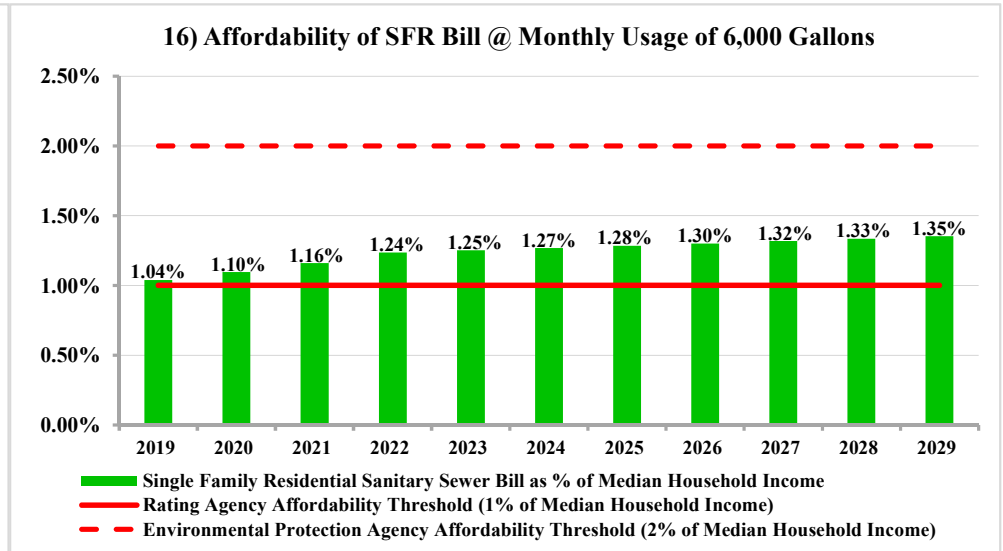
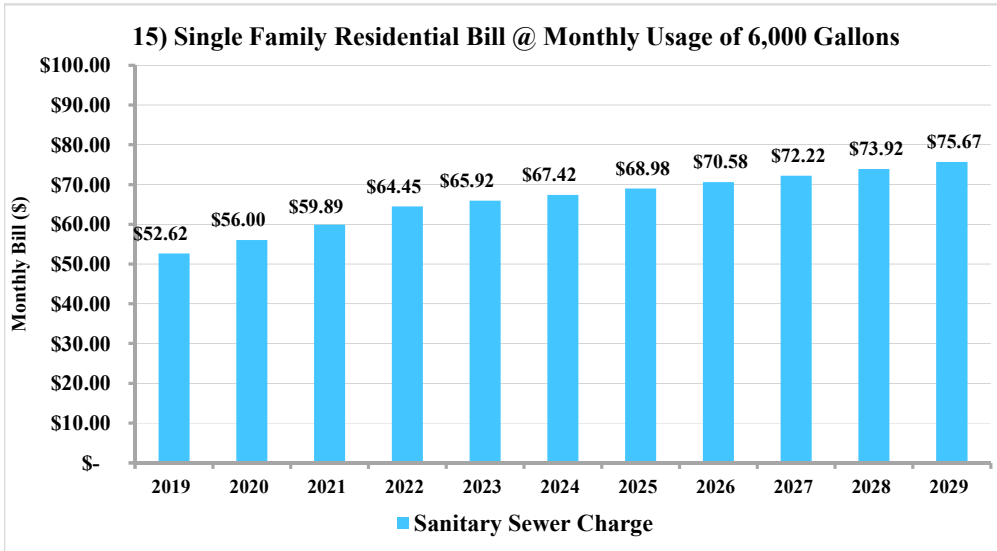




Table ES-5

City of Cornelius, Oregon  
Utility Rate Study

Sanitary Sewer System Financial Overview





**Table ES-6  
City of Cornelius, Oregon  
Sanitary Sewer System**

**Sanitary Sewer System Multi-Year Financial Projections**

High-Level Summary	Actual FY	Fiscal Year Ending June 30,										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Operating Revenue</b>												
User Rate Revenue - Retail			\$ 411,005	\$ 525,829	\$ 672,253	\$ 859,177	\$ 877,901	\$ 896,725	\$ 915,549	\$ 934,273	\$ 953,097	\$ 971,921
Sanitary Sewer User Rate Revenue Before Current Year Adjustment			\$ 411,005	\$ 525,829	\$ 672,253	\$ 859,177	\$ 877,901	\$ 896,725	\$ 915,549	\$ 934,273	\$ 953,097	\$ 971,921
Additional User Rate Increase - Sanitary Sewer			25.0%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total User Rate Revenue - Retail</b>	\$ 2,310,435	\$ 401,381	\$ 513,805	\$ 657,329	\$ 840,353	\$ 859,177	\$ 877,901	\$ 896,725	\$ 915,549	\$ 934,273	\$ 953,097	\$ 971,921
<b>Other Operating Revenue</b>	\$ 2,099,275	\$ 2,854,800	\$ 2,946,906	\$ 2,355,851	\$ 2,480,632	\$ 2,610,782	\$ 2,746,510	\$ 2,888,035	\$ 3,035,582	\$ 3,189,384	\$ 3,349,684	\$ 3,516,734
<b>TOTAL OPERATING REVENUE</b>	\$ 4,409,710	\$ 3,256,181	\$ 3,460,711	\$ 3,013,180	\$ 3,320,985	\$ 3,469,959	\$ 3,624,412	\$ 3,784,760	\$ 3,951,131	\$ 4,123,657	\$ 4,302,781	\$ 4,488,655
<b>Operating Expenses [1]</b>												
Sanitary Sewer System Operating Expenses	\$ 2,011,646	\$ 3,301,515	\$ 3,444,071	\$ 2,860,767	\$ 3,001,055	\$ 3,146,877	\$ 3,298,881	\$ 3,457,310	\$ 3,622,424	\$ 3,794,487	\$ 3,973,776	\$ 4,160,577
Percent Change		64.1%	4.3%	-16.9%	4.9%	4.9%	4.8%	4.8%	4.8%	4.7%	4.7%	4.7%
<b>Operating Revenues Less Operating Expenses</b>	\$ 2,398,064	\$ (45,334)	\$ 16,640	\$ 152,413	\$ 319,931	\$ 323,082	\$ 325,531	\$ 327,450	\$ 328,706	\$ 329,169	\$ 329,006	\$ 328,078
<b>Non-Operating Revenue</b>												
Unrestricted Interest Income	\$ 62,665	\$ 7,210	\$ 6,369	\$ 5,307	\$ 4,353	\$ 3,810	\$ 6,478	\$ 4,380	\$ 7,195	\$ 9,997	\$ 12,607	\$ 12,476
<b>Net Revenue Available for Debt Service</b>	\$ 2,460,729	\$ (38,124)	\$ 23,009	\$ 157,720	\$ 324,284	\$ 326,892	\$ 332,009	\$ 331,830	\$ 335,901	\$ 339,167	\$ 341,613	\$ 340,554
<b>City Debt Service</b>												
Existing Debt Service - Principal and Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Service - Principal and Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less System Development Fees Used for City Growth-Related Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>NET DEBT SERVICE</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Allocations and Other Transfers</b>												
	\$ 16,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Inter-Utility Loan Activity</b>												
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue Available for Capital Rehabilitations / Improvements</b>	\$ (54,124)	\$ 23,009	\$ 157,720	\$ 324,284	\$ 326,892	\$ 332,009	\$ 331,830	\$ 335,901	\$ 339,167	\$ 341,613	\$ 340,554	
<b>Capital Expenditures</b>												
<b>Capital Program as Scheduled</b>												
Capital Projects - Sanitary Sewer	\$ 250,000	\$ 3,303,946	\$ 221,300	\$ 420,800	\$ 26,300	\$ 507,050	\$ 14,550	\$ 18,750	\$ 40,200	\$ 315,600	\$ -	
Departmental Capital - Sanitary Sewer	30,000	30,900	31,827	32,782	33,765	34,778	35,822	36,896	38,003	39,143	40,317	
<b>Total Capital Program as Scheduled</b>	\$ 280,000	\$ 3,334,846	\$ 253,127	\$ 453,582	\$ 60,065	\$ 541,828	\$ 50,372	\$ 55,646	\$ 78,203	\$ 354,743	\$ 40,317	
<b>Adjustments</b>												
Capital Projects - Sanitary Sewer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Departmental Capital - Sanitary Sewer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Adjustments</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Capital Projects as Adjusted</b>												
Capital Projects - Sanitary Sewer	\$ 250,000	\$ 3,303,946	\$ 221,300	\$ 420,800	\$ 26,300	\$ 507,050	\$ 14,550	\$ 18,750	\$ 40,200	\$ 315,600	\$ -	
Departmental Capital - Sanitary Sewer	30,000	30,900	31,827	32,782	33,765	34,778	35,822	36,896	38,003	39,143	40,317	
<b>ADJUSTED CAPITAL EXPENDITURES</b>	\$ 280,000	\$ 3,334,846	\$ 253,127	\$ 453,582	\$ 60,065	\$ 541,828	\$ 50,372	\$ 55,646	\$ 78,203	\$ 354,743	\$ 40,317	
<b>Cash Surplus / (Deficiency)</b>												
Base Surplus / (Deficiency)	\$ (334,124)	\$ (3,311,837)	\$ (95,407)	\$ (129,298)	\$ 266,826	\$ (209,819)	\$ 281,458	\$ 280,255	\$ 260,964	\$ (13,131)	\$ 300,236	
Less Projects to Be Funded by Developers	-	-	-	-	-	-	-	-	-	-	-	
Less Projects to Be Funded by Clean Water Services	250,000	3,205,646	-	-	-	-	-	-	-	-	-	
Less Projects to Be Funded Through System Development Charges	-	-	-	75,000	-	-	-	-	-	-	-	
Less Projects to Be Funded Through Proceeds from Existing and Proposed Debt	-	-	-	-	-	-	-	-	-	-	-	
Less Projects to Be Funded Through Traffic Development Fund	-	-	-	-	-	-	-	-	-	-	-	
<b>INCREASE / DECREASE IN UNRESTRICTED FUND BALANCES</b>	\$ (84,124)	\$ (106,191)	\$ (95,407)	\$ (54,298)	\$ 266,826	\$ (209,819)	\$ 281,458	\$ 280,255	\$ 260,964	\$ (13,131)	\$ 300,236	



**Table ES-6  
City of Cornelius, Oregon  
Sanitary Sewer System**

**Sanitary Sewer System Multi-Year Financial Projections**

High-Level Summary	Actual FY	Fiscal Year Ending June 30,										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Debt Service Coverage</b>												
Net Revenue Available for Debt Service	\$ (38,124)	\$ 23,009	\$ 157,720	\$ 324,284	\$ 326,892	\$ 332,009	\$ 331,830	\$ 335,901	\$ 339,167	\$ 341,613	\$ 340,554	
Total Debt Service	-	-	-	-	-	-	-	-	-	-	-	-
<b>ALL-IN DEBT SERVICE COVERAGE - 2.00x MIN TARGET</b>		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Cash Balances</b>												
Beginning of Year Cash Balances	\$ 1,950,790											
Less Construction / Loan Fund Balance	-											
Less Customer Deposits	-											
Less Debt Service Reserve Account	-											
Less System Development Charges	(1,229,765)											
Less Carryforward Projects	-											
Beginning of Year Fund Balance - Net Cash	\$ 721,025	\$ 636,901	\$ 530,710	\$ 435,303	\$ 381,005	\$ 647,831	\$ 438,012	\$ 719,471	\$ 999,725	\$ 1,260,689	\$ 1,247,559	\$ 1,247,559
Operating/Capital Reserve (Increase/Decrease)	(84,124)	(106,191)	(95,407)	(54,298)	266,826	(209,819)	281,458	280,255	260,964	(13,131)	300,236	
<b>ENDING CASH RESERVES - \$</b>	<b>\$ 636,901</b>	<b>\$ 530,710</b>	<b>\$ 435,303</b>	<b>\$ 381,005</b>	<b>\$ 647,831</b>	<b>\$ 438,012</b>	<b>\$ 719,471</b>	<b>\$ 999,725</b>	<b>\$ 1,260,689</b>	<b>\$ 1,247,559</b>	<b>\$ 1,547,795</b>	<b>\$ 1,547,795</b>
Target Minimum Cash Reserves - One Year of Operating Expenses - \$ [2]	\$ 834,727	\$ 904,973	\$ 933,500	\$ 970,665	\$ 1,008,912	\$ 1,048,712	\$ 1,090,131	\$ 1,133,238	\$ 1,178,105	\$ 1,224,805	\$ 1,273,418	
Cash Reserves Balance - % of Operating Expenses [2]	76%	59%	47%	39%	64%	42%	66%	88%	107%	102%	122%	
Cash Reserves Balance - Days Cash on Hand [2]	278	214	170	143	234	152	241	322	391	372	444	
<b>Monthly Bill and Rate Affordability</b>												
Average Monthly Residential Sanitary Bill (6,000 Gallons)	\$ 52.62	\$ 56.00	\$ 59.89	\$ 64.45	\$ 65.92	\$ 67.42	\$ 68.98	\$ 70.58	\$ 72.22	\$ 73.92	\$ 75.67	
Amount Increase		\$ 3.38	\$ 3.89	\$ 4.56	\$ 1.46	\$ 1.51	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	
Percent Increase		6.4%	6.9%	7.6%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.4%	
Cumulative Increase - %		6.4%	13.8%	22.5%	25.3%	28.1%	31.1%	34.1%	37.3%	40.5%	43.8%	
Median Household Income in City of Cornelius (Monthly) [3]	\$ 5,064	\$ 5,114	\$ 5,166	\$ 5,217	\$ 5,269	\$ 5,322	\$ 5,375	\$ 5,429	\$ 5,483	\$ 5,538	\$ 5,594	
Percent of Median Household Income (Target < 2.0%)	1.04%	1.10%	1.16%	1.24%	1.25%	1.27%	1.28%	1.30%	1.32%	1.33%	1.35%	

**Footnotes:**

[1] Historical Operating Expenses excluding depreciation are shown as follows:

Expenses Summary	Fiscal Year Ended June 30,					Compound Annual Growth Rate
	2014	2015	2016	2017	2018	
Total Operating Expenses	\$ 2,114,427	\$ 1,863,606	\$ 1,855,307	\$ 1,883,218	\$ 2,011,646	
Percent Change		-11.9%	-0.4%	1.5%	6.8%	-1.2%

[2] Fitch Ratings considers that utilities with the strongest financial profiles would have cash reserve balances equal to at least 100% of annual Operating Expenses. For purposes of determining one year days cash on hand, pass-through system development charges and user rate revenues Water Services are not considered. The targeted days cash on hand is calculated as

Description	Fiscal Year Ending June 30,										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Expenses	\$ 3,301,515	\$ 3,444,071	\$ 2,860,767	\$ 3,001,055	\$ 3,146,877	\$ 3,298,881	\$ 3,457,310	\$ 3,622,424	\$ 3,794,487	\$ 3,973,776	\$ 4,160,577
Less Pass-Through of Clean Water Services System User Rate Revenues	(1,732,234)	(1,828,429)	(1,927,267)	(2,030,390)	(2,137,966)	(2,250,169)	(2,367,180)	(2,489,186)	(2,616,383)	(2,748,971)	(2,887,159)
Less Pass-Through of Clean Water Services System Development Charges	(734,553)	(710,670)	-	-	-	-	-	-	-	-	-
Days Cash on Hand Target	\$ 834,727	\$ 904,973	\$ 933,500	\$ 970,665	\$ 1,008,912	\$ 1,048,712	\$ 1,090,131	\$ 1,133,238	\$ 1,178,105	\$ 1,224,805	\$ 1,273,418

[3] \$60,766 median household income per United States Census Bureau (www.census.gov) divided by 12 months. Assumed to increase by 1.0% per year after Fiscal Year 2019.

Additional Personnel	Fiscal Year Ending June 30,										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Additional Full Time Employees (FTE) per Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Additional FTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



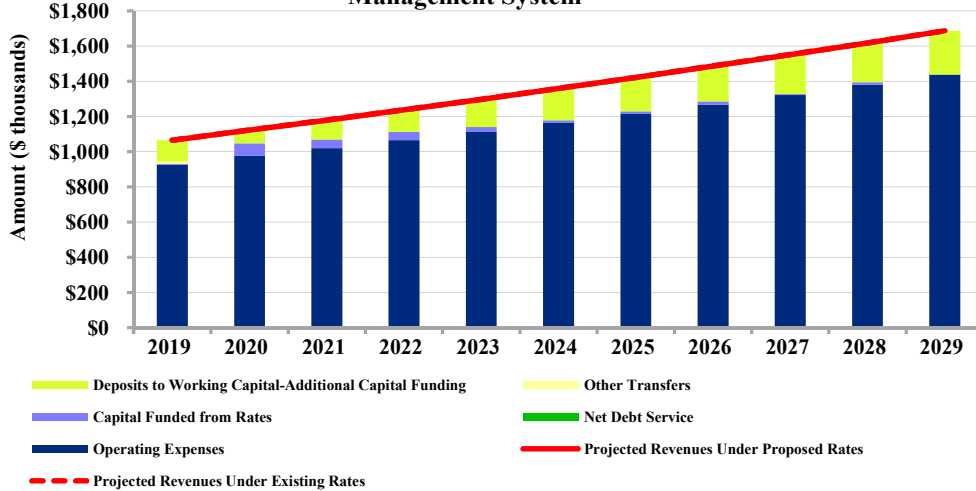
Table ES-7

City of Cornelius, Oregon  
Utility Rate Study

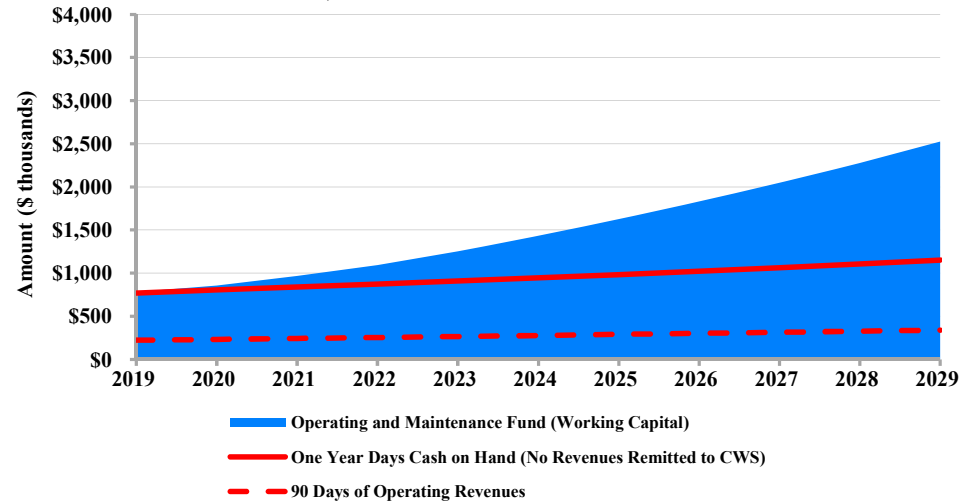
Surface Water Management System Financial Overview

High-Level Summary	Fiscal Year Ending June 30,											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Identified Revenue Adjustments</b>												
Surface Water Management System	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Effective Months	12	12	12	12	12	12	12	12	12	12	12	12
<b>Unrestricted Cash Balance (\$ 000's)</b>	\$ 782	\$ 857	\$ 968	\$ 1,095	\$ 1,253	\$ 1,434	\$ 1,628	\$ 1,828	\$ 2,052	\$ 2,276	\$ 2,525	
One Year Days Cash on Hand	771	809	841	875	910	947	985	1,024	1,065	1,108	1,153	
<b>All-In Net Revenues Debt Coverage</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Revenue Surplus / (Deficiency) (\$ 000's)</b>	\$ 119	\$ 75	\$ 111	\$ 126	\$ 158	\$ 182	\$ 193	\$ 200	\$ 224	\$ 224	\$ 249	
<b>ESUs - Surface Water Management</b>	5,920	6,020	6,120	6,220	6,320	6,420	6,520	6,620	6,720	6,820	6,920	
Difference - Amount	25	100	100	100	100	100	100	100	100	100	100	
Difference - Percent	0.42%	1.69%	1.66%	1.63%	1.61%	1.58%	1.56%	1.53%	1.51%	1.49%	1.47%	
<b>City SDC Collection Level (\$ 000's)</b>	\$ 181	\$ 193	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

1) Summarized Revenue Requirements Analysis - Surface Water Management System



2) Unrestricted Cash Balances





**Table ES-7**  
**City of Cornelius, Oregon**  
**Utility Rate Study**

**Surface Water Management System Financial Overview**

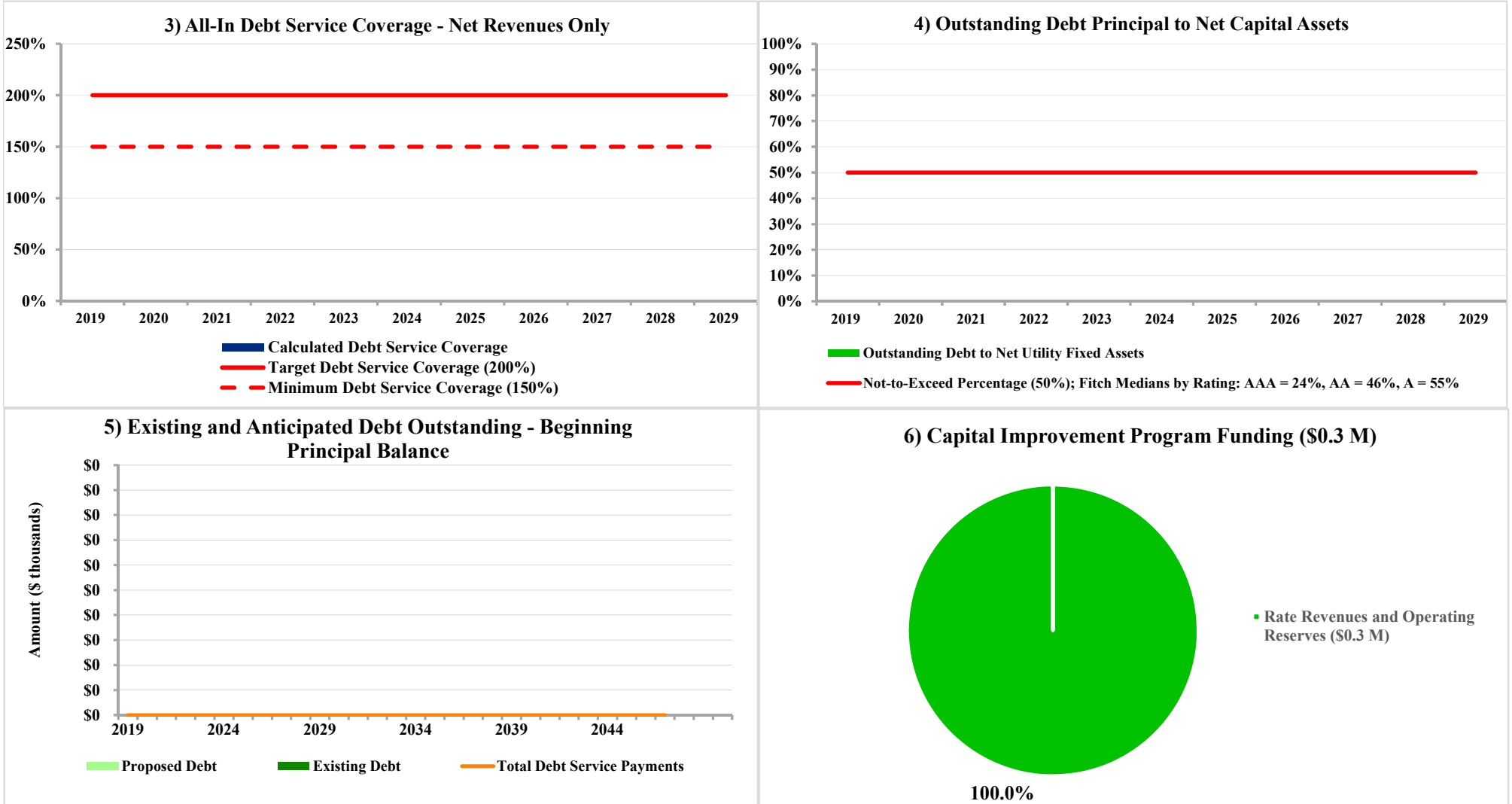




Table ES-7

City of Cornelius, Oregon  
Utility Rate Study

Surface Water Management System Financial Overview

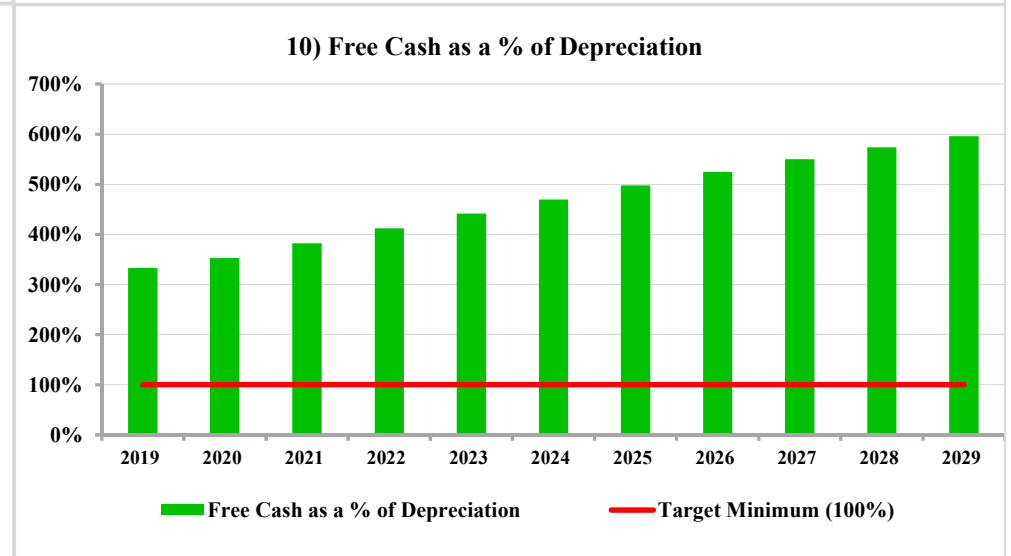
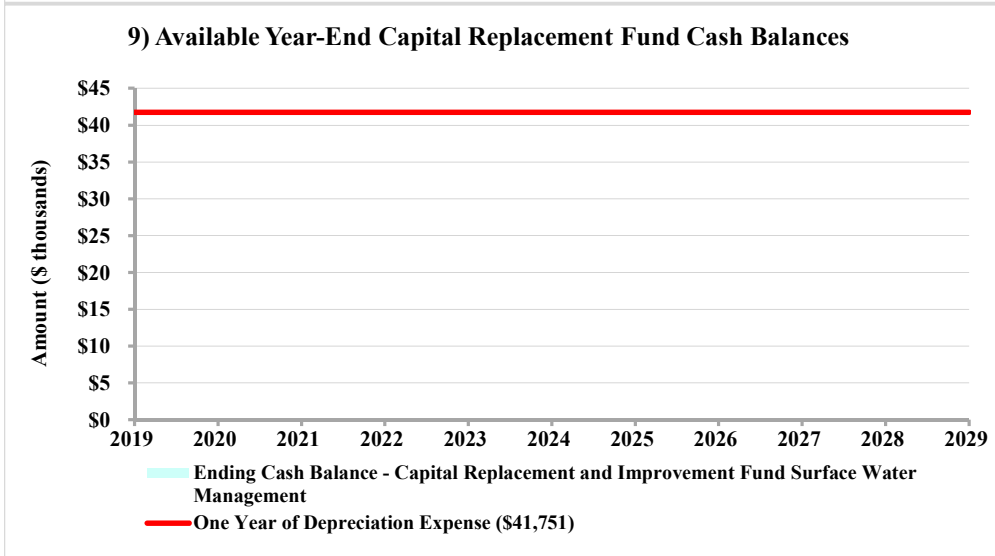
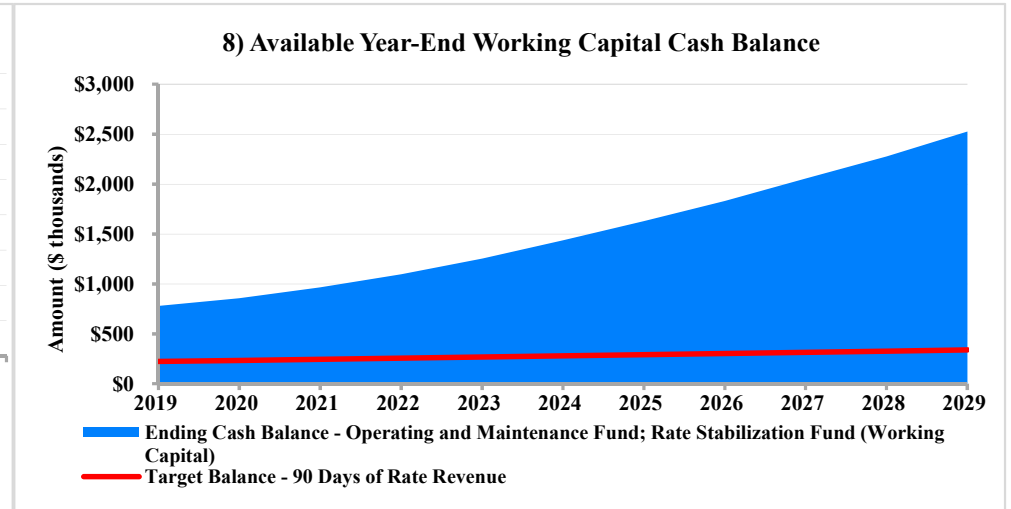
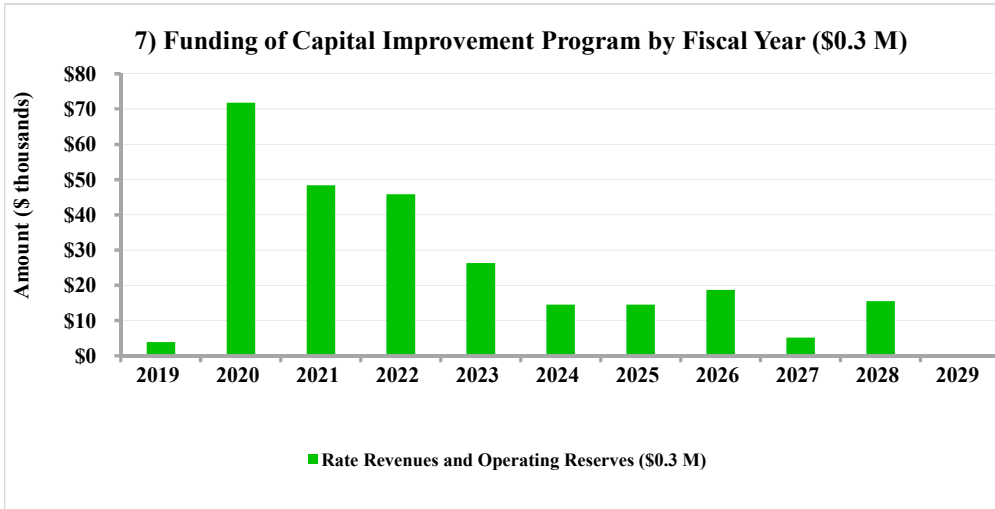






Table ES-7

City of Cornelius, Oregon  
Utility Rate Study

Surface Water Management System Financial Overview

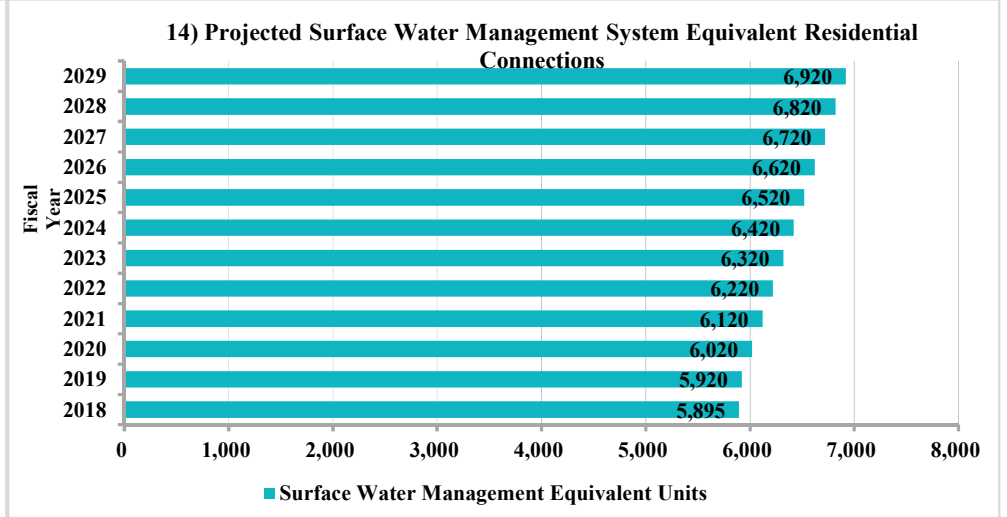
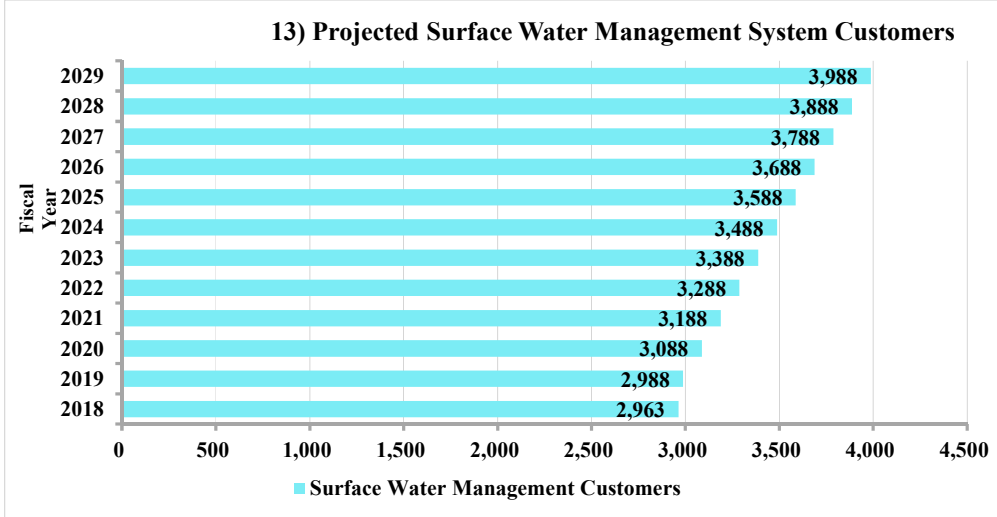
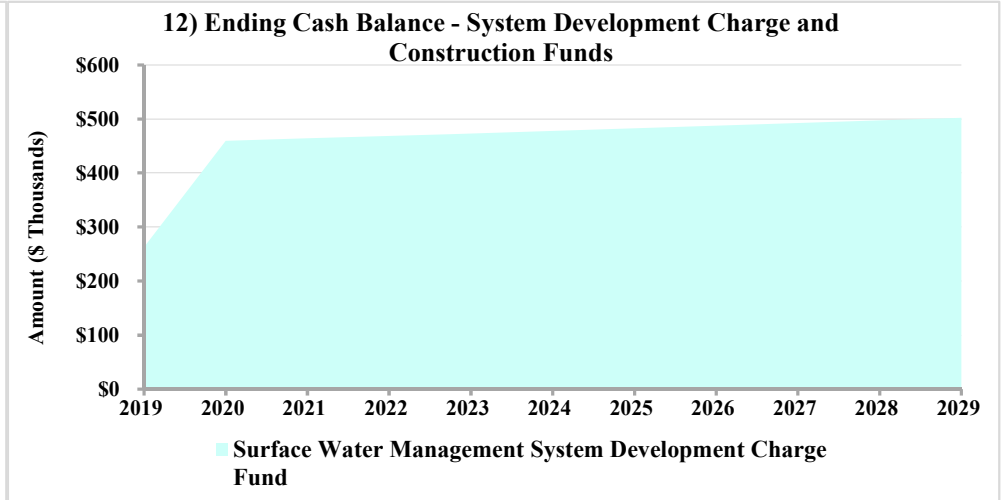
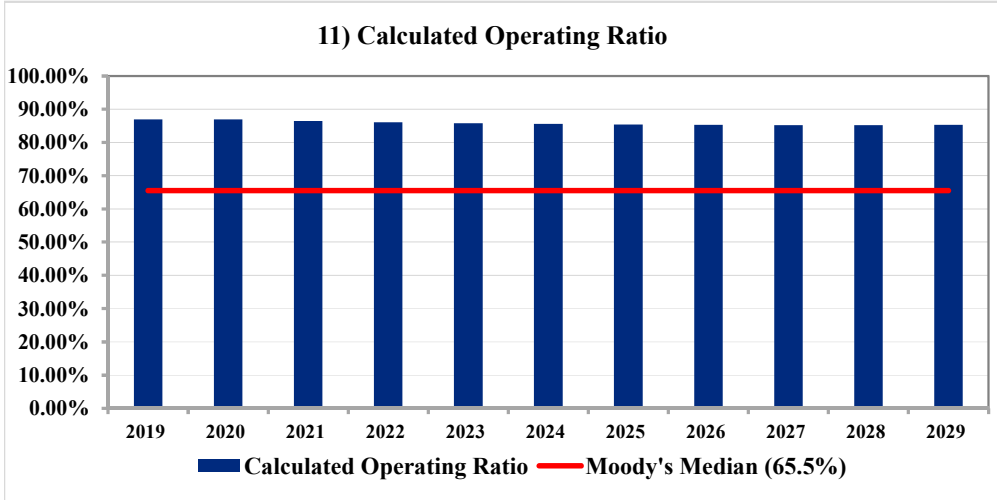
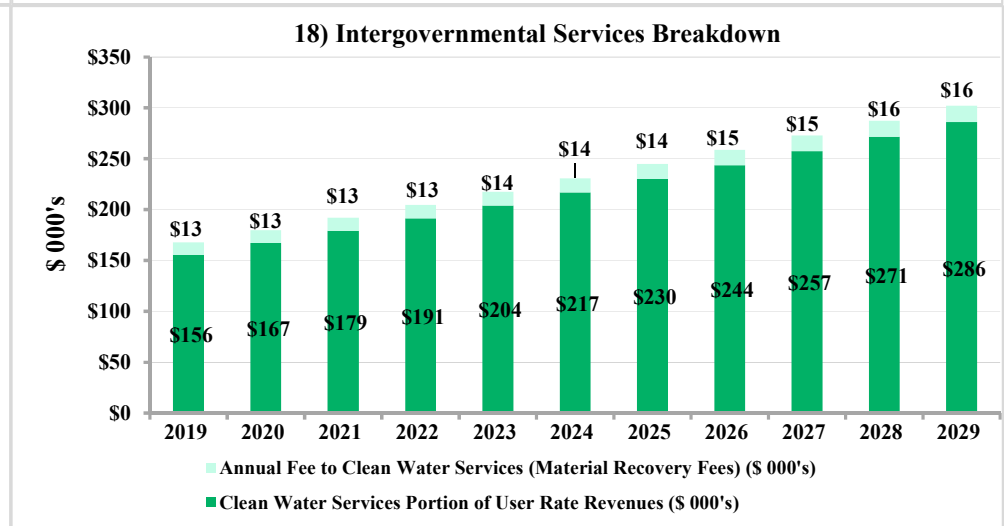
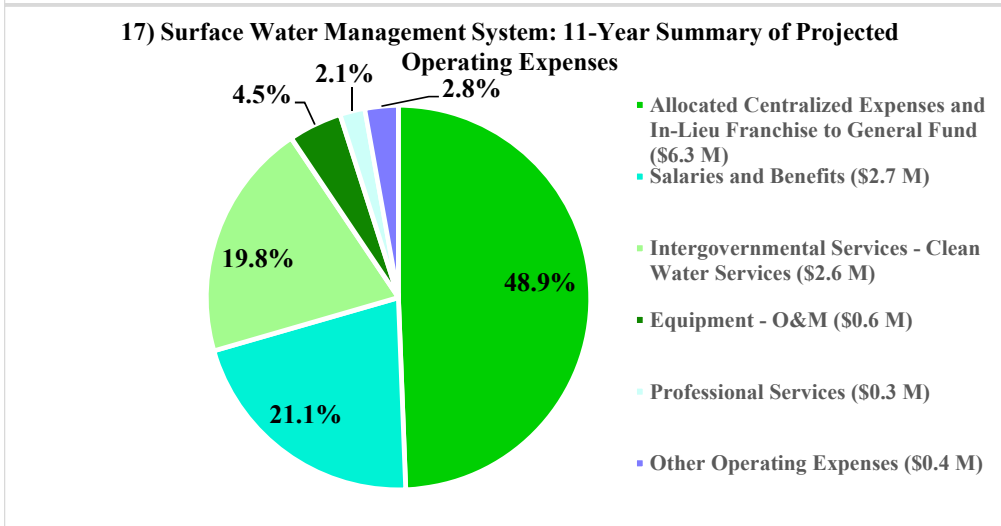
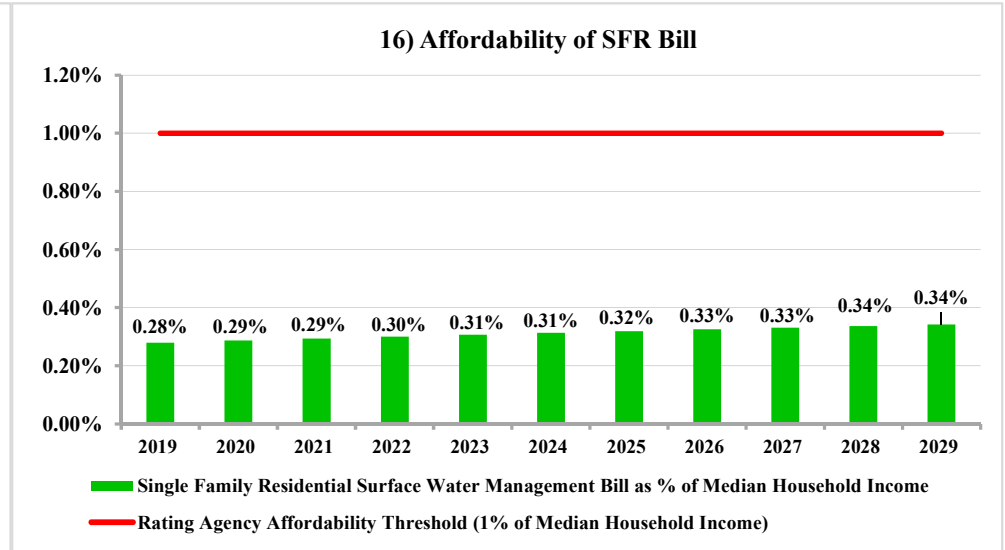
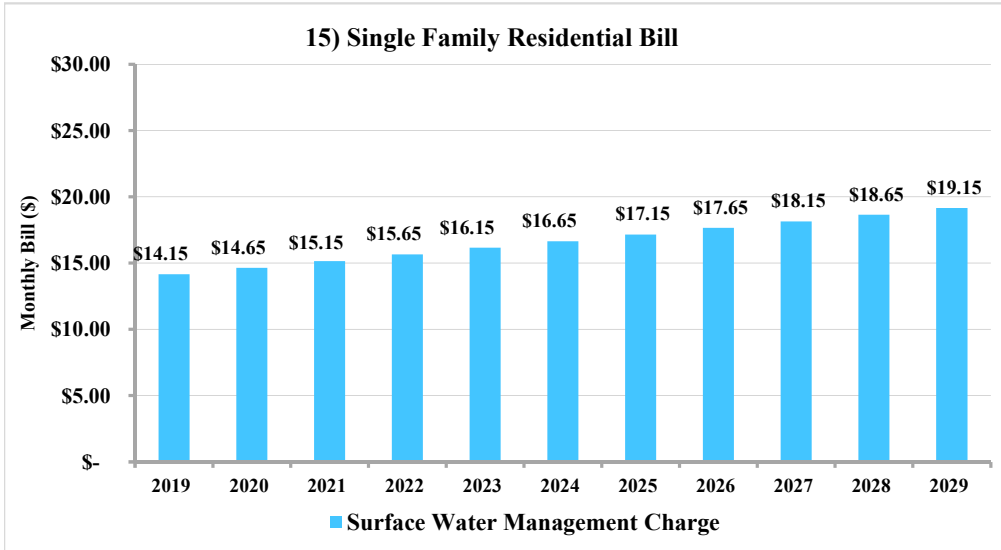




Table ES-7

City of Cornelius, Oregon  
Utility Rate Study

Surface Water Management System Financial Overview





**Table ES-8  
City of Cornelius, Oregon  
Surface Water Management System**

**Surface Water Management System Multi-Year Financial Projections**

High-Level Summary	Actual FY	Fiscal Year Ending June 30,											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Operating Revenue</b>													
User Rate Revenue - Retail			\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395	
Surface Water Management User Rate Revenue Before Current Year Adjustment													
Additional User Rate Increase - Surface Water Management			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total User Rate Revenue - Retail</b>	\$ 2,310,435	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395	
<b>Other Operating Revenue</b>	\$ 693,671	\$ 675,132	\$ 725,544	\$ 775,083	\$ 825,873	\$ 877,917	\$ 931,215	\$ 985,770	\$ 1,041,583	\$ 1,098,656	\$ 1,156,990	\$ 1,216,588	
<b>TOTAL OPERATING REVENUE</b>	\$ 3,004,106	\$ 1,058,727	\$ 1,115,619	\$ 1,171,638	\$ 1,228,908	\$ 1,287,432	\$ 1,347,210	\$ 1,408,245	\$ 1,470,538	\$ 1,534,091	\$ 1,598,905	\$ 1,664,983	
<b>Operating Expenses [1]</b>													
Surface Water Management System Operating Expenses	\$ 435,600	\$ 926,368	\$ 976,221	\$ 1,020,531	\$ 1,066,474	\$ 1,114,109	\$ 1,163,491	\$ 1,214,684	\$ 1,267,754	\$ 1,322,768	\$ 1,379,796	\$ 1,438,916	
Percent Change		112.7%	5.4%	4.5%	4.5%	4.5%	4.4%	4.4%	4.4%	4.3%	4.3%	4.3%	
<b>Operating Revenues Less Operating Expenses</b>	\$ 2,568,506	\$ 132,359	\$ 139,398	\$ 151,107	\$ 162,434	\$ 173,323	\$ 183,719	\$ 193,561	\$ 202,784	\$ 211,323	\$ 219,109	\$ 226,067	
<b>Non-Operating Revenue</b>													
Unrestricted Interest Income	\$ 62,665	\$ 6,626	\$ 7,816	\$ 8,570	\$ 9,684	\$ 10,947	\$ 12,527	\$ 14,344	\$ 16,277	\$ 18,280	\$ 20,524	\$ 22,765	
<b>Net Revenue Available for Debt Service</b>	\$ 2,631,171	\$ 138,985	\$ 147,214	\$ 159,677	\$ 172,118	\$ 184,270	\$ 196,245	\$ 207,905	\$ 219,061	\$ 229,603	\$ 239,633	\$ 248,832	
<b>City Debt Service</b>													
Existing Debt Service - Principal and Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Service - Principal and Interest	-	-	-	-	-	-	-	-	-	-	-	-	-
Less System Development Fees Used for City Growth-Related Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>NET DEBT SERVICE</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Allocations and Other Transfers</b>	\$ 16,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Inter-Utility Loan Activity</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue Available for Capital Rehabilitations / Improvements</b>	\$ 122,985	\$ 147,214	\$ 159,677	\$ 172,118	\$ 184,270	\$ 196,245	\$ 207,905	\$ 219,061	\$ 229,603	\$ 239,633	\$ 248,832		
<b>Capital Expenditures</b>													
Capital Program as Scheduled													
Capital Projects - Surface Water Management	\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -	\$ -	
Departmental Capital - Surface Water Management	-	-	-	-	-	-	-	-	-	-	-	-	
Total Capital Program as Scheduled	\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -	\$ -	
Adjustments													
Capital Projects - Surface Water Management	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Departmental Capital - Surface Water Management	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Adjustments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Projects as Adjusted													
Capital Projects - Surface Water Management	\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -	\$ -	
Departmental Capital - Surface Water Management	-	-	-	-	-	-	-	-	-	-	-	-	
<b>ADJUSTED CAPITAL EXPENDITURES</b>	\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -	\$ -	
<b>Cash Surplus / (Deficiency)</b>													
Base Surplus / (Deficiency)	\$ 118,985	\$ 75,414	\$ 111,377	\$ 126,318	\$ 157,970	\$ 181,695	\$ 193,355	\$ 200,311	\$ 224,403	\$ 224,033	\$ 248,832		
Less Projects to Be Funded by Developers	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded by Clean Water Services	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded Through System Development Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded Through Proceeds from Existing and Proposed Debt	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Projects to Be Funded Through Traffic Development Fund	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>INCREASE / DECREASE IN UNRESTRICTED FUND BALANCES</b>	\$ 118,985	\$ 75,414	\$ 111,377	\$ 126,318	\$ 157,970	\$ 181,695	\$ 193,355	\$ 200,311	\$ 224,403	\$ 224,033	\$ 248,832		



**Table ES-8  
City of Cornelius, Oregon  
Surface Water Management System**

**Surface Water Management System Multi-Year Financial Projections**

High-Level Summary	Actual FY	Fiscal Year Ending June 30,										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Debt Service Coverage</b>												
Net Revenue Available for Debt Service	\$ 138,985	\$ 147,214	\$ 159,677	\$ 172,118	\$ 184,270	\$ 196,245	\$ 207,905	\$ 219,061	\$ 229,603	\$ 239,633	\$ 248,832	
Total Debt Service	-	-	-	-	-	-	-	-	-	-	-	-
<b>ALL-IN DEBT SERVICE COVERAGE - 2.00x MIN TARGET</b>		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Cash Balances</b>												
Beginning of Year Cash Balances	\$ 742,773											
Less Construction / Loan Fund Balance	-											
Less Customer Deposits	-											
Less Debt Service Reserve Account	-											
Less System Development Charges	(80,164)											
Less Carryforward Projects	-											
Beginning of Year Fund Balance - Net Cash	\$ 662,609	\$ 781,594	\$ 857,008	\$ 968,384	\$ 1,094,703	\$ 1,252,673	\$ 1,434,368	\$ 1,627,723	\$ 1,828,034	\$ 2,052,438	\$ 2,276,471	\$ 2,276,471
Operating/Capital Reserve (Increase/Decrease)	118,985	75,414	111,377	126,318	157,970	181,695	193,355	200,311	224,403	224,033	248,832	
<b>ENDING CASH RESERVES - \$</b>	<b>\$ 781,594</b>	<b>\$ 857,008</b>	<b>\$ 968,384</b>	<b>\$ 1,094,703</b>	<b>\$ 1,252,673</b>	<b>\$ 1,434,368</b>	<b>\$ 1,627,723</b>	<b>\$ 1,828,034</b>	<b>\$ 2,052,438</b>	<b>\$ 2,276,471</b>	<b>\$ 2,525,303</b>	
Target Minimum Cash Reserves - One Year of Operating Expenses - \$ [2]	\$ 770,796	\$ 808,981	\$ 841,323	\$ 874,997	\$ 910,063	\$ 946,576	\$ 984,599	\$ 1,024,198	\$ 1,065,442	\$ 1,108,400	\$ 1,153,148	
Cash Reserves Balance - % of Operating Expenses [2]	101%	106%	115%	125%	138%	152%	165%	179%	193%	205%	219%	
Cash Reserves Balance - Days Cash on Hand [2]	370	387	420	457	502	553	603	651	703	750	799	
<b>Monthly Bill and Rate Affordability</b>												
Average Monthly Residential Sanitary Bill (6,000 Gallons)	\$ 14.15	\$ 14.65	\$ 15.15	\$ 15.65	\$ 16.15	\$ 16.65	\$ 17.15	\$ 17.65	\$ 18.15	\$ 18.65	\$ 19.15	
Amount Increase		\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Percent Increase		3.5%	3.4%	3.3%	3.2%	3.1%	3.0%	2.9%	2.8%	2.8%	2.7%	
Cumulative Increase - %		3.5%	7.1%	10.6%	14.1%	17.7%	21.2%	24.7%	28.3%	31.8%	35.3%	
Median Household Income in City of Cornelius (Monthly) [3]	\$ 5,064	\$ 5,114	\$ 5,166	\$ 5,217	\$ 5,269	\$ 5,322	\$ 5,375	\$ 5,429	\$ 5,483	\$ 5,538	\$ 5,594	
Percent of Median Household Income (Target < 1.0%)	0.28%	0.29%	0.29%	0.30%	0.31%	0.31%	0.32%	0.33%	0.33%	0.34%	0.34%	

**Footnotes:**

[1] Historical Operating Expenses excluding depreciation are shown as follows:

Expenses Summary	Fiscal Year Ended June 30,					Compound Annual Growth Rate
	2014	2015	2016	2017	2018	
Total Operating Expenses	\$ 741,431	\$ 359,161	\$ 386,987	\$ 410,869	\$ 435,600	
Percent Change		-51.6%	7.7%	6.2%	6.0%	-12.5%

[2] Fitch Ratings considers that utilities with the strongest financial profiles would have cash reserve balances equal to at least 100% of annual Operating Expenses. For purposes of determining one year days cash on hand, pass-through system development charges and user rate revenues Water Services are not considered. The targeted days cash on hand is calculated as

Description	Fiscal Year Ending June 30,										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Expenses	\$ 926,368	\$ 976,221	\$ 1,020,531	\$ 1,066,474	\$ 1,114,109	\$ 1,163,491	\$ 1,214,684	\$ 1,267,754	\$ 1,322,768	\$ 1,379,796	\$ 1,438,916
Less Pass-Through of Clean Water Services System User Rate Revenues	(155,572)	(167,240)	(179,208)	(191,477)	(204,046)	(216,915)	(230,085)	(243,555)	(257,326)	(271,397)	(285,768)
Days Cash on Hand Target	\$ 770,796	\$ 808,981	\$ 841,323	\$ 874,997	\$ 910,063	\$ 946,576	\$ 984,599	\$ 1,024,198	\$ 1,065,442	\$ 1,108,400	\$ 1,153,148

[3] \$60,766 median household income per United States Census Bureau (www.census.gov) divided by 12 months. Assumed to increase by 1.0% per year after Fiscal Year 2019.

Additional Personnel	Fiscal Year Ending June 30,										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Additional Full Time Employees (FTE) per Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Additional FTE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



**SECTION 1**  
**Water System**  
**Financial Forecast And User Rate Design**

## SECTION 1:

# WATER SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN

### 1-1: Water System - Overview

---

The City's potable water system includes finished water storage, transmission, and distribution facilities. The City's water supply source is finished water delivered to the City by the City of Hillsboro. Water from the City's source of supply flows through approximately 32 miles of water transmission and distribution mains. The water system has an Aquifer Storage and Recovery ("ASR") facility, a 1.5 million-gallon concrete storage tank, a booster pump station, and 449 fire hydrants.

### 1-2: Existing Water Monthly User Rates

---

The City's current monthly water user rates have been in effect since July 1, 2018. Resolution No. 2018-18 (the "Rate Resolution"), which was adopted by the Cornelius City Council (the "Council") on June 4, 2018, established the existing monthly user rates. The existing water rates include:

- A constant base facility or readiness-to-serve charge which varies by class and by meter size.
- For single family residential customers, inverted or inclining block water charges per 1,000 gallons applied to metered water usage to encourage water conservation.
- For multifamily residential and commercial customers, a uniform volumetric charge for all water usage, with each class having a different uniform volumetric rate.
- For customers located outside the City, a base charge consistent with commercial base charges and usage charges consistent with those of the single family residential class.

Table ES-1 in the executive summary section of this report shows the existing monthly water user rates charged to all customers located both inside and outside City boundaries.

A copy of the existing Rate Resolution is contained in Appendix A at the end of this report.

### 1-3: Water System Customer Statistics

The population of the City has not grown significantly over the past few years as shown in the following Table 1-1. However, there has been recent development activity, and the City expects approximately 1,200 single family residential units to connect to the water system over the next several years. These new units are also anticipated to have sanitary sewer and surface water management service.

**Exhibit 1-1: Historical City Population Growth**

Historical Cornelius, Oregon Population Growth [*]					
Description	2014	2015	2016	2017	2018
Population of Cornelius, Oregon	11,910	11,900	11,915	11,915	11,935
Change:					
Amount		(10)	15	0	20
Percent		(0.1%)	0.1%	0.0%	0.2%
2014 to 2018 Compound Annual Growth Rate					0.1%
2016 to 2018 Compound Annual Growth Rate					0.1%

[\*] Source of Data: Portland State University Population Research Center.

During the Fiscal Year 2018, it is estimated that the City provided water service to an average of 3,024 water accounts and 3,650 water equivalent residential connections ("ERCs") based on meter equivalency factors as shown in Table 1-1 at the end of this section. An ERC represents the annual average use of an individually metered residential (single-family) customer. For the determination of the estimated number of ERCs served, such estimates were based on the use of meter equivalent factors applied to the meters in service. The meter equivalent factors were based on information published by the American Water Works Association (AWWA), which documents the capacities of the various meter sizes typically used by utilities in the establishment of monthly base facility charges. The meter equivalent factors are based on the equivalent hydraulic throughput capacity of the meters and are shown in the following Exhibit 1-2 by meter size:

**Exhibit 1-2: Meter Equivalent Factors**

Meter Size (Inches)	Meter Equivalent (ERC Factor)
5/8"	1
3/4"	1.5
1"	2.5
1-1/2"	5
2"	8
3"	16
4"	25
6"	50



Based on discussions with the City staff, the following Exhibit 1-3 indicates the assumed customer growth for the water system during the Forecast Period that is further detailed in Table 1-1 at the end of this section:

**Exhibit 1-3: Projected Water System Customer Statistics [\*]**

Fiscal Year Ending June 30, (Projected)	Retail Customer Statistics					
	Water Customers			Water Sales		
	Accounts	Change in Accounts	Equivalent Residential Connections (ERCs)	Retail Water Sales (kgal)	Retail Usage Per Customer (gallons)	Retail Usage Per ERC (gallons)
2018 (historical)	3,024		3,679	297,632	8,202	6,743
2019	3,049	25	3,704	299,324	8,181	6,735
2020	3,149	100	3,804	306,093	8,100	6,706
2021	3,249	100	3,904	312,862	8,025	6,679
2022	3,349	100	4,004	319,630	7,953	6,653
2023	3,449	100	4,104	326,399	7,886	6,628
2024	3,549	100	4,204	333,168	7,823	6,605
2025	3,649	100	4,304	339,937	7,763	6,583
2026	3,749	100	4,404	346,705	7,707	6,561
2027	3,849	100	4,504	353,474	7,653	6,541
2028	3,949	100	4,604	360,243	7,602	6,521
2029	4,049	100	4,704	367,011	7,554	6,502
Compound Annual Growth Rate:						
2018 - 2029	2.69%		2.26%	1.92%		
2019 - 2029	<u>2.88%</u>		<u>2.42%</u>	<u>2.06%</u>		

[\*] Amounts shown derived from Table 1-1.

As can be seen in the preceding table, it has been assumed for the purposes of developing the financial projections that the City's water system retail customer base would increase by over 2.5% annually during the Forecast Period from the Fiscal Year 2019 to the end of Fiscal Year 2029, or 100 accounts per year. This growth is due to the new development discussed previously.

### 1-4: Revenues Under Existing Monthly User Rates

The forecast of revenues from existing water rates was based on: i) the projection of water system accounts and corresponding water consumption as shown in Table 1-1; and ii) the existing rates for monthly water service as currently adopted by the City. A summary of the estimated water user rate revenues derived under existing rates is included in Table 1-2 at the end of this section. The projected water user rate revenues by fiscal year based on the previously discussed sales forecast is summarized in the following Exhibit 1-4:

**Exhibit 1-4: Projected Rate Revenues Under Existing Monthly Water User Rates [\*]**

Fiscal Year Ending June 30, (Projected)	Water System User Rate Revenues
2018 (actual)	\$ 2,310,435
2019	2,437,869
2020	2,499,673
2021	2,561,477
2022	2,623,281
2023	2,685,085
2024	2,746,889
2025	2,808,693
2026	2,870,497
2027	2,932,301
2028	2,994,105
2029	3,055,909
Compound Annual Growth Rate:	
2018 - 2029	2.57%
2019 - 2029	2.29%

[\*] Amounts shown derived from Table 1-2.

As shown in the preceding table, revenues under existing rates are projected to increase by about 2.3% per year as a result of the new development activity.

**1-5: Revenue Requirements – Principal Assumptions and Considerations**

The costs associated with operating and maintaining a utility system, as well as the costs of financing the renewals and replacements of existing facilities and the capital improvements for upgrades and expansions, are generally considered to be the revenue requirements of public utilities such as the City’s. The sum of these costs, after adjusting for other operating and non-operating (e.g., interest income, system development charges available to pay expansion-related debt service) revenues available to the utility, represents the net revenue requirements of a utility system that must be funded from the monthly user charges or rates. The following is a summary of the net revenue requirement derivation:

+ Cost of Operation and Maintenance
+ Debt Service Payments (Senior and Subordinate)
+ Transfers and Administration Payments
+ Capital Project Financing
+ Working Capital Reserves / Financial Compliance
- Other Operating Revenue and Other Funding Sources
- Interest Income
<u>= Net Revenue Requirements (Funded from User Rates)</u>

Net revenue requirements signify the expenditure levels required to be recovered from monthly user fees or rates. The development of the net revenue requirements of the system is a critical component of the analysis since utility rates should be designed to fully recover the cost of providing service.

The financial evaluation contained in this utility rate analysis covered projections for the 11 fiscal year period of October 1, 2018 through June 30, 2029 (previously defined as the "Forecast Period"). A forecast of water system operations was prepared in order to: i) assess the adequacy of utility rates in the near future; ii) recognize potential cost recovery strategies based on the phase-in of any required rate adjustments to meet the projected revenue requirements and finance identified capital expenditure requirements; and iii) examine the financial implications of alternatives to funding the water system's multi-year capital improvement program.

The projected revenue requirements for the water system are shown in Table 1-3 at the end of this section. In the preparation of the financial projections contained in this report and the conclusions that follow, GovRates has made certain assumptions with respect to conditions that may occur in the future. While we believe the assumptions are reasonable and based on the best available information for the purpose of this report, they are dependent upon future events and actual conditions may differ from those assumed. We recommend that the City continue to compare actual results with the projections contained in this report to ensure that the water utility's rates continue to be sufficient.

For the purposes of the financial projections, the principal considerations and assumptions were either made by us or provided to us and include the following:

1. Projected revenues from current rates and charges for the City's water system have been based on the schedule of rates and charges currently in effect and as set forth in the Rate Resolution. Such rates were applied to the customer and sales usage forecast discussed previously.
2. The City collects water system development charges ("SDCs") for both the City (transmission component) and the City of Hillsboro (treatment component). The City of Hillsboro's SDCs are remitted to Hillsboro, while the Cornelius SDCs were assumed to be utilized for funding growth-related capital projects or growth-related debt service. The assumed system development charge collections were based on discussions with City staff and are summarized in the following Exhibit 1-5:

**Exhibit 1-5: Projected Water System Development Charge Collections**

Fiscal Year Ending June 30, (Projected)	City of Cornelius SDCs	City of Hillsboro SDCs [*]	Combined
2018 (actual)	\$ 52,433	\$ 74,657	\$ 127,090
2019	318,486	500,000	818,486
2020	508,804	729,015	1,237,819
2021	0	0	0
2022	0	0	0
2023	0	0	0
2024	0	0	0
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0

[\*] Amounts are remitted to the City of Hillsboro and are reflected as both a revenue and expense of the water system.

3. The adopted Fiscal Years 2019 and 2020 operating and capital budgets as provided by the City served as the baseline for the expenditure projections for the remainder of the Forecast Period and the underlying assumptions contained in these budgets were considered to be reasonable and to reflect anticipated operations. The budgeted operating expenses were compared with actual historical results and trends in operating expenses.
  
4. Table 1-4 at the end of this section summarizes: i) the budgeted Fiscal Year 2019 and Fiscal Year 2020 operations and maintenance expenses for the water system; and ii) the adjustments made to the forecast for known operational and ratemaking considerations.
  
5. The operation and maintenance expenses for the water system identified for the Fiscal Year 2020 were projected for the remaining nine (9) years of the Forecast Period (through Fiscal Year 2029). These projections are displayed on Table 1-5 at the end of this section. The escalation factors utilized in the analysis were based on the nature of the expense and information provided by the City staff. The forecast of inflation was based upon the consumer price index ("CPI") forecast prepared by the Congressional Budget Office as contained in "The Budget and Economic Outlook: 2019 to 2029" published in January 2019 and ranges from 2.3% to 2.6% per year. This inflation forecast was compared to other pricing indices used by many utilities for financial forecasting and rate review purposes. Major cost escalation factors assumed were based on discussions with City staff and include:
  - Salaries and Wages: 3.0% per year
  - Health Insurance: 5.0% per year
  - Repair and Maintenance Expenses: 4.0% per year

- InLieu Franchise to General Fund: Based on Labor (3.0% per year)
  - Allocated Expenses – General Fund: 3.0% per year
  - Allocated Expenses – ISF Fund: 3.0% per year
  - Allocated Expenses – Utility Funds: 3.0% per year
6. Based on discussions with City staff, no additional personnel above Fiscal Year 2020 budgeted levels were assumed during the Forecast Period for the water system.
7. Intergovernmental services expenses represent the largest operating expense for the water system and consist of: i) the purchased water expense from the City of Hillsboro; and ii) the pass-through of Hillsboro system development charges. The projected costs of water purchases from the City of Hillsboro were based on discussions with City staff and are summarized in the following Exhibit 1-6 and detailed in Table 1-6 at the end of this section:

**Exhibit 1-6: Projection of Intergovernmental Services Expenses [\*]**

Fiscal Year Ending June 30, (Projected)	Total Water Purchases (kgal)	Total Water Purchases (CCF)	Total Purchased Water Costs	Average Cost Per 1,000 Gallons	Pass-Through of Hillsboro SDCs	Total Intergovernmental Services Expense
2019	369,416	493,871	\$ 718,582	\$ 1.95	\$ 500,000	\$ 1,218,582
2020	430,769	575,895	915,673	2.13	729,015	1,644,688
2021	386,123	516,207	867,228	2.25	0	867,228
2022	394,477	527,375	907,085	2.30	0	907,085
2023	402,830	538,543	950,529	2.36	0	950,529
2024	411,184	549,711	999,348	2.43	0	999,348
2025	419,538	560,879	1,050,240	2.50	0	1,050,240
2026	427,891	572,047	1,103,287	2.58	0	1,103,287
2027	436,245	583,215	1,158,571	2.66	0	1,158,571
2028	444,599	594,383	1,216,179	2.74	0	1,216,179
2029	452,953	605,551	1,276,201	2.82	0	1,276,201

kgal = 1,000 gallons

CCF = 100 cubic feet

[\*] Derived from Table 1-6.

8. In the projection of the estimated expenditure requirements, a contingency allowance has been included for Fiscal Years 2020 through 2029. The contingency allowance assumed for the development of the projected revenue requirements represents approximately 1.0% of the total water operating expenses and for the Fiscal Year 2020 was estimated to be approximately \$37,000. This annual allowance has been included as an operating expense in order to have additional funds to meet unknown or unplanned expenses throughout the fiscal year and to recognize potential changes in revenues that may result due to weather, conservation, and other factors. To the extent the contingency allowance is not required to meet annual operating expenses or provide funds for ongoing system operations, such monies would accrue to the benefit of the water system and could

be used for other purposes such as funding renewals, replacements, and upgrades to the water system over time.

9. An allowance for bad debt expenses has been made to recognize that a certain amount of revenues will be considered as uncollectible and written off throughout the year. This expenditure item reflects an incremental adjustment to each year’s operating expenses and was estimated at 0.25% of user rate revenue.
10. For the purposes of this analysis, amounts associated with depreciation and amortization expenses have not been recognized. These expenditures are non-cash in nature and are also not considered as operating expenses for ratemaking purposes. Therefore, such amounts have not been recognized as a revenue requirement to be recovered from rates for the Forecast Period. It should be noted that an allowance for the funding of capital projects, renewals and replacements, and/or reserves has been recognized which essentially provides for the cash funding of these expenses.
11. The water system currently has one debt issue outstanding – a Safe Drinking Water Fund loan that financed the City's ASR facilities. Payments on this loan commence during the Fiscal Year 2020. The final principal amount of the loan was \$2,028,208 to be repaid over a 20-year term. The Fiscal Year 2020 loan payment is \$145,663, after which annual payments are \$136,327.

No additional borrowing is currently assumed during the Forecast Period.

12. The projected 11-year capital expenditures (i.e., through the Fiscal Year ending June 30, 2029) for the water system were based on discussions with the City staff. Table 1-7 at the end of this section provides a detailed listing of the capital projects for the water system as well as projected funding sources for such projects within the analysis period. The capital improvement program ("CIP") funding plan is summarized in the following Exhibit 1-7:

**Exhibit 1-7: Assumed Capital Improvement Program Funding Plan**

Funding Source	Water System	
	Amount	Percent
Rate Revenues and Operating Reserves	\$ 3,939,850	60.4%
System Development Charges	1,550,000	23.8%
Washington County	932,000	14.3%
Existing Safe Drinking Water Fund Loan	100,000	1.5%
Total	<u>6,521,850</u>	<u>100.0%</u>

[\*] Derived from Table 1-7.

As the preceding table indicates, over 60% of the CIP is projected to be funded from water system revenues and operating reserves.

13. Interest income has been recognized as an available revenue source to fund the expenditure needs of the water system. For the Forecast Period, interest income was based on estimated balances in unrestricted funds. Thus, for the determination of the revenue requirements from rates, no earnings have been reflected on balances in the system development charge fund or in any construction fund established from proceeds derived from the issuance of debt obligations to fund capital projects. Although the restricted earnings are available for capital project funding, the earnings are not being considered as being available to fund utility operating expenses since such earnings are restricted to the account. As such, the earnings on the restricted funds are not included in the development of the net revenue requirements of the City's water system.

In the development of the estimated interest earnings, an average interest rate of 1.00% was assumed to be earned on the estimated average fund balances during the Forecast Period. This interest rate is based on recent earning performance results of the utility and discussions with the City staff.

Table 1-8 at the end of this section contains the projection of fund balances and interest income.

14. The City receives other operating revenues from miscellaneous charges for specific customer service requests or needs which serve to reduce rate revenue requirements. For the purpose of the water system rate analysis, any revenue stream over which the City has no control has been classified as "other operating revenue." Other operating revenue for purposes of the water system rate analysis includes Hillsboro SDCs, public works permits, late fees, connection fees, and meter fees. Such amounts were projected through the Forecast Period based on a review of historical trends, the projected growth in customers to be served and rate revenues, and discussions with City staff.

Table 1-9 at the end of this section contains the projection of other operating revenues.

## 1-6: Summary of Water Revenue Requirements Analysis

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As shown on Table 1-3 at the end of this section, no annual rate increases have been recognized for the water system over the next several years. For the Fiscal Years 2028 and 2029, inflationary 2.50% annual rate increases have been recognized. These adjustments are based on the assumptions discussed throughout this report.

## 1-7: Debt Service Coverage and Rate Covenants

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A major aspect of any utility rate analysis is the determination of whether the rate covenants associated with the City's debt obligations are being met. The City's Safe Drinking Water Fund loan agreement contains a covenant under which the City shall maintain rates and charges for the services furnished by the water system that are sufficient to provide, in each Fiscal Year:

*"Net Revenues...at least equal to one hundred percent (120%) of the annual debt service due in the fiscal year on the Loan, any outstanding senior lien obligations and all obligations issued or deemed to be on parity with the Loan."*

The projected debt service coverage is summarized in the following Exhibit 1-8:

**Exhibit 1-8: Projected Debt Service Coverage**

Fiscal Year	Net Revenues	Annual Debt Service	Debt Service Coverage (Min =120%; Target = 200%)
2020	\$ (245,709)	\$ 145,663	-169%
2021	\$ 568,461	\$ 136,327	417%
2022	\$ 530,235	\$ 136,327	389%
2023	\$ 490,123	\$ 136,327	360%
2024	\$ 448,220	\$ 136,327	329%
2025	\$ 403,177	\$ 136,327	296%
2026	\$ 352,159	\$ 136,327	258%
2027	\$ 296,882	\$ 136,327	218%
2028	\$ 310,856	\$ 136,327	228%
2029	\$ 324,800	\$ 136,327	238%

In Fiscal Year 2020, the City is implementing an automatic meter reading system, and this implementation will cause a nonrecurring increase in operating expenses. The City staff is aware that the operating expenses in Fiscal Year 2020 may cause the water system to not meet the 120% debt service coverage requirement on its existing SDWRLF loan. Since debt service coverage under existing water rates is anticipated to be healthy in the fiscal years immediately following the Fiscal Year 2020, raising rates just to meet the coverage requirement in Fiscal Year 2020 is not practical.

## 1-8: Projected Sources and Uses of Funds

To provide additional information to the City, a summary of the projected sources and uses of funds for each of the water system's major funds is shown in Table 1-10 at the end of this section. The projected sources equal the projected uses.

## 1-9: User Rate Design - General

User rate design involves the calculation of monthly rates and charges for each customer classification (e.g., residential, commercial, etc.). As noted in the transmittal letter of this report, developing a financial and rate plan for the water system involves multiple considerations:

- The financial and rate plan should consider utility best management practices and should promote financial sustainability and creditworthiness.



- The proposed monthly user rates should be considered equitable, affordable, and competitive.
- The proposed rate plan should not cause "rate shock" to customers. From a best financial management practices standpoint, smaller incremental increases over time can help avoid future rate shock and large "catch up" rate increases.
- The proposed rates should enable the utility to perform the necessary capital improvements and operational changes to remain compliant with the regulatory requirements of the Oregon Department of Environmental Quality and the Oregon Health Authority.
- The proposed user rates should provide the water system with an adequate level of revenue stability given the seasonality and cyclical nature of water sales.
- The water user rate structure should encourage conservation of water resources.

The City provided GovRates with detailed customer and sales information by customer classification and service type on a monthly basis. The billing information was used to develop a bill frequency analysis for the customer classes with price blocks. A summary of the Fiscal Year 2018 bill frequency percentages under the existing rate blocks for the single family residential class and outside-City customers is shown in the following Exhibit 1-9:

**Exhibit 1-9: Fiscal Year 2018 Percentages of Billed Consumption By Block (Bill Frequency Analysis)**

Description	0 to 6,000 Gallons	6,000 to 12,000 Gallons	Over 12,000 Gallons
<b>INSIDE CITY</b>			
Single Family Residential	75.55%	17.58%	6.88%
<b>OUTSIDE CITY</b>			
Outside City Customers	72.20%	19.42%	8.39%

The above table shows the percentage of total consumption billed in each price block. For example, 75.55% of all usage of inside-City single family customers was billed at the lowest-priced tier.

## 1-10: Proposed Monthly Water User Rate Design

As discussed previously, no revenue adjustments are recommended for the water system in Fiscal Year 2020. However, the following simple water rate structure changes are proposed:

- 1. Reduce the monthly base charges.** The monthly water base charges are high compared to those of other Oregon utilities. GovRates considers that the water base charges could be lowered (and the volumetric charges increased) while still providing the water system with adequate revenue stability. Based on discussions with the City staff, an approximate 15% decrease in the base charges and a corresponding increase in the volume charges have been recognized.

- 2. Make the single family residential base charges and the multi-family residential base charges the same.** There is currently a negligible difference between the single family residential base charges and the multi-family residential base charges, and GovRates considers that there is no value in maintaining this difference.

These changes are intended to be revenue-neutral, meaning that the City should recognize the same amount of water revenue under both the existing rates and the proposed rates assuming that there is not a material change in consumption.

GovRates considers that additional changes to the water rate structure could be explored, but is not recommending further adjustments at this time. The City should consider rate options for billing customers located outside the City. The outside-City customers are currently billed a commercial base charge and residential usage charge. Instead of charging commercial and residential rate elements for these residential customers, the City could consider applying an outside-City surcharge (e.g., 25%) to the inside-City residential rates. Outside-City surcharges are common in the utility industry and have been implemented by other Oregon utilities. Another rate structure change that could be considered in the future is unit-based billing for the multi-family class.

## **1-11: Proposed Changes to Monthly Base Charges for Standby Meters**

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The City currently has separate standby meter base charge schedules for the single family residential, multi-family residential, and commercial classes. The City currently has about 16 standby meters for fire protection service, and all of these meters are commercial. Since most utilities do not have class differentials for fire protection service, GovRates recommends that the single-family residential and multi-family residential standby monthly base charges be eliminated. We recommend that the commercial standby monthly base charges become applicable for all standby meter services and that they be decreased proportional to the reductions in the standard base charges for water service.

## **1-12: Single Family Residential Bill Comparison Under Proposed Water User Rates**

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Single family residential customer comprise about 89% of the water system customer base. The following Exhibit 1-10 contains a bill comparison for single family residential customers under the existing and proposed water rates:

**Exhibit 1-10: Single Family Residential Water Bill Comparison**

Monthly Usage (gallons)	Existing Water Rates Monthly Bill	Proposed Water Rates - Fiscal Year 2020		
		Monthly Bill	Difference From Existing Rates	
			Amount	Percent
0	\$27.14	\$ 23.02	\$ (4.12)	-15.2%
2,000	34.60	31.60	(3.00)	-8.7%
4,000	42.06	40.18	(1.88)	-4.5%
6,000 [*]	49.52	48.76	(0.76)	-1.5%
8,000	60.36	61.23	0.87	1.4%
10,000	71.20	73.69	2.49	3.5%
15,000	105.98	113.70	7.72	7.3%
20,000	145.88	159.59	13.71	9.4%
25,000	185.78	205.48	19.70	10.6%

[\*] Historical average monthly usage of a single family residential customer in the water system.

### 1-13: Bill Comparisons – Neighboring Utilities

In order to provide the City with additional information regarding the current rates charged for service, a comparison of the City’s existing and proposed rates for customers served by a 5/8-inch or 3/4-inch meter (representative of the single-family residential class and a large portion of the commercial class) with charges for similar service by 18 neighboring Oregon utilities has been made. It should be noted that when making a comparison of the rates charged by other utilities, several factors have an effect on the level of rates charged. These factors may include, but are not limited to, the following:

1. Source of water supply and level of treatment required before the distribution of water to the ultimate customer, including how much of water supply is purchased from other utilities;
2. Plant capacity utilization, age and assistance in the funding of such plant capacity by federal grants, system development charges, etc.;
3. Overall size of the customer base (economies of scale) served as well as the type of customer served (certain customers may have higher usage requirements which may dampen per unit rates which is common for high commercial or industrialized customer bases for utilities);
4. Geographic density of the customer base (utilities with many high-density multifamily customers may have lower unit costs);
5. General fund and administrative fee transfers made by municipal and county systems which may account for differences in level of rates charged;
6. Bond covenants and funding requirements of the rates; and

7. Level of capital improvements required to meet service area needs, including the construction of growth-related assets in relation to service area expansion.

For the utilities included in the rate comparison on Table 1-11 at the end of this section, no analysis has been made of the above-mentioned factors as they relate to the reported water rates currently being charged by the other utilities surveyed for the purposes of this analysis. However, the proposed water rates of the City produce bills that are comparable with those of neighboring utilities.

Figure 1-1 at the end of this section show graphical comparisons of how bills under the proposed Fiscal Year 2020 rates compare with those of other "neighboring" utilities for a single family residential customer with a monthly usage of 6,000 gallons – the historical average monthly usage for a 5/8" or 3/4" meter customer in this class. As indicated in Figure 1-1, at the 6,000-gallon usage level, seven (7) utilities – the City of Newberg, the City of Portland, the City of Sherwood, the City of Dundee, the City of Tigard, the City of Carlton, and the City of North Plains currently charge more for water service than what the City would charge under the Fiscal Year 2020 proposed rates.

Table 1-1

City of Cornelius, Oregon  
Utility Rate Study

Summary of Historical and Projected Water Customer Statistics

Line No.	Description	Fiscal Year Ending June 30,											
		Historical 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Inside City</b>													
<b>Single Family Residential - Inside City</b>													
1	Average Monthly Customers	2,685	2,710	2,810	2,910	3,010	3,110	3,210	3,310	3,410	3,510	3,610	3,710
2	Change in Average Monthly Accounts		25	100	100	100	100	100	100	100	100	100	100
3	Average Monthly ERCs	2,724	2,749	2,849	2,949	3,049	3,149	3,249	3,349	3,449	3,549	3,649	3,749
4	Change in Average Monthly ERCs		25	100	100	100	100	100	100	100	100	100	100
5	Average Monthly ERCs Per Customer	1	1	1	1	1	1	1	1	1	1	1	1
6	Annual Water Sales (kgal)	182,142	183,834	190,602	197,371	204,140	210,909	217,677	224,446	231,215	237,983	244,752	251,521
7	Average Monthly Water Sales Per Customer (kgal)	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65
8	Average Monthly Water Sales Per ERC (kgal)	5.57	5.57	5.58	5.58	5.58	5.58	5.58	5.58	5.59	5.59	5.59	5.59
<b>Multi-Family Residential - Inside City</b>													
9	Average Monthly Customers	142	142	142	142	142	142	142	142	142	142	142	142
10	Change in Average Monthly Accounts		-	-	-	-	-	-	-	-	-	-	-
11	Average Monthly ERCs	323	323	323	323	323	323	323	323	323	323	323	323
12	Change in Average Monthly ERCs		-	-	-	-	-	-	-	-	-	-	-
13	Average Monthly ERCs Per Customer	2	2	2	2	2	2	2	2	2	2	2	2
14	Annual Water Sales (kgal)	66,458	66,458	66,458	66,458	66,458	66,458	66,458	66,458	66,458	66,458	66,458	66,458
15	Average Monthly Water Sales Per Customer (kgal)	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00
16	Average Monthly Water Sales Per ERC (kgal)	17.17	17.17	17.17	17.17	17.17	17.17	17.17	17.17	17.17	17.17	17.17	17.17
<b>Commercial - Inside City</b>													
17	Average Monthly Customers	180	180	180	180	180	180	180	180	180	180	180	180
18	Change in Average Monthly Accounts		-	-	-	-	-	-	-	-	-	-	-
19	Average Monthly ERCs	614	614	614	614	614	614	614	614	614	614	614	614
20	Change in Average Monthly ERCs		-	-	-	-	-	-	-	-	-	-	-
21	Average Monthly ERCs Per Customer	3	3	3	3	3	3	3	3	3	3	3	3
22	Annual Water Sales (kgal)	47,953	47,953	47,953	47,953	47,953	47,953	47,953	47,953	47,953	47,953	47,953	47,953
23	Average Monthly Water Sales Per Customer (kgal)	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20
24	Average Monthly Water Sales Per ERC (kgal)	6.51	6.51	6.51	6.51	6.51	6.51	6.51	6.51	6.51	6.51	6.51	6.51
<b>Total Water Inside City</b>													
25	Average Monthly Customers	3,007	3,032	3,132	3,232	3,332	3,432	3,532	3,632	3,732	3,832	3,932	4,032
26	Change in Average Monthly Accounts		25	100	100	100	100	100	100	100	100	100	100
27	Average Monthly ERCs	3,660	3,685	3,785	3,885	3,985	4,085	4,185	4,285	4,385	4,485	4,585	4,685
28	Change in Average Monthly ERCs		25	100	100	100	100	100	100	100	100	100	100
29	Average Monthly ERCs Per Customer	1	1	1	1	1	1	1	1	1	1	1	1
30	Annual Water Sales (kgal)	296,553	298,245	305,014	311,783	318,551	325,320	332,089	338,858	345,626	352,395	359,164	365,932
31	Average Monthly Water Sales Per Customer (kgal)	8.22	8.20	8.12	8.04	7.97	7.90	7.84	7.77	7.72	7.66	7.61	7.56
32	Average Monthly Water Sales Per ERC (kgal)	6.75	6.74	6.72	6.69	6.66	6.64	6.61	6.59	6.57	6.55	6.53	6.51

Table 1-1

City of Cornelius, Oregon  
Utility Rate Study

Summary of Historical and Projected Water Customer Statistics

Line No.	Description	Fiscal Year Ending June 30,										
		Historical 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Outside City</b>												
<b>All Customers - Outside City</b>												
33	Average Monthly Customers	17	17	17	17	17	17	17	17	17	17	17
34	Change in Average Monthly Accounts	-	-	-	-	-	-	-	-	-	-	-
35	Average Monthly ERCs	19	19	19	19	19	19	19	19	19	19	19
36	Change in Average Monthly ERCs	-	-	-	-	-	-	-	-	-	-	-
37	Average Monthly ERCs Per Customer	1	1	1	1	1	1	1	1	1	1	1
38	Annual Water Sales (kgal)	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079
39	Average Monthly Water Sales Per Customer (kgal)	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29
40	Average Monthly Water Sales Per ERC (kgal)	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86
<b>Total Retail Water</b>												
41	Average Monthly Customers	3,024	3,049	3,149	3,249	3,349	3,449	3,549	3,649	3,749	3,849	3,949
42	Change in Average Monthly Accounts	25	25	100	100	100	100	100	100	100	100	100
43	Average Monthly ERCs	3,679	3,704	3,804	3,904	4,004	4,104	4,204	4,304	4,404	4,504	4,604
44	Change in Average Monthly ERCs	25	25	100	100	100	100	100	100	100	100	100
45	Average Monthly ERCs Per Customer	1	1	1	1	1	1	1	1	1	1	1
46	Annual Water Sales (kgal)	297,632	299,324	306,093	312,862	319,630	326,399	333,168	339,937	346,705	353,474	360,243
47	Average Monthly Water Sales Per Customer (kgal)	8.20	8.18	8.10	8.02	7.95	7.89	7.82	7.76	7.71	7.65	7.60
48	Average Monthly Water Sales Per ERC (kgal)	6.74	6.74	6.71	6.68	6.65	6.63	6.60	6.58	6.56	6.54	6.52
49	Wholesale Water Purchases (kgal)	367,327	369,416	377,769	386,123	394,477	402,830	411,184	419,538	427,891	436,245	444,599
50	Total Wholesale Water Purchases (MGD)	1.01	1.01	1.03	1.06	1.08	1.10	1.13	1.15	1.17	1.20	1.22
51	Non-Revenue Water Percentage	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%

ERC = Equivalent Residential Connection  
kgal = thousands of gallons  
MGD = million-gallons-per-day

Table 1-2

City of Cornelius, Oregon  
Utility Rate Study

Projected Water User Rate Revenues Under Existing Rates

Line No.	Description	Fiscal Year Ending September 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>WATER USER RATE REVENUE</b>												
Single Family Residential - Inside City												
1	Base Facility Charge	\$ 893,393	\$ 925,961	\$ 958,529	\$ 991,097	\$ 1,023,665	\$ 1,056,233	\$ 1,088,801	\$ 1,121,369	\$ 1,153,937	\$ 1,186,505	\$ 1,219,073
2	Usage / Volume Charge	794,029	823,265	852,501	881,737	910,973	940,209	969,445	998,681	1,027,917	1,057,153	1,086,389
3	Total	\$ 1,687,423	\$ 1,749,227	\$ 1,811,031	\$ 1,872,834	\$ 1,934,638	\$ 1,996,442	\$ 2,058,246	\$ 2,120,050	\$ 2,181,854	\$ 2,243,658	\$ 2,305,462
Multi-Family Residential - Inside City												
4	Base Facility Charge	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936	\$ 95,936
5	Usage / Volume Charge	247,890	247,890	247,890	247,890	247,890	247,890	247,890	247,890	247,890	247,890	247,890
6	Total	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826	\$ 343,826
Commercial - Inside City												
7	Base Facility Charge	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467	\$ 208,467
8	Usage / Volume Charge	186,538	186,538	186,538	186,538	186,538	186,538	186,538	186,538	186,538	186,538	186,538
9	Total	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004	\$ 395,004
All Customers - Outside City												
10	Base Facility Charge	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853
11	Usage / Volume Charge	4,763	4,763	4,763	4,763	4,763	4,763	4,763	4,763	4,763	4,763	4,763
12	Total	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616	\$ 11,616
<b>Total Retail Water User Rate Revenue</b>												
13	Base Facility Charge	\$ 1,204,649	\$ 1,237,217	\$ 1,269,785	\$ 1,302,353	\$ 1,334,921	\$ 1,367,489	\$ 1,400,057	\$ 1,432,625	\$ 1,465,193	\$ 1,497,761	\$ 1,530,329
14	Usage / Volume Charge	1,233,220	1,262,456	1,291,692	1,320,928	1,350,164	1,379,400	1,408,636	1,437,872	1,467,108	1,496,344	1,525,580
15	Total	\$ 2,437,869	\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 2,994,105	\$ 3,055,909

Table 1-3

City of Cornelius, Oregon  
Utility Rate Study  
Water System

Development of Net Revenue Requirements from User Rates and Projected Revenue Adjustments - Water System

Line No.	Description	Fiscal Year Ending June 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Expenses												
1	Personnel Services	\$ 99,533	\$ 103,320	\$ 107,117	\$ 111,063	\$ 115,164	\$ 119,426	\$ 123,857	\$ 128,463	\$ 133,252	\$ 138,231	\$ 143,408
2	Materials and Services	1,623,042	2,856,874	1,338,132	1,393,664	1,453,316	1,518,884	1,587,085	1,658,030	1,731,822	1,808,569	1,888,395
3	Transfers and Allocations	714,920	711,610	741,945	773,595	806,616	841,070	877,019	914,529	953,668	994,508	1,037,123
4	Contingency and Bad Debt Expense	6,095	42,967	28,276	29,341	30,464	31,661	32,901	34,186	35,518	37,086	38,716
5	Total Operating Expenses	\$ 2,443,590	\$ 3,714,771	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642
Debt Service												
6	Safe Drinking Water Fund Loan S14001: Aquifer Storage and Recovery	\$ -	\$ 145,663	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327
7	Total Debt Service	\$ -	\$ 145,663	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327
Other Revenue Requirements												
8	Capital Funded from Rates	\$ 85,000	\$ 1,398,300	\$ 1,215,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000
10	Library Capital Project Transfer	27,000	-	-	-	-	-	-	-	-	-	-
11	Total Other Revenue Requirements	\$ 112,000	\$ 1,398,300	\$ 1,215,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000
12	Gross Revenue Requirements	\$ 2,555,590	\$ 5,258,734	\$ 3,567,597	\$ 3,239,791	\$ 2,718,188	\$ 2,661,919	\$ 2,871,740	\$ 2,890,285	\$ 3,010,787	\$ 3,130,320	\$ 3,328,969
Less Income and Funds from Other Sources												
13	Other Operating Revenue	\$ 962,925	\$ 915,650	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635	\$ 186,635
14	Unrestricted Interest Income	44,478	53,739	35,819	27,982	23,963	25,738	28,712	30,235	32,206	33,609	35,198
15	Net Revenue Requirements	\$ 1,548,187	\$ 4,289,345	\$ 3,345,143	\$ 3,025,174	\$ 2,507,589	\$ 2,449,546	\$ 2,656,393	\$ 2,673,416	\$ 2,791,946	\$ 2,910,076	\$ 3,107,136
Revenue from Existing Rates												
16	Water System Rate Revenue	\$ 2,437,869	\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 2,994,105	\$ 3,055,909
17	Prior Year Rate Adjustment	-	-	-	-	-	-	-	-	-	-	76,400
18	Total Applicable Rate Revenue	\$ 2,437,869	\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 2,994,105	\$ 3,132,309
19	Rate Adjustments	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.50%	2.50%
20	Effective Months	12	12	12	12	12	12	12	12	12	12	12
21	Percent of Current Year Effective	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
22	Revenue from Current Rate Adjustment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 74,900	\$ 78,300
23	Total Rate Revenue	\$ 2,437,869	\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 3,069,005	\$ 3,210,609
24	Revenue Surplus/(Deficiency) Under Proposed Rates	\$ 889,682	\$ (1,789,672)	\$ (783,666)	\$ (401,893)	\$ 177,496	\$ 297,343	\$ 152,300	\$ 197,081	\$ 140,355	\$ 158,929	\$ 103,473



**Table 1-4**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Water System**

**Water System Historical and Budgeted Expenditures**

Line No.	Division Code	Expense Code	Description	Operating Expense? (Yes/No)	Actual Fiscal Year 2014	Actual Fiscal Year 2015	Actual Fiscal Year 2016	Actual Fiscal Year 2017	Audited Fiscal Year 2018	Difference		Budgeted Fiscal Year 2019	Adjusted Fiscal Year 2019	Budgeted Fiscal Year 2020	Adjusted Fiscal Year 2020	Average Annual Rates of Change							
										Amount	Percentage					5-Year Actual 2014 to 2018	3-Year Actual 2016 to 2018	1-Year Actual 2017 to 2018	Budgeted 1-Year Projects 2018 to 2019	Adjusted 4-Year Projects 2018 to 2019	Adjusted 4-Year Projects 2019 to 2020		
<b>Personnel Services</b>																							
1	05	4100	Salaried	Yes	\$ 54,097	\$ 53,441	\$ 57,658	\$ 56,113	\$ 58,438	\$ 3,101	5.3%	\$ 61,539	\$ 61,539	\$ 63,444	\$ 63,444	1.9%	0.7%	4.1%	5.3%	5.3%	3.1%		
2	05	4200	Hourly	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A		
3	05	4300	Overtime	Yes	3,316	3,026	1,327	1,386	1,476	3,524	238.7%	5,000	5,000	5,000	5,000	-18.3%	5.5%	6.5%	238.7%	238.7%	0.0%		
4	05	4500	Fringe Benefits	Yes	26,672	26,558	27,841	29,066	31,467	1,527	4.9%	32,994	32,994	34,876	34,876	4.2%	6.3%	8.3%	4.9%	4.9%	5.7%		
5	05	AddPers	Additional Personnel	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A		
6			<b>Total Personnel Services</b>		\$ 84,085	\$ 83,025	\$ 86,826	\$ 86,565	\$ 91,381	\$ 8,152	8.9%	\$ 99,533	\$ 99,533	\$ 103,320	\$ 103,320	2.1%	2.6%	5.6%	8.9%	8.9%	3.8%		
<b>Materials and Services</b>																							
7	05	5050	Operational Supplies	Yes	\$ 60,291	\$ 38,985	\$ 41,280	\$ 26,355	\$ 56,163	\$ 52,537	93.5%	\$ 108,700	\$ 108,700	\$ 57,560	\$ 57,560	-1.8%	16.6%	113.1%	93.5%	93.5%	-47.0%		
8	05	5100	Equipment - O&M	Yes	32,357	26,393	31,072	30,126	31,966	34,834	109.0%	66,800	66,800	754,800	754,800	-0.3%	1.4%	6.1%	109.0%	109.0%	1029.9%		
9	05	5250	Dues, Education, Training	Yes	1,725	1,675	2,074	1,457	2,040	3,910	191.6%	5,950	5,950	7,051	7,051	4.3%	-0.8%	40.0%	191.6%	191.6%	18.5%		
10	05	5350	Professional Services	Yes	31,518	121,937	28,593	36,540	111,758	(11,758)	-10.5%	100,000	100,000	258,000	258,000	37.2%	97.7%	205.9%	-10.5%	-10.5%	158.0%		
11	05	5400	Uniforms and Protective Gear	Yes	3,956	1,026	724	1,118	512	498	97.3%	1,010	1,010	775	775	-40.0%	-15.9%	-54.2%	97.3%	97.3%	-23.3%		
12	05	5500	Intergovernmental Services	Yes	771,407	705,922	709,058	683,670	754,055	1,707,176	226.4%	2,461,231	(1,242,649)	1,218,582	1,749,015	(104,327)	1,644,688	-0.6%	3.1%	10.3%	226.4%	61.6%	35.0%
13	05	5530	In lieu Franchise to General Fund	Yes	93,639	102,765	114,014	112,775	114,148	5,852	5.1%	120,000	120,000	132,000	132,000	5.1%	0.1%	1.2%	5.1%	5.1%	10.0%		
14	05	5670	Utility Rebates and Incentives	Yes	3,575	-	-	1,979	577	1,423	246.4%	2,000	2,000	2,000	2,000	-36.6%	N/A	-70.8%	246.4%	246.4%	0.0%		
15			<b>Total Materials and Services</b>		\$ 998,468	\$ 998,703	\$ 926,815	\$ 894,019	\$ 1,071,219	\$ 1,794,472	167.5%	\$ 2,865,691	\$ (1,242,649)	\$ 1,623,042	\$ 2,961,201	\$ (104,327)	\$ 2,856,874	1.8%	7.5%	19.8%	167.5%	51.5%	76.0%
<b>Capital Outlay</b>																							
16	05	6050	Building and Improvements - Oper	No	\$ -	\$ -	\$ 993	\$ -	\$ 35,060	\$ 1,464,940	4178.4%	\$ 1,500,000	\$ (1,500,000)	\$ 1,640,000	\$ (1,640,000)	\$ -	\$ -	N/A	494.2%	N/A	4178.4%	-100.0%	N/A
17	05	6110	Building and Improvements - 10th Avenue	No	-	-	-	-	181,533	750,467	413.4%	932,000	(932,000)	-	-	-	-	N/A	N/A	N/A	413.4%	-100.0%	N/A
18	05	6115	Buildings and Improvements - Waterline Replacement	No	-	462,031	421,275	20,290	401,666	548,334	136.5%	950,000	(950,000)	-	-	-	-	N/A	-2.4%	1879.7%	136.5%	-100.0%	N/A
19	05	6125	Building and Improvements - ASR	No	69,878	647,709	470,387	1,193,339	493,790	(393,790)	-79.7%	100,000	(100,000)	-	-	-	-	63.0%	2.5%	-58.6%	-79.7%	-100.0%	N/A
20	05	6200	Equipment - Operations	No	3,170	33,331	4,234	4,859	-	85,000	100.0%	85,000	(85,000)	2,500	(2,500)	-	-	-100.0%	-100.0%	-100.0%	N/A	-100.0%	N/A
21			<b>Total Capital Outlay</b>		\$ 73,048	\$ 1,143,071	\$ 896,889	\$ 1,218,488	\$ 1,112,048	\$ 2,454,952	220.8%	\$ 3,567,000	\$ (3,567,000)	\$ 1,642,500	\$ (1,642,500)	\$ -	\$ -	97.5%	11.4%	-8.7%	220.8%	-100.0%	N/A
<b>Debt Service</b>																							
22	05	7300	ASR - Principal	No	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	N/A
23	05	7350	ASR - Interest	No	-	-	-	-	-	-	0.0%	-	-	145,664	(145,664)	-	-	N/A	N/A	N/A	N/A	N/A	N/A
24			<b>Total Debt Service</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ 145,664	\$ (145,664)	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	N/A
<b>Transfers and Allocations</b>																							
25	05	8350	Street Fund Transfer	No	\$ -	\$ 208,553	\$ -	\$ -	\$ 253,881	\$ (253,881)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	-100.0%	-100.0%	N/A
26	05	8600	Library Capital Project Transfer	No	-	-	-	-	27,000	27,000	100.0%	27,000	(27,000)	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A
27	05	8950	Allocated Expenses - General Fund	Yes	94,292	94,577	96,519	97,940	102,284	2,742	2.7%	105,026	105,026	112,491	112,491	2.1%	2.9%	4.4%	2.7%	2.7%	7.1%		
28	05	8960	Allocated Expenses - ISF Fund	Yes	295,217	304,591	322,708	335,176	350,411	38,066	10.9%	388,477	388,477	367,467	367,467	4.4%	4.2%	4.5%	10.9%	10.9%	-5.4%		
29	05	8990	Allocated Expenses - Utility Funds	Yes	156,897	161,149	168,644	174,464	184,233	37,184	20.2%	221,417	221,417	231,652	231,652	4.1%	4.5%	5.6%	20.2%	20.2%	4.6%		
30			<b>Total Transfers and Allocations</b>		\$ 546,406	\$ 768,870	\$ 587,871	\$ 607,580	\$ 890,809	\$ (148,889)	-16.7%	\$ 741,920	\$ (27,000)	\$ 714,920	\$ 711,610	\$ -	\$ 711,610	13.0%	23.1%	46.6%	-16.7%	-19.7%	-0.5%
<b>Contingency and Bad Debt Expense</b>																							
31	05	9000	Contingency	Yes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,283,708	100.0%	\$ 1,283,708	\$ (1,283,708)	\$ 6,095	\$ 3,239,355	\$ (3,202,637)	\$ 36,718	N/A	N/A	N/A	N/A	N/A	N/A
32	05	BadDebt	Bad Debt Expense	Yes	-	-	-	-	-	-	0.0%	-	6,095	6,095	-	6,249	6,249	N/A	N/A	N/A	N/A	N/A	2.5%
33			<b>Total Contingency and Bad Debt Expense</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,283,708	100.0%	\$ 1,283,708	\$ (1,277,613)	\$ 6,095	\$ 3,239,355	\$ (3,196,388)	\$ 42,967	N/A	N/A	N/A	N/A	N/A	605.0%
<b>Unappropriated</b>																							
34	05	9500	Unappropriated	No	\$ -	\$ 2,575,849	\$ 3,067,790	\$ 3,605,996	\$ 4,442,202	\$ (4,442,202)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	20.3%	23.2%	-100.0%	-100.0%	N/A
35			<b>Total Unappropriated</b>		\$ -	\$ 2,575,849	\$ 3,067,790	\$ 3,605,996	\$ 4,442,202	\$ (4,442,202)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	20.3%	23.2%	-100.0%	-100.0%	N/A
36			<b>TOTAL EXPENDITURES</b>		\$ 1,702,007	\$ 5,569,518	\$ 5,566,191	\$ 6,412,648	\$ 7,607,659	\$ 950,193	12.5%	\$ 8,557,852	\$ (6,114,262)	\$ 2,443,590	\$ 8,803,650	\$ (5,088,879)	\$ 3,714,771	45.4%	16.9%	18.6%	12.5%	-67.9%	52.0%

Table 1-5

City of Cornelius, Oregon  
Utility Rate Study  
Water System

Projected Operating Expenses - Water System

Line No.	Division Code	Expense Code	Description	Escalation Reference	Fiscal Year Ending June 30,												
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
<b>Personnel Services</b>																	
1	05	4100	Salaried	Labor	\$ 61,539	\$ 63,444	\$ 65,347	\$ 67,308	\$ 69,327	\$ 71,407	\$ 73,549	\$ 75,755	\$ 78,028	\$ 80,369	\$ 82,780		
2	05	4200	Hourly	Labor	-	-	-	-	-	-	-	-	-	-	-		
3	05	4300	Overtime	Labor	5,000	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524		
4	05	4500	Fringe Benefits	HealthIns	32,994	34,876	36,620	38,451	40,373	42,392	44,512	46,737	49,074	51,528	54,104		
5	05	AddPers	Additional Personnel	Input	-	-	-	-	-	-	-	-	-	-	-		
6	<b>Total Personnel Services</b>				\$ 99,533	\$ 103,320	\$ 107,117	\$ 111,063	\$ 115,164	\$ 119,426	\$ 123,857	\$ 128,463	\$ 133,252	\$ 138,231	\$ 143,408		
<b>Materials and Services</b>																	
7	05	5050	Operational Supplies	Repair	\$ 108,700	\$ 57,560	\$ 59,862	\$ 62,257	\$ 64,747	\$ 67,337	\$ 70,031	\$ 72,832	\$ 75,745	\$ 78,775	\$ 81,926		
8	05	5100	Equipment - O&M	Repair	66,800	754,800	100,000	104,000	108,160	112,486	116,986	121,665	126,532	131,593	136,857		
9	05	5250	Dues, Education, Training	Inflation	5,950	7,051	7,234	7,415	7,601	7,783	7,962	8,145	8,332	8,524	8,729		
10	05	5350	Professional Services	Labor	100,000	258,000	165,000	169,950	175,049	180,300	185,709	191,280	197,019	202,929	209,017		
11	05	5400	Uniforms and Protective Gear	Inflation	1,010	775	795	815	835	855	875	895	916	937	959		
12	05	5500	Intergovernmental Services	Calculated	1,218,582	1,644,688	867,228	907,085	950,529	999,348	1,050,240	1,103,287	1,158,571	1,216,179	1,276,201		
13	05	5530	InLieu Franchise to General Fund	Labor	120,000	132,000	135,960	140,039	144,240	148,567	153,024	157,615	162,343	167,214	172,230		
14	05	5670	Utility Rebates and Incentives	Inflation	2,000	2,000	2,052	2,103	2,156	2,208	2,258	2,310	2,363	2,418	2,476		
15	<b>Total Materials and Services</b>				\$ 1,623,042	\$ 2,856,874	\$ 1,338,132	\$ 1,393,664	\$ 1,453,316	\$ 1,518,884	\$ 1,587,085	\$ 1,658,030	\$ 1,731,822	\$ 1,808,569	\$ 1,888,395		
<b>Transfers and Allocations</b>																	
16	05	8350	Street Fund Transfer	Eliminate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
17	05	8600	Library Capital Project Transfer	Eliminate	-	-	-	-	-	-	-	-	-	-	-		
18	05	8950	Allocated Expenses - General Fund	GeneralFund	105,026	112,491	115,866	119,342	122,922	126,610	130,408	134,320	138,350	142,500	146,775		
19	05	8960	Allocated Expenses - ISF Fund	ISF	388,477	367,467	384,003	401,283	419,341	438,211	457,931	478,538	500,072	522,575	546,091		
20	05	8990	Allocated Expenses - Utility Funds	UtilFund	221,417	231,652	242,076	252,970	264,353	276,249	288,681	301,671	315,246	329,432	344,257		
21	<b>Total Transfers and Allocations</b>				\$ 714,920	\$ 711,610	\$ 741,945	\$ 773,595	\$ 806,616	\$ 841,070	\$ 877,019	\$ 914,529	\$ 953,668	\$ 994,508	\$ 1,037,123		
<b>Contingency and Bad Debt Expense</b>																	
22	05	9000	Contingency	Calculated	\$ -	\$ 36,718	\$ 21,872	\$ 22,783	\$ 23,751	\$ 24,794	\$ 25,880	\$ 27,010	\$ 28,187	\$ 29,413	\$ 30,689		
23	05	BadDebt	Bad Debt Expense	Calculated	6,095	6,249	6,404	6,558	6,713	6,867	7,022	7,176	7,331	7,673	8,027		
24	<b>Total Contingency and Bad Debt Expense</b>				\$ 6,095	\$ 42,967	\$ 28,276	\$ 29,341	\$ 30,464	\$ 31,661	\$ 32,901	\$ 34,186	\$ 35,518	\$ 37,086	\$ 38,716		
<b>Unappropriated</b>																	
25	05	9500	Unappropriated	Eliminate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
26	<b>Total Unappropriated</b>				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
27	<b>TOTAL WATER SYSTEM OPERATING EXPENSES</b>				\$ 2,443,590	\$ 3,714,771	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642		

Table 1-6

City of Cornelius, Oregon  
Utility Rate Study

Projected Intergovernmental Services Expenses

Line No.	Description	Historical 2018	Fiscal Year Ending June 30,										
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b><u>CALCULATION OF PURCHASED WATER EXPENSE:</u></b>													
<b>VOLUMETRIC CHARGES:</b>													
1	Annual Purchases (000's gallons) (Includes Non-Revenue Water)	367,327	369,416	377,769	386,123	394,477	402,830	411,184	419,538	427,891	436,245	444,599	452,953
2	Additional ASR Fill-Up Allowance		0	53,000	0	0	0	0	0	0	0	0	0
3	Total Annual Purchases (000's gallons)		369,416	430,769	386,123	394,477	402,830	411,184	419,538	427,891	436,245	444,599	452,953
4	Total Assumed Purchases (MGD)		1.012	1.180	1.058	1.081	1.104	1.127	1.149	1.172	1.195	1.218	1.241
5	Annual Purchases (CCF)		493,871	575,895	516,207	527,375	538,543	549,711	560,879	572,047	583,215	594,383	605,551
6	Volumetric Rate Per CCF (Average Rate)		\$ 1.455	\$ 1.590	\$ 1.680	\$ 1.720	\$ 1.765	\$ 1.818	\$ 1.872	\$ 1.929	\$ 1.987	\$ 2.046	\$ 2.108
7	Annual Variable Charges		\$ 718,582	\$ 915,673	\$ 867,228	\$ 907,085	\$ 950,529	\$ 999,348	\$ 1,050,240	\$ 1,103,287	\$ 1,158,571	\$ 1,216,179	\$ 1,276,201
8	<b><u>TOTAL APPLICABLE PURCHASED WATER CHARGES TO CORNELIUS</u></b>		\$ 718,582	\$ 915,673	\$ 867,228	\$ 907,085	\$ 950,529	\$ 999,348	\$ 1,050,240	\$ 1,103,287	\$ 1,158,571	\$ 1,216,179	\$ 1,276,201
9	<b>Combined Average Cost Per 1,000 Gallons</b>		\$ 1.95	\$ 2.13	\$ 2.25	\$ 2.30	\$ 2.36	\$ 2.43	\$ 2.50	\$ 2.58	\$ 2.66	\$ 2.74	\$ 2.82
10	Pass-Through of City of Hillsboro System Development Charges		\$ 500,000	\$ 729,015	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	<b>Total Intergovernmental Services Expense</b>	<b>\$ 754,055</b>	<b>\$ 1,218,582</b>	<b>\$ 1,644,688</b>	<b>\$ 867,228</b>	<b>\$ 907,085</b>	<b>\$ 950,529</b>	<b>\$ 999,348</b>	<b>\$ 1,050,240</b>	<b>\$ 1,103,287</b>	<b>\$ 1,158,571</b>	<b>\$ 1,216,179</b>	<b>\$ 1,276,201</b>

Table 1-7

City of Cornelius, Oregon  
Utility Rate Study

Estimated Multi-Year Capital Improvement Program and Funding Sources

Line No.	Description	Funding Source	Escalation Factor	Fiscal Year Ending June 30,											Total
				Adjusted 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>CAPITAL IMPROVEMENT PROGRAM</b>															
<b>Capital Projects</b>															
1	Seismic Retrofit and Exterior Repair on Reservoir	REV	None	\$ -	\$ -	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250,000
2	29th Avenue Water Main (Baseline to S of Dogwood)	SDC	None	-	-	300,000	-	-	-	-	-	-	-	-	300,000
3	Phase 4 Water Main Upgrades	REV	None	-	-	475,000	-	-	-	-	-	-	-	-	475,000
4	Phase 5 Water Main Upgrades	REV	None	-	25,000	-	475,000	-	-	-	-	-	-	-	500,000
5	Booster Station Upgrade	REV	None	-	165,000	300,000	300,000	150,000	-	-	-	-	-	-	915,000
6	Kodiak Covered Storage Bins	REV	None	-	-	-	-	5,000	-	5,000	-	10,000	-	-	20,000
7	Kodiak Carpet Replacement	REV	None	-	800	800	800	800	800	800	800	-	-	-	4,800
8	Kodiak Exterior Surface Seal	REV	None	-	5,000	-	-	-	-	-	-	-	-	-	5,000
9	Kodiak Round Room Demolition	REV	None	-	-	-	20,000	-	-	-	-	-	-	-	20,000
10	Equipment Replacement	REV	None	-	2,500	2,500	-	3,000	-	-	-	5,200	15,600	-	28,800
11	Vehicle Replacement	REV	None	-	-	187,500	-	17,500	8,750	113,750	8,750	15,000	-	85,000	436,250
12	Building and Improvements - Operations - Water Rights Purchase	REV	None	-	1,200,000	-	-	-	-	-	-	-	-	-	1,200,000
13	Building and Improvements - Operations - Water Rights Purchase	SDC	None	-	300,000	-	-	-	-	-	-	-	-	-	300,000
14	Building and Improvements - 10th Avenue	County	None	932,000	-	-	-	-	-	-	-	-	-	-	932,000
15	Buildings and Improvements - Waterline Replacements	SDC	None	950,000	-	-	-	-	-	-	-	-	-	-	950,000
16	Buildings and Improvements - ASR	PID	None	100,000	-	-	-	-	-	-	-	-	-	-	100,000
17	Equipment - Operations	REV	None	85,000	-	-	-	-	-	-	-	-	-	-	85,000
18	Subtotal - Capital Projects			\$ 2,067,000	\$ 1,698,300	\$ 1,515,800	\$ 795,800	\$ 176,300	\$ 14,550	\$ 114,550	\$ 18,750	\$ 20,200	\$ 15,600	\$ 85,000	\$ 6,521,850
19	<b>TOTAL WATER SYSTEM CAPITAL IMPROVEMENT PROGRAM</b>			<b>\$ 2,067,000</b>	<b>\$ 1,698,300</b>	<b>\$ 1,515,800</b>	<b>\$ 795,800</b>	<b>\$ 176,300</b>	<b>\$ 14,550</b>	<b>\$ 114,550</b>	<b>\$ 18,750</b>	<b>\$ 20,200</b>	<b>\$ 15,600</b>	<b>\$ 85,000</b>	<b>\$ 6,521,850</b>
<b>FUNDING SOURCES</b>															
<b>WATER SYSTEM</b>															
20	Water System Development Charges	SDC		\$ 950,000	\$ 300,000	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	1,550,000
21	Existing Safe Drinking Water Fund Loan	PID		100,000	-	-	-	-	-	-	-	-	-	-	100,000
22	Washington County	County		932,000	-	-	-	-	-	-	-	-	-	-	932,000
23	User Rate Revenue	REV		85,000	1,398,300	1,215,800	795,800	176,300	14,550	114,550	18,750	20,200	15,600	85,000	3,939,850
24	<b>TOTAL WATER SYSTEM FUNDING SOURCES</b>			<b>\$ 2,067,000</b>	<b>\$ 1,698,300</b>	<b>\$ 1,515,800</b>	<b>\$ 795,800</b>	<b>\$ 176,300</b>	<b>\$ 14,550</b>	<b>\$ 114,550</b>	<b>\$ 18,750</b>	<b>\$ 20,200</b>	<b>\$ 15,600</b>	<b>\$ 85,000</b>	<b>\$ 6,521,850</b>

Table 1-8

City of Cornelius, Oregon  
Utility Rate Study  
Water System

Projection of Fund Cash Balances and Interest Income

Line No.	Description	[1]	Fiscal Year Ending June 30,										
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>OPERATION AND MAINTENANCE FUND</b>													
1	Beginning Balance		\$ 4,447,798										
2	Adjustment for Open Purchase Orders		-										
3	Adjusted Beginning Balance		\$ 4,447,798	\$ 5,337,480	\$ 3,547,808	\$ 2,764,142	\$ 2,362,249	\$ 2,539,745	\$ 2,837,088	\$ 2,989,387	\$ 3,186,469	\$ 3,326,823	\$ 3,485,752
4	Transfers In - Grant Reimbursement		-	-	-	-	-	-	-	-	-	-	-
5	Transfers Out - Capital Improvement Program		-	-	-	-	-	-	-	-	-	-	-
6	Transfers Out - Renewal and Replacement Fund		-	-	-	-	-	-	-	-	-	-	-
7	Transfers In / (Out) - Surplus / (Deficiency)		889,682	(1,789,672)	(783,666)	(401,893)	177,496	297,343	152,300	197,081	140,355	158,929	103,473
8	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
9	Interest Income	UW	44,478	53,375	35,478	27,641	23,622	25,397	28,371	29,894	31,865	33,268	34,858
	Recognition of Interest Earnings												
10	in Revenue Requirements		44,478	53,375	35,478	27,641	23,622	25,397	28,371	29,894	31,865	33,268	34,858
11	Ending Balance		\$ 5,337,480	\$ 3,547,808	\$ 2,764,142	\$ 2,362,249	\$ 2,539,745	\$ 2,837,088	\$ 2,989,387	\$ 3,186,469	\$ 3,326,823	\$ 3,485,752	\$ 3,589,225
<b>FIXED ASSET WATER FUND - SYSTEM DEVELOPMENT CHARGES</b>													
	Beginning Balance		\$ 735,686										
	Adjustment For Open Purchase Orders		-										
12	Adjusted Beginning Balance		\$ 735,686	\$ 108,371	\$ 319,303	\$ 20,996	\$ 21,206	\$ 21,418	\$ 21,632	\$ 21,849	\$ 22,067	\$ 22,288	\$ 22,511
13	Transfers In		318,486	508,804	-	-	-	-	-	-	-	-	-
14	Transfers In - Grant Funding		-	-	-	-	-	-	-	-	-	-	-
15	Transfers Out - Capital Improvement Program		950,000	300,000	300,000	-	-	-	-	-	-	-	-
16	Transfers Out - Payment of City Debt Service		-	-	-	-	-	-	-	-	-	-	-
17	Transfers Out - Developer Reimbursement		-	-	-	-	-	-	-	-	-	-	-
18	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
19	Interest Income	RW	\$ 4,199	\$ 2,128	\$ 1,693	\$ 210	\$ 212	\$ 214	\$ 216	\$ 218	\$ 221	\$ 223	\$ 225
	Recognition of Interest Earnings												
20	in Revenue Requirements		-	-	-	-	-	-	-	-	-	-	-
21	Ending Balance		\$ 108,371	\$ 319,303	\$ 20,996	\$ 21,206	\$ 21,418	\$ 21,632	\$ 21,849	\$ 22,067	\$ 22,288	\$ 22,511	\$ 22,736

Table 1-8

City of Cornelius, Oregon  
Utility Rate Study  
Water System

Projection of Fund Cash Balances and Interest Income

Line No.	Description	[1]	Fiscal Year Ending June 30,										
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>CUSTOMER DEPOSITS</b>													
22	Beginning Balance		\$88,189	\$88,189	\$88,189	\$88,189	\$88,189	\$88,189	\$88,189	\$88,189	\$88,189	\$88,189	\$88,189
23	Transfers In		0	0	0	0	0	0	0	0	0	0	0
24	Transfers Out		0	0	0	0	0	0	0	0	0	0	0
25	Interest Rate		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	Interest Income	UW	0	0	0	0	0	0	0	0	0	0	0
	Recognition of Interest Earnings												
27	in Revenue Requirements		0	0	0	0	0	0	0	0	0	0	0
28	Ending Balance		88,189	88,189	88,189	88,189	88,189	88,189	88,189	88,189	88,189	88,189	88,189
<b>SINKING FUND</b>													
29	Sinking Fund Deposit		\$ -	\$ 145,663	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327	\$ 136,327
30	Average Balance		-	36,416	34,082	34,082	34,082	34,082	34,082	34,082	34,082	34,082	34,082
31	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
32	Interest Income	UW	-	364	341	341	341	341	341	341	341	341	341
	Recognition of Interest Earnings												
33	in Revenue Requirements		-	364	341	341	341	341	341	341	341	341	341
<b>INTEREST INCOME</b>													
34	Unrestricted	UW	\$ 44,478	\$ 53,739	\$ 35,819	\$ 27,982	\$ 23,963	\$ 25,738	\$ 28,712	\$ 30,235	\$ 32,206	\$ 33,609	\$ 35,198
35	Restricted	RW	\$ 4,199	\$ 2,128	\$ 1,693	\$ 210	\$ 212	\$ 214	\$ 216	\$ 218	\$ 221	\$ 223	\$ 225
36	Total		\$ 48,677	\$ 55,867	\$ 37,512	\$ 28,192	\$ 24,175	\$ 25,952	\$ 28,928	\$ 30,453	\$ 32,426	\$ 33,832	\$ 35,423

Footnotes:

- [1] UW = Interest earnings unrestricted and assumed to be available to meet system expenditure requirements.
- RW = Interest earnings restricted and assumed to not be available to meet system expenditure requirements.

**Table 1-9**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Water System**

**Projected Other Operating Revenues**

Line No.	Revenue Code	Description	Escalation Reference	Fiscal Year Ending June 30,										
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>WATER SYSTEM</b>														
1	3405	System Development Charges - Hillsboro Portion	SDCHillsboro	\$ 500,000	\$ 729,015	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	3420	Public Works Permits	Constant	228,275	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135
3	3432	Late Fees	Constant	69,000	69,000	69,000	69,000	69,000	69,000	69,000	69,000	69,000	69,000	69,000
4	3434	Connection Fees	Constant	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
5	3436	Meter Fees	Constant	129,650	65,500	65,500	65,500	65,500	65,500	65,500	65,500	65,500	65,500	65,500
6		Total Other Water System Operating Revenue		<u>\$ 962,925</u>	<u>\$ 915,650</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>	<u>\$ 186,635</u>

**Table 1-10**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Water System**

Summary of Sources and Uses of Funds

Line No.	Description	Fiscal Year Ending June 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	<b>Unrestricted Cash Balances from Below</b>	\$ 5,337,480	\$ 3,547,808	\$ 2,764,142	\$ 2,362,249	\$ 2,539,745	\$ 2,837,088	\$ 2,989,387	\$ 3,186,469	\$ 3,326,823	\$ 3,485,752	\$ 3,589,225
	<b>OPERATION AND MAINTENANCE FUND</b>											
	<u>Sources of Funds</u>											
2	Water and Wastewater User Rate Revenue	\$ 2,437,869	\$ 2,499,673	\$ 2,561,477	\$ 2,623,281	\$ 2,685,085	\$ 2,746,889	\$ 2,808,693	\$ 2,870,497	\$ 2,932,301	\$ 3,069,005	\$ 3,210,609
3	Other Operating Revenue	962,925	915,650	186,635	186,635	186,635	186,635	186,635	186,635	186,635	186,635	186,635
4	Unrestricted Interest Income	44,478	53,739	35,819	27,982	23,963	25,738	28,712	30,235	32,206	33,609	35,198
5	Available Cash Balances	4,447,798	5,337,480	3,547,808	2,764,142	2,362,249	2,539,745	2,837,088	2,989,387	3,186,469	3,326,823	3,485,752
6	<b>Total Sources of Funds</b>	<b>\$ 7,893,070</b>	<b>\$ 8,806,542</b>	<b>\$ 6,331,739</b>	<b>\$ 5,602,040</b>	<b>\$ 5,257,932</b>	<b>\$ 5,499,007</b>	<b>\$ 5,861,127</b>	<b>\$ 6,076,754</b>	<b>\$ 6,337,610</b>	<b>\$ 6,616,072</b>	<b>\$ 6,918,194</b>
	<u>Uses of Funds</u>											
7	Operating Expenses:	\$ 2,443,590	\$ 3,714,771	\$ 2,215,470	\$ 2,307,664	\$ 2,405,560	\$ 2,511,042	\$ 2,620,863	\$ 2,735,208	\$ 2,854,259	\$ 2,978,393	\$ 3,107,642
8	City Debt Service	-	145,663	136,327	136,327	136,327	136,327	136,327	136,327	136,327	136,327	136,327
9	Capital Funded from Rates	85,000	1,398,300	1,215,800	795,800	176,300	14,550	114,550	18,750	20,200	15,600	85,000
10	Indirect Cost Allocations and Other Transfers	27,000	-	-	-	-	-	-	-	-	-	-
11	<b>Total Uses of Funds</b>	<b>\$ 2,555,590</b>	<b>\$ 5,258,734</b>	<b>\$ 3,567,597</b>	<b>\$ 3,239,791</b>	<b>\$ 2,718,188</b>	<b>\$ 2,661,919</b>	<b>\$ 2,871,740</b>	<b>\$ 2,890,285</b>	<b>\$ 3,010,787</b>	<b>\$ 3,130,320</b>	<b>\$ 3,328,969</b>
12	Ending Cash Balances	\$ 5,337,480	\$ 3,547,808	\$ 2,764,142	\$ 2,362,249	\$ 2,539,745	\$ 2,837,088	\$ 2,989,387	\$ 3,186,469	\$ 3,326,823	\$ 3,485,752	\$ 3,589,225
13	<b>Total Uses of Funds and Ending Cash Balances</b>	<b>\$ 7,893,070</b>	<b>\$ 8,806,542</b>	<b>\$ 6,331,739</b>	<b>\$ 5,602,040</b>	<b>\$ 5,257,932</b>	<b>\$ 5,499,007</b>	<b>\$ 5,861,127</b>	<b>\$ 6,076,754</b>	<b>\$ 6,337,610</b>	<b>\$ 6,616,072</b>	<b>\$ 6,918,194</b>
14	Difference Between Sources and Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>FIXED ASSET WATER FUND - SYSTEM DEVELOPMENT CHARGES</b>											
	<u>Sources of Funds</u>											
15	Available Cash Balances	\$ 735,686	\$ 108,371	\$ 319,303	\$ 20,996	\$ 21,206	\$ 21,418	\$ 21,632	\$ 21,849	\$ 22,067	\$ 22,288	\$ 22,511
16	Transfers In - Water System Development Charge	318,486	508,804	-	-	-	-	-	-	-	-	-
17	Interest Income	4,199	2,128	1,693	210	212	214	216	218	221	223	225
18	<b>Total Sources of Funds</b>	<b>\$ 1,058,371</b>	<b>\$ 619,303</b>	<b>\$ 320,996</b>	<b>\$ 21,206</b>	<b>\$ 21,418</b>	<b>\$ 21,632</b>	<b>\$ 21,849</b>	<b>\$ 22,067</b>	<b>\$ 22,288</b>	<b>\$ 22,511</b>	<b>\$ 22,736</b>
	<u>Uses of Funds</u>											
19	Capital Projects	\$ 950,000	\$ 300,000	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	<b>Total Uses of Funds</b>	<b>\$ 950,000</b>	<b>\$ 300,000</b>	<b>\$ 300,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
21	Ending Cash Balances	\$ 108,371	\$ 319,303	\$ 20,996	\$ 21,206	\$ 21,418	\$ 21,632	\$ 21,849	\$ 22,067	\$ 22,288	\$ 22,511	\$ 22,736
22	<b>Total Uses of Funds and Ending Cash Balances</b>	<b>\$ 1,058,371</b>	<b>\$ 619,303</b>	<b>\$ 320,996</b>	<b>\$ 21,206</b>	<b>\$ 21,418</b>	<b>\$ 21,632</b>	<b>\$ 21,849</b>	<b>\$ 22,067</b>	<b>\$ 22,288</b>	<b>\$ 22,511</b>	<b>\$ 22,736</b>
23	Difference Between Sources and Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



**Table 1-11  
City of Cornelius, Oregon**

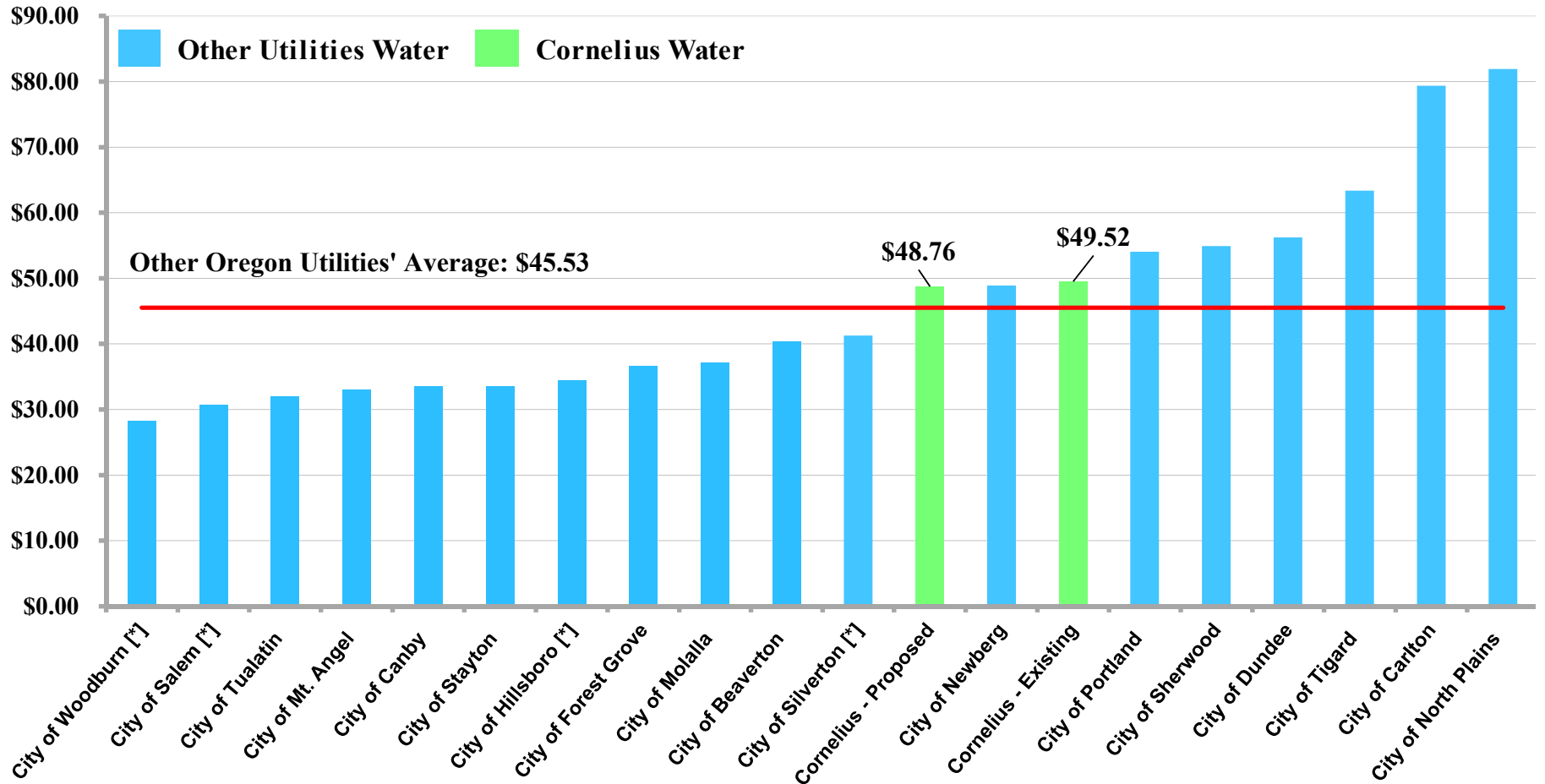
**Comparison of Typical Monthly Residential Bills for Water Service**

		Residential Service for a 5/8" or 3/4" Meter [1]								
Line No.	Description	WATER USAGE								
		0 Gallons (0 cubic feet)	2,000 Gallons (267 cubic feet)	4,000 Gallons (535 cubic feet)	6,000 Gallons [2] (802 cubic feet)	8,000 Gallons (1,069 cubic feet)	10,000 Gallons (1,337 cubic feet)	15,000 Gallons (2,005 cubic feet)	20,000 Gallons (2,674 cubic feet)	25,000 Gallons (3,342 cubic feet)
<b>City of Cornelius, Oregon</b>										
1	Existing Water Rates - Effective July 1, 2018	\$27.14	\$34.60	\$42.06	\$49.52	\$60.36	\$71.20	\$105.98	\$145.88	\$185.78
2	Proposed Water Rates - Effective July 1, 2019	23.02	31.60	40.18	48.76	61.23	73.69	113.70	159.59	205.48
3	Difference - Amount	(4.12)	(3.00)	(1.88)	(\$0.76)	0.87	2.49	7.72	13.71	19.70
4	Difference - Amount	-15.2%	-8.7%	-4.5%	-1.5%	1.4%	3.5%	7.3%	9.4%	10.6%
<b>Other Oregon Utilities:</b>										
5	City of Beaverton	\$15.00	\$23.48	\$31.95	\$40.43	\$48.90	\$57.38	\$78.57	\$99.76	\$120.95
6	City of Canby	19.81	24.22	28.63	33.47	39.01	45.67	64.98	84.30	103.62
7	City of Carlton	49.51	58.01	67.01	79.34	91.66	103.99	134.81	165.62	196.44
8	City of Dundee	21.54	21.54	21.54	56.23	93.02	129.80	308.39	492.21	513.17
9	City of Forest Grove	25.17	28.97	32.77	36.57	42.50	50.56	70.71	99.91	129.11
10	City of Hillsboro [3]	16.58	22.52	28.45	34.41	43.67	52.92	78.57	109.92	141.27
11	City of Molalla	13.44	21.33	29.22	37.10	44.99	52.88	72.60	92.32	112.04
12	City of Mt. Angel	13.72	20.16	26.61	33.05	39.50	45.94	62.05	78.16	94.27
13	City of Newberg	16.79	27.49	38.18	48.88	59.57	70.27	97.00	123.74	150.48
14	City of North Plains	48.93	59.92	70.91	81.90	92.89	103.88	131.35	159.43	189.24
15	City of Portland	14.79	27.86	40.94	54.01	67.09	80.16	112.85	145.54	178.23
16	City of Salem [3]	10.15	16.99	23.84	30.68	37.53	44.37	61.49	78.60	95.71
17	City of Sherwood	20.69	32.09	43.49	54.89	66.29	77.69	106.19	134.69	175.99
18	City of Silverton [3]	19.85	26.99	34.13	41.27	48.41	55.55	73.39	91.24	109.09
19	City of Stayton	24.12	27.28	30.43	33.59	36.74	39.90	47.78	55.67	63.56
20	City of Tigard	29.36	39.52	49.68	63.36	78.17	92.98	134.06	176.44	218.82
21	City of Tualatin	8.31	16.20	24.09	31.97	39.86	47.75	67.47	87.19	106.91
22	City of Woodburn [3]	14.09	18.66	23.23	28.31	34.19	40.07	56.44	76.56	96.68
23	Other Oregon Utilities Average	\$21.21	\$28.51	\$35.84	\$45.53	\$55.78	\$66.21	\$97.71	\$130.63	\$155.31
24	Minimum	8.31	16.20	21.54	28.31	34.19	39.90	47.78	55.67	63.56
25	Maximum	49.51	59.92	70.91	81.90	93.02	129.80	308.39	492.21	513.17

**Footnotes:**

- [1] Amounts reflect bills under single family residential user rates in effect April 2019 and do not include any taxes, franchise fees, or water restriction surcharges, if any. These bills also reflect rates charged to customers within the municipal borders (e.g., no outside-municipality surcharges, if applied, are included in the bill comparison).
- [2] Reflects historical average usage of a typical single family residential customer with both water and sewer service within the service area of the City of Cornelius utility system.
- [3] Utility is currently involved in a rate study, is planning to conduct a rate study, or plans to implement a rate revision within the next twelve months following the comparison preparation date.

**Figure 1-1**  
**City of Cornelius, Oregon**  
**Comparison of Monthly Charges for**  
**Water Service for Single Family Residential Customers**  
**Using 6,000 Gallons (802 Cubic Feet)**





**SECTION 2**  
**Sanitary Sewer System**  
**Financial Forecast And User Rate Design**

## SECTION 2:

# SANITARY SEWER SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN

## 2-1: Sanitary Sewer System – Overview

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The City's sanitary sewer system consists of sewage collection and transmission infrastructure. Approximately 24 miles of wastewater lines transport sewer flow to Clean Water Services collection facilities where the flow is then routed to a regional treatment facility in the City of Forest Grove. Clean Water Services ("CWS") is the water resources management utility for more than 600,000 residents in urban Washington County and small portions of Multnomah County and Clackamas County in Oregon. CWS was founded in 1970 as a special service district, and its mission is to provide cost-effective services and environmentally sensitive management of water resources for the Tualatin River watershed.

## 2-2: Existing Sanitary Sewer Monthly User Rates

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The City's current monthly sanitary user rates have been in effect since July 1, 2018. Resolution No. 2018-18 (the "Rate Resolution"), which was adopted by the Cornelius City Council (the "Council") on June 4, 2018, established the existing monthly user rates. The existing sanitary sewer rates include:

- A constant base fee per equivalent dwelling unit ("EDU") that is established by Clean Water Services. Under its service arrangement with Clean Water Services, the City keeps 16.377% of the revenues collected under this fee and remits the remainder to Clean Water Services.
- A constant base fee per EDU that is established by the City. The City keeps 100% of the revenues collected under this fee.
- A uniform usage fee per 1,000 gallons that is established by Clean Water Services and that is applied to each customer's winter water consumption average. Under its service arrangement with Clean Water Services, the City keeps 16.377% of the revenues collected under usage charge and remits the remainder to Clean Water Services.

Table ES-2 in the executive summary section of this report shows the existing monthly sanitary sewer user rates charged to all customers.

A copy of the existing Rate Resolution is contained in Appendix A at the end of this report.

## 2-3: Sanitary Sewer System Customer Statistics

As discussed in Section 1 of this report, the population of the City has not grown significantly over the past few years. However, there has been recent development activity, and the City expects approximately 1,200 single family residential units to connect to the sanitary sewer system (as well as the water system and surface water management system) over the next several years.

During the Fiscal Year 2018, it is estimated that the City provided sanitary sewer service to an average of 2,952 sanitary sewer accounts and 4,146 sanitary sewer EDUs as shown in Table 2-1 at the end of this section. Based on discussions with the City staff, the following Exhibit 2-1 indicates the assumed customer growth for the sanitary system during the Forecast Period that is further detailed in Table 2-1 at the end of this section:

**Exhibit 2-1: Projected Sanitary Sewer System Customer Statistics [\*]**

Fiscal Year Ending June 30, (Projected)	Wastewater Customers			Wastewater Flow		
	Accounts	Change in Accounts	Equivalent Dwelling Units (EDUs)	Billed Wastewater Flow (kgal)	Billed Wastewater Flow Per Customer (gallons)	Billed Wastewater Flow Per EDU (gallons)
2018 (historical)	2,952		4,146	234,498	6,620	4,714
2019	2,977	25	4,171	235,912	6,604	4,714
2020	3,077	100	4,271	241,568	6,542	4,714
2021	3,177	100	4,371	247,225	6,485	4,714
2022	3,277	100	4,471	252,881	6,431	4,714
2023	3,377	100	4,571	258,538	6,380	4,714
2024	3,477	100	4,671	264,194	6,332	4,714
2025	3,577	100	4,771	269,851	6,287	4,714
2026	3,677	100	4,871	275,507	6,244	4,714
2027	3,777	100	4,971	281,164	6,203	4,714
2028	3,877	100	5,071	286,820	6,165	4,714
2029	3,977	100	5,171	292,477	6,129	4,714
Compound Annual Growth Rate:						
2018- 2029	2.75%		2.03%	2.03%		
2019 - 2029	<u>2.94%</u>		<u>2.17%</u>	<u>2.17%</u>		

[\*] Amounts shown derived from Table 2-1.

As can be seen in the preceding table, it has been assumed for the purposes of developing the financial projections that the City's sanitary system retail customer base would increase by over 2.5% annually during the Forecast Period from the Fiscal Year 2019 to the end of Fiscal Year 2029, or 100 accounts per year. This growth is due to the new residential development discussed previously. Each new home is assumed to have one (1) EDU.

## 2-4: Revenues Under Existing Monthly Sanitary Sewer Rates

The forecast of revenues from existing sanitary sewer rates was based on: i) the projection of sanitary sewer system EDUs and corresponding billed sewer flow as shown in Table 2-1; and ii) the existing rates for monthly sanitary service as currently adopted by the City and Clean Water Services. For purposes of the financial forecast, it was assumed that Clean Water Services would continue to increase their user rates by 3% per year. A summary of the estimated sanitary sewer user rate revenues derived under existing rates is included in Table 2-2 at the end of this section. The projected sanitary sewer user rate revenues by fiscal year based on the previously discussed sales forecast is summarized in the following Exhibit 2-2:

**Exhibit 2-2: Projected Rate Revenues Under Existing Monthly Sanitary Sewer Rates [\*]**

Fiscal Year Ending June 30, (Projected)	Clean Water Services Base Fee Revenue	City Base Fee Revenue	Usage Charge Revenue	Total Sanitary Sewer Revenue	Sanitary Sewer Revenue Retained By City
2018 (actual)	\$ 1,406,362	\$ 387,533	\$ 593,886	\$ 2,387,781	\$ 715,114
2019	1,457,384	401,381	614,097	2,472,862	740,628
2020	1,538,963	411,005	647,551	2,597,519	769,091
2021	1,622,249	420,629	682,460	2,725,338	798,071
2022	1,709,147	430,253	718,881	2,858,281	827,891
2023	1,799,799	439,877	756,873	2,996,549	858,583
2024	1,894,352	449,501	796,497	3,140,350	890,182
2025	1,992,958	459,125	837,818	3,289,901	922,721
2026	2,095,776	468,749	880,901	3,445,426	956,239
2027	2,202,969	478,373	925,815	3,607,157	990,774
2028	2,314,707	487,997	972,631	3,775,335	1,026,364
2029	2,431,167	497,621	1,021,423	3,950,211	1,063,052
Compound Annual Growth Rate:					
2018 - 2029	5.10%	2.30%	5.05%	4.68%	3.67%
2019 - 2029	5.25%	2.17%	5.22%	4.80%	3.68%

[\*] Amounts shown derived from Table 2-2.

As shown in the preceding table, in the absence of any rate adjustments to the City-adopted sanitary sewer rate per EDU, sanitary sewer revenue retained by the City is projected to increase by over 3.5% per year as a result of the new development activity and assumed increases in the Clean Water Services sanitary sewer rates.

## 2-5: Revenue Requirements – Principal Assumptions and Considerations

The costs associated with operating and maintaining a utility system, as well as the costs of financing the renewals and replacements of existing facilities and the capital improvements for upgrades and

expansions, are generally considered to be the revenue requirements of public utilities such as the City's. The sum of these costs, after adjusting for other operating and non-operating (e.g., interest income, system development charges available to pay expansion-related debt service) revenues available to the utility, represents the net revenue requirements of a utility system that must be funded from the monthly user charges or rates. The following is a summary of the net revenue requirement derivation:

+ Cost of Operation and Maintenance
+ Debt Service Payments (Senior and Subordinate)
+ Transfers and Administration Payments
+ Capital Project Financing
+ Working Capital Reserves / Financial Compliance
- Other Operating Revenue and Other Funding Sources
- Interest Income
<u>= Net Revenue Requirements (Funded from User Rates)</u>

Net revenue requirements signify the expenditure levels required to be recovered from monthly user fees or rates. The development of the net revenue requirements of the system is a critical component of the analysis since utility rates should be designed to fully recover the cost of providing service.

The financial evaluation contained in this utility rate analysis covered projections for the 11 fiscal year period of October 1, 2018 through June 30, 2029 (previously defined as the "Forecast Period"). A forecast of sanitary system operations was prepared in order to: i) assess the adequacy of utility rates in the near future; ii) recognize potential cost recovery strategies based on the phase-in of any required rate adjustments to meet the projected revenue requirements and finance identified capital expenditure requirements; and iii) examine the financial implications of alternatives to funding the sanitary sewer system's multi-year capital improvement program.

The projected revenue requirements for the sanitary sewer system are shown in Table 2-3 at the end of this section. In the preparation of the financial projections contained in this report and the conclusions that follow, GovRates has made certain assumptions with respect to conditions that may occur in the future. While we believe the assumptions are reasonable and based on the best available information for the purpose of this report, they are dependent upon future events and actual conditions may differ from those assumed. We recommend that the City continue to compare actual results with the projections contained in this report to ensure that the sanitary sewer utility's rates continue to be sufficient.

For the purposes of the financial projections, the principal considerations and assumptions were either made by us or provided to us and include the following:

1. Projected revenues from current rates and charges for the City's surface water management system have been based on the schedule of rates and charges currently in effect and as set forth in the Rate Resolution. Such rates were applied to the customer and sales usage forecast discussed previously.

As previously mentioned, it was assumed that Clean Water Services would continue to increase their sanitary sewer rates by 3% annually.

- The City collects sanitary sewer system development charges ("SDCs") for both the City (transmission component) and the Clean Water Services (treatment component). Under the City's agreement with Clean Water Services, the City retains 3.983% of the Clean Water Services SDCs. The remainder of the Clean Water Services SDCs is remitted to Clean Water Services. Both the retained Clean Water Services SDCs and the Cornelius SDCs were assumed to be utilized for funding growth-related capital projects or growth-related debt service. The assumed system development charge collections were based on discussions with City staff and are summarized in the following Exhibit 2-3:

**Exhibit 2-3: Projected Sanitary Sewer System Development Charge Collections**

Fiscal Year Ending June 30, (Projected)	City of Cornelius SDCs	Clean Water Services SDCs [*]	Combined	Amount Retained by City
2018 (actual)	\$ 3,016	\$ 71,500	\$ 74,516	\$ 5,864
2019	48,981	765,024	814,005	79,452
2020	30,392	740,150	770,542	59,872
2021	0	0	0	0
2022	0	0	0	0
2023	0	0	0	0
2024	0	0	0	0
2025	0	0	0	0
2026	0	0	0	0
2027	0	0	0	0
2028	0	0	0	0
2029	0	0	0	0

[\*] Under the City's agreement with Clean Water Services, the City retains 3.983% of the Clean Water Services SDCs. The remainder is remitted to Clean Water Services and is reflected as both a revenue and expense of the sanitary sewer system.

- The adopted Fiscal Years 2019 and 2020 operating and capital budgets as provided by the City served as the baseline for the expenditure projections for the remainder of the Forecast Period and the underlying assumptions contained in these budgets were considered to be reasonable and to reflect anticipated operations. The budgeted operating expenses were compared with actual historical results and trends in operating expenses.
- Table 2-4 at the end of this section summarizes: i) the budgeted Fiscal Year 2019 and Fiscal Year 2020 operations and maintenance expenses for the sanitary sewer system; and ii) the adjustments made to the forecast for known operational and ratemaking considerations.
- The operation and maintenance expenses for the sanitary sewer system identified for the Fiscal Year 2020 were projected for the remaining nine (9) years of the Forecast Period (through Fiscal Year



2029). These projections are displayed on Table 2-5 at the end of this section. The escalation factors utilized in the analysis were based on the nature of the expense and information provided by the City staff. The forecast of inflation was based upon the consumer price index ("CPI") forecast prepared by the Congressional Budget Office as contained in "The Budget and Economic Outlook: 2019 to 2029" published in January 2019 and ranges from 2.3% to 2.6% per year. This inflation forecast was compared to other pricing indices used by many utilities for financial forecasting and rate review purposes. Major cost escalation factors assumed were based on discussions with City staff and include:

- Salaries and Wages: 3.0% per year
- Health Insurance: 5.0% per year
- Repair and Maintenance Expenses: 4.0% per year
- InLieu Franchise to General Fund: Based on Labor (3.0% per year)
- Allocated Expenses – General Fund: 3.0% per year
- Allocated Expenses – ISF Fund: 3.0% per year
- Allocated Expenses – Utility Funds: 3.0% per year

6. Based on discussions with City staff, no additional personnel above Fiscal Year 2020 budgeted levels were assumed during the Forecast Period for the sanitary sewer system.
7. Intergovernmental services expenses represent the largest operating expense for the sanitary sewer system and consist of: i) the Clean Water Services portion of the user rate revenues; and ii) the Clean Water Services portion of the SDCs. The projected intergovernmental services expenses are summarized in the following Exhibit 2-4:

**Exhibit 2-4: Projection of Intergovernmental Services Expenses**

Fiscal Year Ending June 30, (Projected)	Clean Water Services Portion of User Rate Revenue	Clean Water Services Portion of SDCs	Total Intergovernmental Services Expense
2019	\$ 1,732,234	\$ 734,553	\$ 2,466,788
2020	1,828,429	710,670	2,539,099
2021	1,927,267	0	1,927,267
2022	2,030,390	0	2,030,390
2023	2,137,966	0	2,137,966
2024	2,250,169	0	2,250,169
2025	2,367,180	0	2,367,180
2026	2,489,186	0	2,489,186
2027	2,616,383	0	2,616,383
2028	2,748,971	0	2,748,971
2029	2,887,159	0	2,887,159

8. In the projection of the estimated expenditure requirements, a contingency allowance has been included for Fiscal Years 2020 through 2029. The contingency allowance assumed for the

development of the projected revenue requirements represents approximately 1.0% of the total sanitary sewer operating expenses and for the Fiscal Year 2020 was estimated to be approximately \$34,000. This annual allowance has been included as an operating expense in order to have additional funds to meet unknown or unplanned expenses throughout the fiscal year and to recognize potential changes in revenues that may result due to weather, conservation, and other factors. To the extent the contingency allowance is not required to meet annual operating expenses or provide funds for ongoing system operations, such monies would accrue to the benefit of the sanitary sewer system and could be used for other purposes such as funding renewals, replacements, and upgrades to the sanitary sewer system over time.

9. An allowance for bad debt expenses has been made to recognize that a certain amount of revenues will be considered as uncollectible and written off throughout the year. This expenditure item reflects an incremental adjustment to each year’s operating expenses and was estimated at 0.25% of user rate revenue.
10. For the purposes of this analysis, amounts associated with depreciation and amortization expenses have not been recognized. These expenditures are non-cash in nature and are also not considered as operating expenses for ratemaking purposes. Therefore, such amounts have not been recognized as a revenue requirement to be recovered from rates for the Forecast Period. It should be noted that an allowance for the funding of capital projects, renewals and replacements, and/or reserves has been recognized which essentially provides for the cash funding of these expenses.
11. The sanitary sewer system currently has no debt outstanding, and no additional borrowing is currently assumed during the Forecast Period.
12. The projected 11-year capital expenditures (i.e., through the Fiscal Year ending June 30, 2029) for the sanitary sewer system were based on discussions with the City staff. Table 2-6 at the end of this section provides a detailed listing of the capital projects for the sanitary sewer system as well as projected funding sources for such projects within the analysis period. The capital improvement program ("CIP") funding plan is summarized in the following Exhibit 2-5:

**Exhibit 2-5: Assumed Capital Improvement Program Funding Plan**

Funding Source	Sanitary Sewer System	
	Amount	Percent
Clean Water Services	\$ 3,455,646	62.8%
User Rate Revenues	1,972,084	35.8%
Sanitary Sewer System Development Charges	75,000	1.4%
Total	5,502,730	100.0%

[\*] Derived from Table 2-6.

The City's \$3.5 million Ginger Street Sanitary Sewer Replacement project is the primary capital project in the multi-year CIP, and this project is being funded by Clean Water Services.

13. Interest income has been recognized as an available revenue source to fund the expenditure needs of the sanitary sewer system. For the Forecast Period, interest income was based on estimated balances in unrestricted funds. Thus, for the determination of the revenue requirements from rates, no earnings have been reflected on balances in the system development charge fund or in any construction fund established from proceeds derived from the issuance of debt obligations to fund capital projects. Although the restricted earnings are available for capital project funding, the earnings are not being considered as being available to fund utility operating expenses since such earnings are restricted to the account. As such, the earnings on the restricted funds are not included in the development of the net revenue requirements of the City's sanitary sewer system.

In the development of the estimated interest earnings, an average interest rate of 1.00% was assumed to be earned on the estimated average fund balances during the Forecast Period. This interest rate is based on recent earning performance results of the utility and discussions with the City staff.

Table 2-7 at the end of this section contains the projection of fund balances and interest income.

14. The City receives other operating revenues from miscellaneous charges for specific customer service requests or needs which serve to reduce rate revenue requirements. For the purpose of the sanitary sewer system rate analysis, any revenue stream over which the City has no control has been classified as "other operating revenue." Other operating revenue for purposes of the sanitary sewer system rate analysis includes the Clean Water Services portion of the SDCs, the Clean Water Services portion of the user rate revenues, the Clean Water Services user rate revenue retained by the City, industrial user fees, and allocated revenue (reimbursements from other funds for services provided on behalf of such funds). Such amounts were projected through the Forecast Period based on a review of historical trends, the projected growth in customers to be served and rate revenues, and discussions with City staff.

Table 2-8 at the end of this section contains the projection of other operating revenues.

## 2-6: Summary of Sanitary Sewer Revenue Requirements Analysis

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As shown on Table 2-3 at the end of this section, 25% annual adjustments in the City's base fee per EDU have been recognized for the Fiscal Years 2020 through 2022. Although these increases sound high, the monthly dollar amount per EDU associated with the increases is an additional \$2.01 in Fiscal Year 2020, \$2.51 in Fiscal Year 2021, and \$3.14 in Fiscal Year 2022. No adjustments in the City's base fee per EDU have been recognized for Fiscal Years 2023 through 2029. However, as discussed previously, it has been assumed that Clean Water Services would continue to adjust their fees. The recognized adjustments are based on the assumptions discussed throughout this report.

## 2-7: Projected Sources and Uses of Funds

To provide additional information to the City, a summary of the projected sources and uses of funds for each of the sanitary sewer system's major funds is shown in Table 2-9 at the end of this section. The projected sources equal the projected uses.

## 2-8: Single Family Residential Bill Comparison Under Proposed Sanitary Sewer Rates

The following Exhibit 2-6 contains a bill comparison for single family residential customers under the existing and proposed sanitary rates. This bill comparison reflects the Fiscal Year 2020 Clean Water Services rates as well as the City rates.

**Exhibit 2-6: Single Family Residential Sanitary Sewer Bill Comparison**

Monthly Usage (gallons)	Existing		Proposed Sanitary Rates - Fiscal Year 2020		
	Sanitary Sewer Rates		Difference From Existing Rates		
	Monthly Bill	Monthly Bill	Amount	Percent	
0	\$37.14	\$ 40.06	\$ 2.92	7.9%	
2,000	42.30	45.37	3.07	7.3%	
4,000	47.46	50.69	3.23	6.8%	
6,000 [*]	52.62	56.00	3.38	6.4%	
8,000	57.78	61.32	3.54	6.1%	
10,000	62.94	66.63	3.69	5.9%	
15,000	75.84	79.92	4.08	5.4%	
20,000	88.74	93.21	4.47	5.0%	
25,000	101.64	106.50	4.86	4.8%	

[\*] Historical average monthly usage of a single family residential customer in the sanitary sewer system.

## 2-9: Bill Comparisons – Neighboring Utilities

In order to provide the City with additional information regarding the current rates charged for service, a comparison of the City’s existing and proposed rates for customers served by a 5/8-inch or 3/4-inch meter (representative of the single-family residential class and a large portion of the commercial class) with charges for similar service by 18 neighboring Oregon utilities has been made. For purposes of the comparison, the City and Clean Water Services rates for Cornelius are combined.

It should be noted that when making a comparison of the rates charged by other utilities, several factors have an effect on the level of rates charged. These factors may include, but are not limited to, the following:

1. Plant capacity utilization, age and assistance in the funding of such plant capacity by federal grants, system development charges, etc.;
2. Overall size of the customer base (economies of scale) served as well as the type of customer served (certain customers may have higher usage requirements which may dampen per unit rates which is common for high commercial or industrialized customer bases for utilities);
3. Geographic density of the customer base (utilities with many high-density multifamily customers may have lower unit costs);
4. General fund and administrative fee transfers made by municipal and county systems which may account for differences in level of rates charged;
5. Bond covenants and funding requirements of the rates; and
6. Level of capital improvements required to meet service area needs, including the construction of growth-related assets in relation to service area expansion.

For the utilities included in the rate comparison on Table 2-10 at the end of this section, no analysis has been made of the above-mentioned factors as they relate to the reported sanitary sewer rates currently being charged by the other utilities surveyed for the purposes of this analysis. However, the proposed sanitary sewer rates of the City produce bills that are comparable with those of neighboring utilities.

Figure 2-1 at the end of this section show graphical comparisons of how bills under the proposed Fiscal Year 2020 rates compare with those of other "neighboring" utilities for a single family residential customer with a monthly usage of 6,000 gallons – the historical average monthly usage for a 5/8" or 3/4" meter customer in this class. As indicated in Figure 2-1, at the 6,000-gallon usage level, seven (7) utilities – the City of Stayton, the City of Molalla, the City of Woodburn, the City of Silverton, the City of Carlton, the City of Dundee, and the City of Newberg currently charge more for sanitary service than what the City would charge under the Fiscal Year 2020 proposed rates.

Table 2-1

City of Cornelius, Oregon  
Utility Rate Study  
Sanitary Sewer System

Summary of Historical and Projected Sanitary Sewer Customer Statistics

Line No.	Description	Rate Code	Historical	Fiscal Year Ending June 30,										
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SANITARY SEWER</b>														
Customers														
1	Growth - Sewer Rate - Clean Water Services	SW1		25	100	100	100	100	100	100	100	100	100	100
2	Growth - Sewer Rate - City	SW2		25	100	100	100	100	100	100	100	100	100	100
Equivalent Dwelling Units														
3	Growth - Sewer Rate - Clean Water Services	SW1		25	100	100	100	100	100	100	100	100	100	100
4	Growth - Sewer Rate - City	SW2		25	100	100	100	100	100	100	100	100	100	100
Total Customers - Average Monthly														
5	Clean Water Services	SW1	2,952	2,977	3,077	3,177	3,277	3,377	3,477	3,577	3,677	3,777	3,877	3,977
6	City	SW2	2,952	2,977	3,077	3,177	3,277	3,377	3,477	3,577	3,677	3,777	3,877	3,977
Total Equivalent Dwelling Units - Average Monthly														
7	Equivalent Dwelling Units - Clean Water Services	SW1	4,146	4,171	4,271	4,371	4,471	4,571	4,671	4,771	4,871	4,971	5,071	5,171
8	Equivalent Dwelling Units - City	SW2	4,146	4,171	4,271	4,371	4,471	4,571	4,671	4,771	4,871	4,971	5,071	5,171
9	Monthly Usage Per Account (kgal)		6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62	6.62
10	Monthly Usage Per Equivalent Dwelling Unit (kgal)		4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71
Usage														
11	Annual Sales (kgal) - Sewer Average	SW3	234,498	235,912	241,568	247,225	252,881	258,538	264,194	269,851	275,507	281,164	286,820	292,477
12	Conservation/Usage Adjustment	SW3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
13	Adjusted Annual Sales (kgal) - Sewer Average	SW3	234,498	235,912	241,568	247,225	252,881	258,538	264,194	269,851	275,507	281,164	286,820	292,477
14	Rate Code 996 (Car Wash) Annual Sales (kgal)	996	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110
15	Conservation/Usage Adjustment	996	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
16	Adjusted Rate Code 996 (Car Wash) Annual Sales (kgal)	996	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110

**Table 2-2**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Sanitary Sewer System**

Projected Sanitary Sewer Rate Revenues Under Existing Rates

Line No.	Description	Rate Code	Historical	Fiscal Year Ending September 30,										
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SANITARY SEWER</b>														
<b>Base Fees</b>														
1	Base Fee - Sewer Rate - Clean Water Services		\$ 28.27	\$ 29.12	\$ 30.03	\$ 30.93	\$ 31.86	\$ 32.81	\$ 33.80	\$ 34.81	\$ 35.86	\$ 36.93	\$ 38.04	\$ 39.18
2	Monthly Equivalent Dwelling Units - Clean Water Services		4,146	4,171	4,271	4,371	4,471	4,571	4,671	4,771	4,871	4,971	5,071	5,171
3	Total Base Fee - Sewer Rate - Clean Water Services Revenue - Annual	SW1	\$ 1,406,362	\$ 1,457,384	\$ 1,538,963	\$ 1,622,249	\$ 1,709,147	\$ 1,799,799	\$ 1,894,352	\$ 1,992,958	\$ 2,095,776	\$ 2,202,969	\$ 2,314,707	\$ 2,431,167
4	Base Fee - Sewer Rate - City		\$ 7.79	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02	\$ 8.02
5	Monthly Equivalent Dwelling Units - City		4,146	4,171	4,271	4,371	4,471	4,571	4,671	4,771	4,871	4,971	5,071	5,171
6	Total Base Fee - Sewer Rate - City Revenue - Annual	SW2	\$ 387,533	\$ 401,381	\$ 411,005	\$ 420,629	\$ 430,253	\$ 439,877	\$ 449,501	\$ 459,125	\$ 468,749	\$ 478,373	\$ 487,997	\$ 497,621
7	Total Base Fee Revenue		\$ 1,793,896	\$ 1,858,765	\$ 1,949,968	\$ 2,042,878	\$ 2,139,400	\$ 2,239,676	\$ 2,343,853	\$ 2,452,083	\$ 2,564,525	\$ 2,681,342	\$ 2,802,704	\$ 2,928,788
<b>Usage Charges</b>														
8	Usage Charge - Sewer Average		\$ 2.51	\$ 2.58	\$ 2.66	\$ 2.74	\$ 2.82	\$ 2.90	\$ 2.99	\$ 3.08	\$ 3.17	\$ 3.27	\$ 3.37	\$ 3.47
9	Adjusted Annual Sales (kgal) - Sewer Average		234,498	235,912	241,568	247,225	252,881	258,538	264,194	269,851	275,507	281,164	286,820	292,477
10	Total Usage Charge - Sewer Average Revenue - Annual	SW3	\$ 588,589	\$ 608,652	\$ 641,944	\$ 676,684	\$ 712,932	\$ 750,745	\$ 790,186	\$ 831,317	\$ 874,205	\$ 918,918	\$ 965,528	\$ 1,014,106
11	Usage Charge - Rate Code 996 (Car Wash)		\$ 2.51	\$ 2.58	\$ 2.66	\$ 2.74	\$ 2.82	\$ 2.90	\$ 2.99	\$ 3.08	\$ 3.17	\$ 3.27	\$ 3.37	\$ 3.47
12	Adjusted Rate Code 996 (Car Wash) Annual Sales (kgal)		2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110	2,110
13	Total Usage Charge - Rate Code 996 (Car Wash) Revenue - Annual	996	\$ 5,297	\$ 5,444	\$ 5,608	\$ 5,776	\$ 5,949	\$ 6,128	\$ 6,311	\$ 6,501	\$ 6,696	\$ 6,897	\$ 7,104	\$ 7,317
14	Total Usage Charge Revenue		\$ 593,886	\$ 614,097	\$ 647,551	\$ 682,460	\$ 718,881	\$ 756,873	\$ 796,497	\$ 837,818	\$ 880,901	\$ 925,815	\$ 972,631	\$ 1,021,423
15	<b>TOTAL SANITARY SEWER REVENUE - SUBTOTAL</b>		\$ 2,387,781	\$ 2,472,862	\$ 2,597,519	\$ 2,725,338	\$ 2,858,281	\$ 2,996,549	\$ 3,140,350	\$ 3,289,901	\$ 3,445,426	\$ 3,607,157	\$ 3,775,335	\$ 3,950,211
16	Revenue Adjustment		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	<b>ADJUSTED TOTAL SANITARY SEWER REVENUE</b>		\$ 2,387,781	\$ 2,472,862	\$ 2,597,519	\$ 2,725,338	\$ 2,858,281	\$ 2,996,549	\$ 3,140,350	\$ 3,289,901	\$ 3,445,426	\$ 3,607,157	\$ 3,775,335	\$ 3,950,211
<b>Adjusted Revenue By Rate Code:</b>														
18	Base Fee - Sewer Rate - Clean Water Services	SW1	\$ 1,406,362	\$ 1,457,384	\$ 1,538,963	\$ 1,622,249	\$ 1,709,147	\$ 1,799,799	\$ 1,894,352	\$ 1,992,958	\$ 2,095,776	\$ 2,202,969	\$ 2,314,707	\$ 2,431,167
19	Base Fee - Sewer Rate - City	SW2	387,533	401,381	411,005	420,629	430,253	439,877	449,501	459,125	468,749	478,373	487,997	497,621
20	Usage Charge - Sewer Average	SW3	588,589	608,652	641,944	676,684	712,932	750,745	790,186	831,317	874,205	918,918	965,528	1,014,106
21	Usage Charge - Rate Code 996 (Car Wash)	996	5,297	5,444	5,608	5,776	5,949	6,128	6,311	6,501	6,696	6,897	7,104	7,317
22	Total Adjusted Revenue		\$ 2,387,781	\$ 2,472,862	\$ 2,597,519	\$ 2,725,338	\$ 2,858,281	\$ 2,996,549	\$ 3,140,350	\$ 3,289,901	\$ 3,445,426	\$ 3,607,157	\$ 3,775,335	\$ 3,950,211
<b>City Percentage of Revenues By Rate Code:</b>														
23	Base Fee - Sewer Rate - Clean Water Services	SW1	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%
24	Base Fee - Sewer Rate - City	SW2	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
25	Usage Charge - Sewer Average	SW3	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%
26	Usage Charge - Rate Code 996 (Car Wash)	996	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%	16.377%
27	<b>Total City Revenue</b>		\$ 715,114	\$ 740,628	\$ 769,091	\$ 798,071	\$ 827,891	\$ 858,583	\$ 890,182	\$ 922,721	\$ 956,239	\$ 990,774	\$ 1,026,364	\$ 1,063,052
28	City Revenue Under City Control		\$ 387,533	\$ 401,381	\$ 411,005	\$ 420,629	\$ 430,253	\$ 439,877	\$ 449,501	\$ 459,125	\$ 468,749	\$ 478,373	\$ 487,997	\$ 497,621
29	Clean Water Services User Rate Rate Revenues Retained By City (Other Operating Revenue)		327,581	339,246	358,085	377,442	397,638	418,706	440,680	463,596	487,490	512,401	538,367	565,431
30	Total		\$ 715,114	\$ 740,628	\$ 769,091	\$ 798,071	\$ 827,891	\$ 858,583	\$ 890,182	\$ 922,721	\$ 956,239	\$ 990,774	\$ 1,026,364	\$ 1,063,052
31	<b>Rate Revenue Amount Due to Clean Water Services</b>		\$ 1,672,667	\$ 1,732,234	\$ 1,828,429	\$ 1,927,267	\$ 2,030,390	\$ 2,137,966	\$ 2,250,169	\$ 2,367,180	\$ 2,489,186	\$ 2,616,383	\$ 2,748,971	\$ 2,887,159

Table 2-3

City of Cornelius, Oregon  
Utility Rate Study  
Sanitary Sewer System

Development of Net Revenue Requirements from User Rates and Projected Revenue Adjustments - Sanitary Sewer System

Line No.	Description	Fiscal Year Ending June 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	Operating Expenses											
1	Personnel Services	\$ 214,149	\$ 216,462	\$ 224,570	\$ 233,002	\$ 241,772	\$ 250,893	\$ 260,382	\$ 270,254	\$ 280,524	\$ 291,211	\$ 302,332
2	Materials and Services	2,657,898	2,763,634	2,159,271	2,270,114	2,385,672	2,506,127	2,631,667	2,762,494	2,898,811	3,040,830	3,188,773
3	Transfers and Allocations	428,465	428,604	446,975	466,145	486,150	507,026	528,811	551,545	575,271	600,031	625,872
4	Contingency and Bad Debt Expense	1,003	35,372	29,951	31,793	33,284	34,835	36,450	38,132	39,882	41,703	43,600
5	Total Operating Expenses	\$ 3,301,515	\$ 3,444,071	\$ 2,860,767	\$ 3,001,055	\$ 3,146,877	\$ 3,298,881	\$ 3,457,310	\$ 3,622,424	\$ 3,794,487	\$ 3,973,776	\$ 4,160,577
	Debt Service											
6	Total Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Other Revenue Requirements											
7	Capital Funded from Rates	\$ 30,000	\$ 129,200	\$ 253,127	\$ 378,582	\$ 60,065	\$ 541,828	\$ 50,372	\$ 55,646	\$ 78,203	\$ 354,743	\$ 40,317
8	Library Capital Project Transfer	16,000	-	-	-	-	-	-	-	-	-	-
9	Total Other Revenue Requirements	\$ 46,000	\$ 129,200	\$ 253,127	\$ 378,582	\$ 60,065	\$ 541,828	\$ 50,372	\$ 55,646	\$ 78,203	\$ 354,743	\$ 40,317
10	Gross Revenue Requirements	\$ 3,347,515	\$ 3,573,271	\$ 3,113,894	\$ 3,379,636	\$ 3,206,943	\$ 3,840,709	\$ 3,507,682	\$ 3,678,071	\$ 3,872,690	\$ 4,328,519	\$ 4,200,895
	Less Income and Funds from Other Sources											
11	Other Operating Revenue	\$ 2,854,800	\$ 2,946,906	\$ 2,355,851	\$ 2,480,632	\$ 2,610,782	\$ 2,746,510	\$ 2,888,035	\$ 3,035,582	\$ 3,189,384	\$ 3,349,684	\$ 3,516,734
12	Unrestricted Interest Income	7,210	6,369	5,307	4,353	3,810	6,478	4,380	7,195	9,997	12,607	12,476
13	Net Revenue Requirements	\$ 485,505	\$ 619,996	\$ 752,736	\$ 894,651	\$ 592,351	\$ 1,087,720	\$ 615,267	\$ 635,294	\$ 673,310	\$ 966,228	\$ 671,685
	Revenue from Existing Rates											
14	Sanitary System Rate Revenue - Cornelius Portion	\$ 401,381	\$ 411,005	\$ 420,629	\$ 430,253	\$ 439,877	\$ 449,501	\$ 459,125	\$ 468,749	\$ 478,373	\$ 487,997	\$ 497,621
15	Prior Year Rate Adjustment	-	-	105,200	242,000	419,300	428,400	437,600	446,800	455,900	465,100	474,300
16	Total Applicable Rate Revenue	\$ 401,381	\$ 411,005	\$ 525,829	\$ 672,253	\$ 859,177	\$ 877,901	\$ 896,725	\$ 915,549	\$ 934,273	\$ 953,097	\$ 971,921
17	Rate Adjustments	0.00%	25.00%	25.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
18	Effective Months	12	12	12	12	12	12	12	12	12	12	12
19	Percent of Current Year Effective	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
20	Revenue from Current Rate Adjustment	\$ -	\$ 102,800	\$ 131,500	\$ 168,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	Total Rate Revenue	\$ 401,381	\$ 513,805	\$ 657,329	\$ 840,353	\$ 859,177	\$ 877,901	\$ 896,725	\$ 915,549	\$ 934,273	\$ 953,097	\$ 971,921
22	Revenue Surplus/(Deficiency) Under Proposed Rates	\$ (84,124)	\$ (106,191)	\$ (95,407)	\$ (54,298)	\$ 266,826	\$ (209,819)	\$ 281,458	\$ 280,255	\$ 260,964	\$ (13,131)	\$ 300,236



**Table 2-4**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Sanitary Sewer System**

Sanitary Sewer System Historical and Budgeted Expenditures

Line No.	Division Code	Expense Code	Description	Operating Expense? (Yes/No)	Actual Fiscal Year 2014	Actual Fiscal Year 2015	Actual Fiscal Year 2016	Actual Fiscal Year 2017	Audited Fiscal Year 2018	Difference		Budgeted Fiscal Year 2019	Adjusted Fiscal Year 2019	Budgeted Fiscal Year 2020	Adjusted Fiscal Year 2020	Average Annual Rates of Change								
										Amount	Percentage					5-Year Actual 2014 to 2018	3-Year Actual 2016 to 2018	1-Year Actual 2017 to 2018	Budgeted 2018 to 2019	Adjusted 2018 to 2019	Adjusted 2019 to 2020			
																						Adjustments	Adjustments	
<b>Personnel Services</b>																								
1	06	4100	Salaried	Yes	\$ 66,778	\$ 67,400	\$ 72,934	\$ 72,850	\$ 76,693	\$ 52,180	68.0%	\$ 128,873	\$ -	\$ 128,873	\$ 134,256	\$ 134,256	3.5%	2.5%	5.3%	68.0%	68.0%	4.2%		
2	06	4200	Hourly	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A		
3	06	4300	Overtime	Yes	499	232	80	141	66	1,434	2172.7%	1,500	-	1,500	1,500	1,500	-39.7%	-9.2%	-53.3%	2172.7%	2172.7%	0.0%		
4	06	4500	Fringe Benefits	Yes	36,396	36,685	40,811	43,368	47,542	36,234	76.2%	83,776	-	83,776	80,706	80,706	6.9%	7.9%	9.6%	76.2%	76.2%	-3.7%		
5	06	AddPers	Additional Personnel	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A		
6			<b>Total Personnel Services</b>		\$ 103,673	\$ 104,317	\$ 113,825	\$ 116,359	\$ 124,301	\$ 89,848	72.3%	\$ 214,149	\$ -	\$ 214,149	\$ 216,462	\$ 216,462	4.6%	4.5%	6.8%	72.3%	72.3%	1.1%		
<b>Materials and Services</b>																								
7	06	5050	Operational Supplies	Yes	\$ 7,970	\$ 10,475	\$ 9,015	\$ 14,644	\$ 9,557	\$ 25,143	263.1%	\$ 34,700	\$ -	\$ 34,700	\$ 35,560	\$ 35,560	4.6%	3.0%	-34.7%	263.1%	263.1%	2.5%		
8	06	5100	Equipment - O&M	Yes	23,028	11,948	8,239	22,460	22,505	995	4.4%	23,500	-	23,500	38,500	38,500	-0.6%	65.3%	0.2%	4.4%	4.4%	63.8%		
9	06	5250	Dues, Education, Training	Yes	1,600	797	608	737	154	1,046	681.0%	1,200	-	1,200	1,200	1,200	-44.3%	-49.7%	-79.2%	681.0%	681.0%	0.0%		
10	06	5350	Professional Services	Yes	9,883	378	-	356	-	9,500	100.0%	9,500	-	9,500	22,500	22,500	-100.0%	N/A	-100.0%	N/A	N/A	136.8%		
11	06	5400	Uniforms and Protective Gear	Yes	267	701	504	437	300	710	236.3%	1,010	-	1,010	775	775	3.0%	-22.8%	-31.3%	236.3%	236.3%	-23.3%		
12	06	5500	Intergovernmental Services	Yes	1,491,729	1,628,258	1,612,268	1,613,041	1,735,781	1,749,307	100.8%	3,485,088	(1,018,300)	2,466,788	2,510,544	2,510,544	28,555	2,539,099	3.9%	3.8%	7.6%	100.8%	42.1%	2.9%
13	06	5530	Inlieu Franchise to General Fund	Yes	104,035	106,732	110,848	115,184	119,049	2,151	1.8%	121,200	-	121,200	126,000	126,000	-	126,000	3.4%	3.6%	3.4%	1.8%	1.8%	4.0%
14	06	5670	Utility Rebates and Incentives	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A		
15			<b>Total Materials and Services</b>		\$ 1,638,512	\$ 1,759,289	\$ 1,741,482	\$ 1,766,859	\$ 1,887,345	\$ 1,788,853	94.8%	\$ 3,676,198	\$ (1,018,300)	\$ 2,657,898	\$ 2,735,079	\$ 2,735,079	\$ 28,555	\$ 2,763,634	3.6%	4.1%	6.8%	94.8%	40.8%	4.0%
<b>Capital Outlay</b>																								
16	06	6050	Building and Improvements - Oper	No	\$ -	\$ -	\$ 993	\$ 20,332	\$ 52,330	\$ 3,651,316	6977.5%	\$ 3,703,646	\$ (3,703,646)	\$ -	\$ 3,235,646	\$ (3,235,646)	\$ -	\$ -	N/A	625.9%	157.4%	6977.5%	-100.0%	N/A
17	06	6110	Building and Improvements - 10th Avenue	No	-	-	-	-	-	-	0.0%	-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	
18	06	6115	Buildings and Improvements - Waterline Replacement	No	-	-	-	-	-	-	0.0%	-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	
19	06	6125	Building and Improvements - ASR	No	-	-	-	-	-	-	0.0%	-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	
20	06	6200	Equipment - Operations	No	-	21,829	4,234	33,658	12,000	(12,000)	-100.0%	-	-	-	52,500	(52,500)	-	-	N/A	68.4%	-64.3%	-100.0%	-100.0%	N/A
21			<b>Total Capital Outlay</b>		\$ -	\$ 21,829	\$ 4,234	\$ 33,658	\$ 12,000	\$ (12,000)	-100.0%	\$ 3,703,646	\$ (3,703,646)	\$ -	\$ 3,288,146	\$ (3,288,146)	\$ -	\$ -	N/A	250.8%	19.2%	5657.3%	-100.0%	N/A
<b>Debt Service</b>																								
22	06	7300	ASR - Principal	No	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	
23	06	7350	ASR - Interest	No	-	-	-	-	-	-	0.0%	-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	
24			<b>Total Debt Service</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	
<b>Transfers and Allocations</b>																								
25	06	8350	Street Fund Transfer	No	\$ -	\$ 81,630	\$ -	\$ -	\$ 102,110	\$ (102,110)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	-100.0%	-100.0%	N/A
26	06	8600	Library Capital Project Transfer	No	-	-	-	-	16,000	(16,000)	100.0%	16,000	(16,000)	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	
27	06	8950	Allocated Expenses - General Fund	Yes	50,693	50,918	51,797	52,661	54,968	1,547	2.8%	56,515	-	56,515	61,076	61,076	61,076	2.0%	3.0%	4.4%	2.8%	2.8%	8.1%	
28	06	8960	Allocated Expenses - ISF Fund	Yes	210,408	229,946	242,572	248,514	262,738	28,945	11.0%	291,683	-	291,683	280,037	280,037	280,037	11.0%	5.7%	4.1%	5.7%	11.0%	11.0%	-4.0%
29	06	8990	Allocated Expenses - Utility Funds	Yes	111,141	113,738	116,683	121,939	128,306	(48,039)	-37.4%	80,267	-	80,267	87,491	87,491	87,491	87,491	3.7%	4.9%	5.2%	-37.4%	-37.4%	9.0%
30			<b>Total Transfers and Allocations</b>		\$ 372,242	\$ 476,232	\$ 411,052	\$ 423,114	\$ 548,122	\$ (103,657)	-18.9%	\$ 444,465	\$ (16,000)	\$ 428,465	\$ 428,604	\$ 428,604	\$ -	\$ 428,604	10.2%	15.5%	29.5%	-18.9%	-21.8%	0.0%
<b>Contingency and Bad Debt Expense</b>																								
31	06	9000	Contingency	Yes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 473,198	100.0%	\$ 473,198	\$ (473,198)	\$ 1,003	\$ 840,927	\$ (806,840)	\$ 34,087	\$ 34,087	N/A	N/A	N/A	N/A	N/A	
32	06	BadDebt	Bad Debt Expense	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	-	-	N/A	N/A	N/A	N/A	28.0%	
33			<b>Total Contingency and Bad Debt Expense</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 473,198	100.0%	\$ 473,198	\$ (472,195)	\$ 1,003	\$ 840,927	\$ (805,555)	\$ 35,372	\$ 35,372	N/A	N/A	N/A	N/A	N/A	3425.0%
<b>Unappropriated</b>																								
34	06	9500	Unappropriated	No	\$ -	\$ 858,910	\$ 907,639	\$ 900,102	\$ 830,738	\$ (830,738)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	-4.3%	-7.7%	-100.0%	-100.0%	N/A
35			<b>Total Unappropriated</b>		\$ -	\$ 858,910	\$ 907,639	\$ 900,102	\$ 830,738	\$ (830,738)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	-4.3%	-7.7%	-100.0%	-100.0%	N/A
36			<b>TOTAL EXPENDITURES</b>		\$ 2,114,427	\$ 3,220,577	\$ 3,179,225	\$ 3,260,424	\$ 3,454,836	\$ 5,056,821	146.4%	\$ 8,511,656	\$ (5,210,141)	\$ 3,301,515	\$ 7,509,218	\$ (4,065,147)	\$ 3,444,071	13.1%	4.2%	6.0%	146.4%	-4.4%	4.3%	

Table 2-5

City of Cornelius, Oregon  
Utility Rate Study  
Sanitary Sewer System

Projected Operating Expenses - Sanitary Sewer System

Line No.	Division Code	Expense Code	Description	Escalation Reference	Fiscal Year Ending June 30,											
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Personnel Services</b>																
1	06	4100	Salaried	Labor	\$ 128,873	\$ 134,256	\$ 138,284	\$ 142,432	\$ 146,705	\$ 151,106	\$ 155,640	\$ 160,309	\$ 165,118	\$ 170,071	\$ 175,174	
2	06	4200	Hourly	Labor	-	-	-	-	-	-	-	-	-	-	-	
3	06	4300	Overtime	Labor	1,500	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957	
4	06	4500	Fringe Benefits	HealthIns	83,776	80,706	84,741	88,978	93,427	98,099	103,004	108,154	113,561	119,240	125,201	
5	06	AddPers	Additional Personnel	Input	-	-	-	-	-	-	-	-	-	-	-	
6	<b>Total Personnel Services</b>				\$ 214,149	\$ 216,462	\$ 224,570	\$ 233,002	\$ 241,772	\$ 250,893	\$ 260,382	\$ 270,254	\$ 280,524	\$ 291,211	\$ 302,332	
<b>Materials and Services</b>																
7	06	5050	Operational Supplies	Repair	\$ 34,700	\$ 35,560	\$ 36,982	\$ 38,462	\$ 40,000	\$ 41,600	\$ 43,264	\$ 44,995	\$ 46,795	\$ 48,666	\$ 50,613	
8	06	5100	Equipment - O&M	Repair	23,500	38,500	40,040	41,642	43,307	45,040	46,841	48,715	50,663	52,690	54,798	
9	06	5250	Dues, Education, Training	Inflation	1,200	1,200	1,231	1,262	1,294	1,325	1,355	1,386	1,418	1,451	1,486	
10	06	5350	Professional Services	Labor	9,500	22,500	23,175	23,870	24,586	25,324	26,084	26,866	27,672	28,502	29,357	
11	06	5400	Uniforms and Protective Gear	Inflation	1,010	775	795	815	835	855	875	895	916	937	959	
12	06	5500	Intergovernmental Services	Calculated	2,466,788	2,539,099	1,927,267	2,030,390	2,137,966	2,250,169	2,367,180	2,489,186	2,616,383	2,748,971	2,887,159	
13	06	5530	InLieu Franchise to General Fund	Labor	121,200	126,000	129,780	133,673	137,684	141,814	146,069	150,451	154,964	159,613	164,401	
14	06	5670	Utility Rebates and Incentives	Inflation	-	-	-	-	-	-	-	-	-	-	-	
15	<b>Total Materials and Services</b>				\$ 2,657,898	\$ 2,763,634	\$ 2,159,271	\$ 2,270,114	\$ 2,385,672	\$ 2,506,127	\$ 2,631,667	\$ 2,762,494	\$ 2,898,811	\$ 3,040,830	\$ 3,188,773	
<b>Transfers and Allocations</b>																
16	06	8350	Street Fund Transfer	Eliminate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
17	06	8600	Library Capital Project Transfer	Eliminate	-	-	-	-	-	-	-	-	-	-	-	
18	06	8950	Allocated Expenses - General Fund	GeneralFund	56,515	61,076	62,908	64,796	66,739	68,742	70,804	72,928	75,116	77,369	79,690	
19	06	8960	Allocated Expenses - ISF Fund	ISF	291,683	280,037	292,639	305,807	319,569	333,949	348,977	364,681	381,092	398,241	416,162	
20	06	8990	Allocated Expenses - Utility Funds	UtilFund	80,267	87,491	91,428	95,542	99,842	104,335	109,030	113,936	119,063	124,421	130,020	
21	<b>Total Transfers and Allocations</b>				\$ 428,465	\$ 428,604	\$ 446,975	\$ 466,145	\$ 486,150	\$ 507,026	\$ 528,811	\$ 551,545	\$ 575,271	\$ 600,031	\$ 625,872	
<b>Contingency and Bad Debt Expense</b>																
22	06	9000	Contingency	Calculated	\$ -	\$ 34,087	\$ 28,308	\$ 29,693	\$ 31,136	\$ 32,640	\$ 34,209	\$ 35,843	\$ 37,546	\$ 39,321	\$ 41,170	
23	06	BadDebt	Bad Debt Expense	Calculated	1,003	1,285	1,643	2,101	2,148	2,195	2,242	2,289	2,336	2,383	2,430	
24	<b>Total Contingency and Bad Debt Expense</b>				\$ 1,003	\$ 35,372	\$ 29,951	\$ 31,793	\$ 33,284	\$ 34,835	\$ 36,450	\$ 38,132	\$ 39,882	\$ 41,703	\$ 43,600	
<b>Unappropriated</b>																
25	06	9500	Unappropriated	Eliminate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
26	<b>Total Unappropriated</b>				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
27	<b>TOTAL SANITARY SEWER SYSTEM OPERATING EXPENSES</b>				\$ 3,301,515	\$ 3,444,071	\$ 2,860,767	\$ 3,001,055	\$ 3,146,877	\$ 3,298,881	\$ 3,457,310	\$ 3,622,424	\$ 3,794,487	\$ 3,973,776	\$ 4,160,577	

Table 2-6

City of Cornelius, Oregon  
Utility Rate Study  
Sanitary Sewer System

Estimated Multi-Year Capital Improvement Program and Funding Sources

Line No.	Description	Funding Source	Escalation Factor	Fiscal Year Ending June 30,											Total
				Adjusted 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>CAPITAL IMPROVEMENT PROGRAM</b>															
<b>Departmental Capital</b>															
1	Point Repairs	REV	ENR	\$ 30,000	\$ 30,900	\$ 31,827	\$ 32,782	\$ 33,765	\$ 34,778	\$ 35,822	\$ 36,896	\$ 38,003	\$ 39,143	\$ 40,317	\$ 384,234
2	Subtotal - Departmental Capital			\$ 30,000	\$ 30,900	\$ 31,827	\$ 32,782	\$ 33,765	\$ 34,778	\$ 35,822	\$ 36,896	\$ 38,003	\$ 39,143	\$ 40,317	\$ 384,234
<b>Capital Projects</b>															
3	Ginger Street Sanitary Sewer Replacement	CWS	None	\$ 250,000	\$ 3,205,646	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,455,646
4	Sanitary Sewer Master Plan Update	REV	None	-	-	-	75,000	-	-	-	-	-	-	-	75,000
5	Sanitary Sewer Master Plan Update	SDC	None	-	-	-	75,000	-	-	-	-	-	-	-	75,000
6	Ginger / Fawn Alley Sanitary Upgrade	REV	None	-	-	150,000	-	-	-	-	-	-	-	-	150,000
7	Fawn Street Sanitary Sewer Replacement	REV	None	-	-	68,000	-	-	-	-	-	-	-	-	68,000
8	Kodiak Covered Storage Bins	REV	None	-	-	-	-	5,000	5,000	-	10,000	-	-	-	20,000
9	Kodiak Carpet Replacement	REV	None	-	800	800	800	800	800	800	-	-	-	-	4,800
10	Kodiak Exterior Surface Seal	REV	None	-	5,000	-	-	-	-	-	-	-	-	-	5,000
11	Kodiak Round Room Demolition	REV	None	-	-	-	20,000	-	-	-	-	-	-	-	20,000
12	Equipment Replacement	REV	None	-	92,500	2,500	-	3,000	-	5,000	-	5,200	15,600	-	123,800
13	Vehicle Replacement	REV	None	-	-	-	250,000	17,500	501,250	8,750	8,750	35,000	300,000	-	1,121,250
14	Subtotal - Capital Projects			\$ 250,000	\$ 3,303,946	\$ 221,300	\$ 420,800	\$ 26,300	\$ 507,050	\$ 14,550	\$ 18,750	\$ 40,200	\$ 315,600	\$ -	\$ 5,118,496
<b>TOTAL SANITARY SEWER SYSTEM CAPITAL IMPROVEMENT PROGRAM</b>															
15				\$ 280,000	\$ 3,334,846	\$ 253,127	\$ 453,582	\$ 60,065	\$ 541,828	\$ 50,372	\$ 55,646	\$ 78,203	\$ 354,743	\$ 40,317	\$ 5,502,730
<b>FUNDING SOURCES</b>															
<b>SANITARY SEWER SYSTEM</b>															
16	Sanitary Sewer System Development Charges	SDC		\$ -	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75,000
17	Clean Water Services	CWS		250,000	3,205,646	-	-	-	-	-	-	-	-	-	3,455,646
18	User Rate Revenue	REV		30,000	129,200	253,127	378,582	60,065	541,828	50,372	55,646	78,203	354,743	40,317	1,972,084
19	<b>TOTAL SANITARY SEWER SYSTEM FUNDING SOURCES</b>			\$ 280,000	\$ 3,334,846	\$ 253,127	\$ 453,582	\$ 60,065	\$ 541,828	\$ 50,372	\$ 55,646	\$ 78,203	\$ 354,743	\$ 40,317	\$ 5,502,730

Table 2-7

City of Cornelius, Oregon  
Utility Rate Study  
Sanitary Sewer System

Projection of Fund Cash Balances and Interest Income

Line No.	Description	[1]	Fiscal Year Ending June 30,										
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>OPERATION AND MAINTENANCE FUND</b>													
1	Beginning Balance		\$ 721,025										
2	Adjustment for Open Purchase Orders		-										
3	Adjusted Beginning Balance		\$ 721,025	\$ 636,901	\$ 530,710	\$ 435,303	\$ 381,005	\$ 647,831	\$ 438,012	\$ 719,471	\$ 999,725	\$ 1,260,689	\$ 1,247,559
4	Transfers In - Grant Reimbursement		-	-	-	-	-	-	-	-	-	-	-
5	Transfers Out - Capital Improvement Program		-	-	-	-	-	-	-	-	-	-	-
6	Transfers Out - Renewal and Replacement Fund		-	-	-	-	-	-	-	-	-	-	-
7	Transfers In / (Out) - Surplus / (Deficiency)		(84,124)	(106,191)	(95,407)	(54,298)	266,826	(209,819)	281,458	280,255	260,964	(13,131)	300,236
8	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
9	Interest Income	US	7,210	6,369	5,307	4,353	3,810	6,478	4,380	7,195	9,997	12,607	12,476
	Recognition of Interest Earnings												
10	in Revenue Requirements		7,210	6,369	5,307	4,353	3,810	6,478	4,380	7,195	9,997	12,607	12,476
11	Ending Balance		\$ 636,901	\$ 530,710	\$ 435,303	\$ 381,005	\$ 647,831	\$ 438,012	\$ 719,471	\$ 999,725	\$ 1,260,689	\$ 1,247,559	\$ 1,547,795
<b>FIXED ASSET SANITARY SEWER FUND - SYSTEM DEVELOPMENT CHARGES</b>													
	Beginning Balance		\$ 1,229,765										
	Adjustment For Open Purchase Orders		-										
12	Adjusted Beginning Balance		\$ 1,229,765	\$ 1,321,912	\$ 1,395,303	\$ 1,409,256	\$ 1,347,973	\$ 1,361,453	\$ 1,375,067	\$ 1,388,818	\$ 1,402,706	\$ 1,416,733	\$ 1,430,901
13	Transfers In		79,452	59,872	-	-	-	-	-	-	-	-	-
14	Transfers In - Grant Funding		-	-	-	-	-	-	-	-	-	-	-
15	Transfers Out - Capital Improvement Program		-	-	-	75,000	-	-	-	-	-	-	-
16	Transfers Out - Payment of City Debt Service		-	-	-	-	-	-	-	-	-	-	-
17	Transfers Out - Developer Reimbursement		-	-	-	-	-	-	-	-	-	-	-
18	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
19	Interest Income	RS	\$ 12,695	\$ 13,518	\$ 13,953	\$ 13,718	\$ 13,480	\$ 13,615	\$ 13,751	\$ 13,888	\$ 14,027	\$ 14,167	\$ 14,309
	Recognition of Interest Earnings												
20	in Revenue Requirements		-	-	-	-	-	-	-	-	-	-	-
21	Ending Balance		\$ 1,321,912	\$ 1,395,303	\$ 1,409,256	\$ 1,347,973	\$ 1,361,453	\$ 1,375,067	\$ 1,388,818	\$ 1,402,706	\$ 1,416,733	\$ 1,430,901	\$ 1,445,210
<b>INTEREST INCOME</b>													
22	Unrestricted	US	\$ 7,210	\$ 6,369	\$ 5,307	\$ 4,353	\$ 3,810	\$ 6,478	\$ 4,380	\$ 7,195	\$ 9,997	\$ 12,607	\$ 12,476
23	Restricted	RS	\$ 12,695	\$ 13,518	\$ 13,953	\$ 13,718	\$ 13,480	\$ 13,615	\$ 13,751	\$ 13,888	\$ 14,027	\$ 14,167	\$ 14,309
24	Total		\$ 19,905	\$ 19,887	\$ 19,260	\$ 18,071	\$ 17,290	\$ 20,093	\$ 18,131	\$ 21,083	\$ 24,024	\$ 26,774	\$ 26,785

Footnotes:

- [1] US = Interest earnings unrestricted and assumed to be available to meet system expenditure requirements.
- RS = Interest earnings restricted and assumed to not be available to meet system expenditure requirements.

Table 2-8

City of Cornelius, Oregon  
Utility Rate Study  
Sanitary Sewer System

Projected Other Operating Revenues

Line No.	Revenue Code	Description	Escalation Reference	Fiscal Year Ending June 30,										
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SANITARY SEWER SYSTEM</b>														
1	3405	System Development Charges - Remit to Clean Water Services	Calculated	\$ 734,553	\$ 710,670	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2		User Rate Revenues - Remit to Clean Water Services	Calculated	1,732,234	1,828,429	1,927,267	2,030,390	2,137,966	2,250,169	2,367,180	2,489,186	2,616,383	2,748,971	2,887,159
3		Clean Water Services User Rate Revenues Retained By City	Calculated	339,246	358,085	377,442	397,638	418,706	440,680	463,596	487,490	512,401	538,367	565,431
4	3441	Industrial User Fee	Constant	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
5	3990	Allocated Revenue	Labor	46,366	47,322	48,742	50,204	51,710	53,261	54,859	56,505	58,200	59,946	61,744
6		Total Other Sanitary Sewer System Operating Revenue		<u>\$ 2,854,800</u>	<u>\$ 2,946,906</u>	<u>\$ 2,355,851</u>	<u>\$ 2,480,632</u>	<u>\$ 2,610,782</u>	<u>\$ 2,746,510</u>	<u>\$ 2,888,035</u>	<u>\$ 3,035,582</u>	<u>\$ 3,189,384</u>	<u>\$ 3,349,684</u>	<u>\$ 3,516,734</u>

Table 2-9

City of Cornelius, Oregon  
 Utility Rate Study  
 Sanitary Sewer System

Summary of Sources and Uses of Funds

Line No.	Description	Fiscal Year Ending June 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Unrestricted Cash Balances from Below	\$ 636,901	\$ 530,710	\$ 435,303	\$ 381,005	\$ 647,831	\$ 438,012	\$ 719,471	\$ 999,725	\$ 1,260,689	\$ 1,247,559	\$ 1,547,795
<b>OPERATION AND MAINTENANCE FUND AND RATE STABILIZATION FUND</b>												
<u>Sources of Funds</u>												
2	Water and Wastewater User Rate Revenue	\$ 401,381	\$ 513,805	\$ 657,329	\$ 840,353	\$ 859,177	\$ 877,901	\$ 896,725	\$ 915,549	\$ 934,273	\$ 953,097	\$ 971,921
3	Other Operating Revenue	2,854,800	2,946,906	2,355,851	2,480,632	2,610,782	2,746,510	2,888,035	3,035,582	3,189,384	3,349,684	3,516,734
4	Unrestricted Interest Income	7,210	6,369	5,307	4,353	3,810	6,478	4,380	7,195	9,997	12,607	12,476
5	Available Cash Balances	721,025	636,901	530,710	435,303	381,005	647,831	438,012	719,471	999,725	1,260,689	1,247,559
6	<b>Total Sources of Funds</b>	<b>\$ 3,984,416</b>	<b>\$ 4,103,981</b>	<b>\$ 3,549,197</b>	<b>\$ 3,760,641</b>	<b>\$ 3,854,774</b>	<b>\$ 4,278,721</b>	<b>\$ 4,227,153</b>	<b>\$ 4,677,796</b>	<b>\$ 5,133,380</b>	<b>\$ 5,576,077</b>	<b>\$ 5,748,689</b>
<u>Uses of Funds</u>												
7	Operating Expenses:	\$ 3,301,515	\$ 3,444,071	\$ 2,860,767	\$ 3,001,055	\$ 3,146,877	\$ 3,298,881	\$ 3,457,310	\$ 3,622,424	\$ 3,794,487	\$ 3,973,776	\$ 4,160,577
8	Capital Funded from Rates	30,000	129,200	253,127	378,582	60,065	541,828	50,372	55,646	78,203	354,743	40,317
9	Indirect Cost Allocations and Other Transfers	16,000	-	-	-	-	-	-	-	-	-	-
10	<b>Total Uses of Funds</b>	<b>\$ 3,347,515</b>	<b>\$ 3,573,271</b>	<b>\$ 3,113,894</b>	<b>\$ 3,379,636</b>	<b>\$ 3,206,943</b>	<b>\$ 3,840,709</b>	<b>\$ 3,507,682</b>	<b>\$ 3,678,071</b>	<b>\$ 3,872,690</b>	<b>\$ 4,328,519</b>	<b>\$ 4,200,895</b>
11	Ending Cash Balances	\$ 636,901	\$ 530,710	\$ 435,303	\$ 381,005	\$ 647,831	\$ 438,012	\$ 719,471	\$ 999,725	\$ 1,260,689	\$ 1,247,559	\$ 1,547,795
12	<b>Total Uses of Funds and Ending Cash Balances</b>	<b>\$ 3,984,416</b>	<b>\$ 4,103,981</b>	<b>\$ 3,549,197</b>	<b>\$ 3,760,641</b>	<b>\$ 3,854,774</b>	<b>\$ 4,278,721</b>	<b>\$ 4,227,153</b>	<b>\$ 4,677,796</b>	<b>\$ 5,133,380</b>	<b>\$ 5,576,077</b>	<b>\$ 5,748,689</b>
13	Difference Between Sources and Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>FIXED ASSET SANITARY SEWER FUND - SYSTEM DEVELOPMENT CHARGES</b>												
<u>Sources of Funds</u>												
14	Available Cash Balances	\$ 1,229,765	\$ 1,321,912	\$ 1,395,303	\$ 1,409,256	\$ 1,347,973	\$ 1,361,453	\$ 1,375,067	\$ 1,388,818	\$ 1,402,706	\$ 1,416,733	\$ 1,430,901
15	Transfers In - Sanitary Sewer System Development Charge	79,452	59,872	-	-	-	-	-	-	-	-	-
16	Interest Income	12,695	13,518	13,953	13,718	13,480	13,615	13,751	13,888	14,027	14,167	14,309
17	<b>Total Sources of Funds</b>	<b>\$ 1,321,912</b>	<b>\$ 1,395,303</b>	<b>\$ 1,409,256</b>	<b>\$ 1,422,973</b>	<b>\$ 1,361,453</b>	<b>\$ 1,375,067</b>	<b>\$ 1,388,818</b>	<b>\$ 1,402,706</b>	<b>\$ 1,416,733</b>	<b>\$ 1,430,901</b>	<b>\$ 1,445,210</b>
<u>Uses of Funds</u>												
18	Capital Projects	\$ -	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	<b>Total Uses of Funds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 75,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
20	Ending Cash Balances	\$ 1,321,912	\$ 1,395,303	\$ 1,409,256	\$ 1,347,973	\$ 1,361,453	\$ 1,375,067	\$ 1,388,818	\$ 1,402,706	\$ 1,416,733	\$ 1,430,901	\$ 1,445,210
21	<b>Total Uses of Funds and Ending Cash Balances</b>	<b>\$ 1,321,912</b>	<b>\$ 1,395,303</b>	<b>\$ 1,409,256</b>	<b>\$ 1,422,973</b>	<b>\$ 1,361,453</b>	<b>\$ 1,375,067</b>	<b>\$ 1,388,818</b>	<b>\$ 1,402,706</b>	<b>\$ 1,416,733</b>	<b>\$ 1,430,901</b>	<b>\$ 1,445,210</b>
22	Difference Between Sources and Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Table 2-10  
City of Cornelius, Oregon**

**Comparison of Typical Monthly Residential Bills for Sanitary Sewer Service**

Line No.	Description	Residential Service for a 5/8" or 3/4" Meter								
		WASTEWATER FLOW [1]								
		0 Gallons (0 cubic feet)	2,000 Gallons (267 cubic feet)	4,000 Gallons (535 cubic feet)	6,000 Gallons [2] (802 cubic feet)	8,000 Gallons (1,069 cubic feet)	10,000 Gallons (1,337 cubic feet)	15,000 Gallons (2,005 cubic feet)	20,000 Gallons (2,674 cubic feet)	25,000 Gallons (3,342 cubic feet)
<b>City of Cornelius, Oregon</b>										
1	Existing Sanitary Sewer Rates - Effective July 1, 2018	\$37.14	\$42.30	\$47.46	\$52.62	\$57.78	\$62.94	\$75.84	\$88.74	\$101.64
2	Proposed Sanitary Sewer Rates - Effective July 1, 2019	40.06	45.37	50.69	56.00	61.32	66.63	79.92	93.21	106.50
3	Difference - Amount	2.92	3.07	3.23	3.38	3.54	3.69	4.08	4.47	4.86
4	Difference - Amount	7.9%	7.3%	6.8%	6.4%	6.1%	5.9%	5.4%	5.0%	4.8%
<b>Other Oregon Utilities:</b>										
5	City of Beaverton	\$30.67	\$36.10	\$41.53	\$46.95	\$52.38	\$57.81	\$71.38	\$84.95	\$98.52
6	City of Canby	46.20	46.20	46.20	46.20	46.20	46.20	46.20	46.20	46.20
7	City of Carlton	44.74	58.54	72.33	86.13	99.93	113.72	148.22	182.71	217.20
8	City of Dundee	69.46	69.46	69.46	92.29	116.59	140.90	201.66	262.42	323.18
9	City of Forest Grove	33.29	38.45	43.61	48.77	53.93	59.09	71.99	84.89	97.79
10	City of Hillsboro [3]	30.18	35.53	40.88	46.22	51.57	56.92	70.29	83.66	97.02
11	City of Molalla	38.14	48.25	58.35	68.46	78.57	88.67	113.94	139.21	164.48
12	City of Mt. Angel	45.48	45.48	45.48	45.48	45.48	45.48	45.48	45.48	45.48
13	City of Newberg	26.16	49.29	72.42	95.55	118.67	141.80	199.62	257.44	315.26
14	City of North Plains	29.16	34.32	39.48	44.64	49.80	54.96	67.86	80.76	93.67
15	City of Portland	42.92	42.92	42.92	42.92	42.92	42.92	42.92	42.92	42.92
16	City of Salem [3]	14.88	24.21	33.54	42.87	52.21	61.54	84.87	108.20	131.52
17	City of Sherwood	30.99	36.36	39.05	39.05	39.05	39.05	39.05	39.05	39.05
18	City of Silverton [3]	23.44	41.27	59.11	76.94	94.78	112.61	157.20	201.78	246.37
19	City of Stayton	58.59	58.59	58.59	58.59	58.59	58.59	58.59	58.59	58.59
20	City of Tigard	32.96	38.39	43.82	49.24	54.67	60.10	73.67	87.24	100.81
21	City of Tualatin	30.06	35.40	40.73	46.07	51.41	56.74	70.09	83.43	96.77
22	City of Woodburn [3]	44.64	44.64	47.65	70.78	93.90	117.03	174.85	232.67	290.49
23	Other Oregon Utilities Average	\$37.33	\$43.52	\$49.73	\$58.18	\$66.70	\$75.23	\$96.55	\$117.87	\$139.18
24	Minimum	14.88	24.21	33.54	39.05	39.05	39.05	39.05	39.05	39.05
25	Maximum	69.46	69.46	72.42	95.55	118.67	141.80	201.66	262.42	323.18

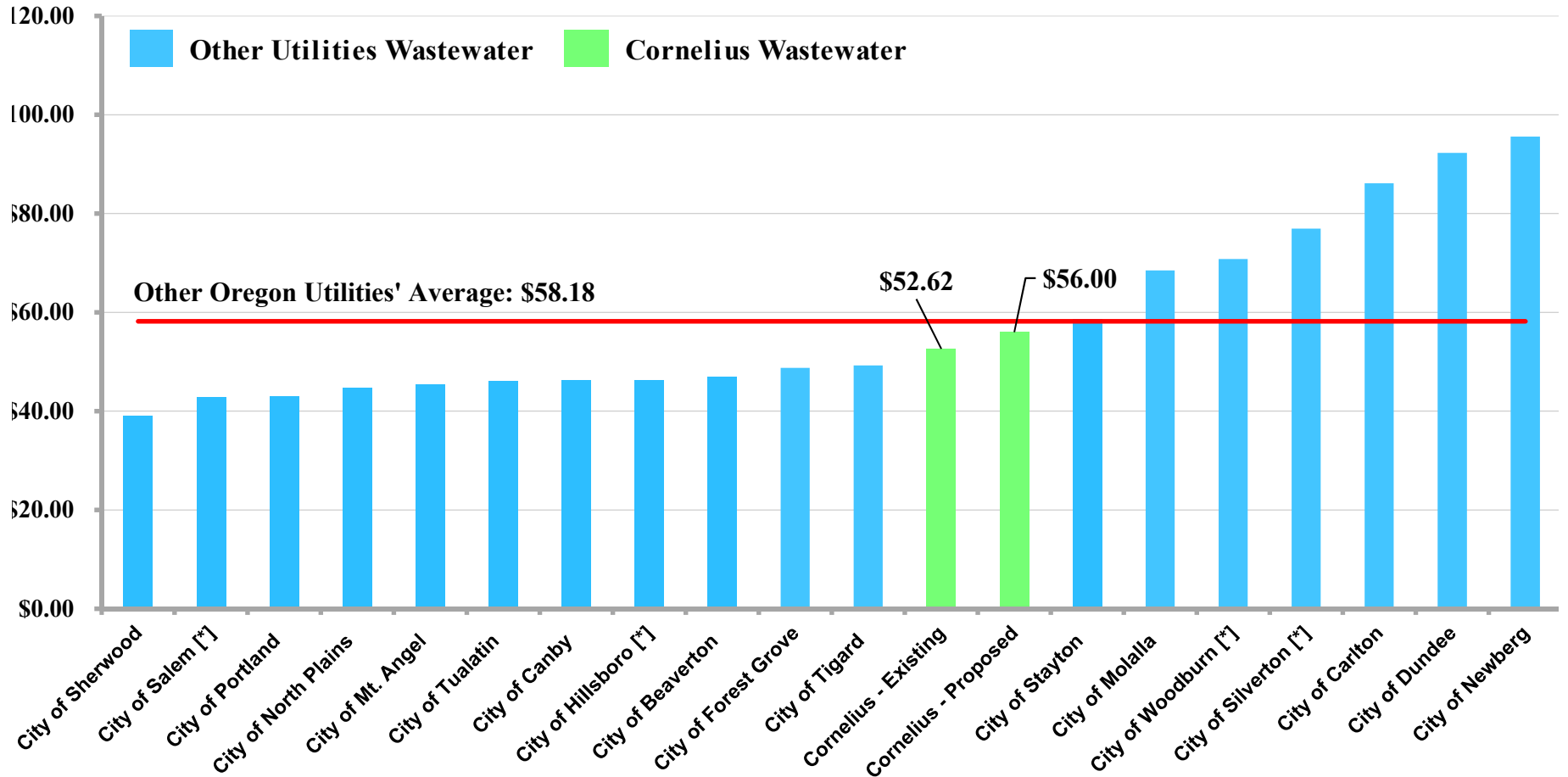
Footnotes:

[1] Amounts reflect bills under single family residential user rates in effect April 2019 and do not include any taxes, franchise fees, or water restriction surcharges, if any. These bills also reflect rates charged to customers within the municipal borders (e.g., no outside-municipality surcharges, if applied, are included in the bill comparison).

[2] Reflects historical average usage of a typical single family residential customer with both water and sewer service within the service area of the City of Cornelius utility system.

[3] Utility is currently involved in a rate study, is planning to conduct a rate study, or plans to implement a rate revision within the next twelve months following the comparison preparation date.

**Figure 2-1**  
**City of Cornelius, Oregon**  
**Comparison of Monthly Charges for**  
**Sanitary Sewer Service for Single Family Residential Customers**  
**Using 6,000 Gallons (802 Cubic Feet)**







**SECTION 3**  
**Surface Water Management System**  
**Financial Forecast And User Rate Design**

## SECTION 3:

# SURFACE WATER MANAGEMENT SYSTEM FINANCIAL FORECAST AND USER RATE DESIGN

### 3-1: Surface Water Management System – Overview

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The City's surface water management system consists of catch basins and approximately 19 miles of underground stormwater pipes. Stormwater flows empty into either a wetlands or the Tualatin River. Clean Water Services has jurisdiction over portions of the City's surface water management system.

### 3-2: Existing Surface Water Management Monthly User Rates

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The City's current monthly surface water management user rates have been in effect since July 1, 2018. Resolution No. 2018-18 (the "Rate Resolution"), which was adopted by the Cornelius City Council (the "Council") on June 4, 2018, established the existing monthly user rates. The existing surface water management rates include:

- A constant base fee per equivalent surface unit ("ESU") that is established by Clean Water Services. Under its service arrangement with Clean Water Services, the City keeps 74.971% of the revenues collected under this fee and remits the remainder to Clean Water Services.
- A constant base fee per ESU that is established by the City. The City keeps 100% of the revenues collected under this fee.

Table ES-2 in the executive summary section of this report shows the existing monthly surface water management user rates charged to all customers.

A copy of the existing Rate Resolution is contained in Appendix A at the end of this report.

### 3-3: Surface Water Management System Customer Statistics

As discussed in Section 1 of this report, the population of the City has not grown significantly over the past few years. However, there has been recent development activity, and the City expects approximately 1,200 single family residential units to connect to the surface water management system (as well as the water system and sanitary sewer system) over the next several years.

During the Fiscal Year 2018, it is estimated that the City provided surface water management service to an average of 2,963 surface water management accounts and 5,895 surface water management ESUs as shown in Table 3-1 at the end of this section. Based on discussions with the City staff, the following Exhibit 3-1 indicates the assumed customer growth for the sanitary system during the Forecast Period that is further detailed in Table 3-1 at the end of this section:

**Exhibit 3-1: Projected Surface Water Management System Customer Statistics [\*]**

Fiscal Year Ending June 30, (Projected)	Surface Water Management Customers		Equivalent Surface Units (ESUs)
	Accounts	Change in Accounts	
2018 (historical)	2,963		5,895
2019	2,988	25	5,920
2020	3,088	100	6,020
2021	3,188	100	6,120
2022	3,288	100	6,220
2023	3,388	100	6,320
2024	3,488	100	6,420
2025	3,588	100	6,520
2026	3,688	100	6,620
2027	3,788	100	6,720
2028	3,888	100	6,820
2029	3,988	100	6,920
Compound Annual Growth Rate:			
2018- 2029	2.74%		1.47%
2019 - 2029	<u>2.93%</u>		<u>1.57%</u>

[\*] Amounts shown derived from Table 3-1.

As can be seen in the preceding table, it has been assumed for the purposes of developing the financial projections that the City's sanitary system retail customer base would increase by over 2.5% annually during the Forecast Period from the Fiscal Year 2019 to the end of Fiscal Year 2029, or 100 accounts per year. This growth is due to the new residential development discussed previously. Each new home is assumed to have one (1) ESU.

### 3-4: Revenues Under Existing Monthly Surface Water Management Rates

The forecast of revenues from existing surface water management rates was based on: i) the projection of surface water management system ESUs as shown in Table 3-1; and ii) the existing rates for monthly surface water management service as currently adopted by the City and Clean Water Services. For purposes of the financial forecast, it was assumed that Clean Water Services would continue to increase their stormwater base fee by \$0.50 per year. A summary of the estimated surface water management system rate revenues derived under existing rates is included in Table 3-2 at the end of this section. The projected surface water management system rate revenues by fiscal year based on the previously discussed sales forecast is summarized in the following Exhibit 3-2:

**Exhibit 3-2: Projected Rate Revenues Under Existing Monthly Surface Water Management Rates [\*]**

Fiscal Year Ending June 30, (Projected)	Clean Water Services Base Fee Revenue	City Base Fee Revenue	Total Surface Water Management Revenue	Surface Water Management Revenue Retained By City
2018 (actual)	\$ 583,573	\$ 381,975	\$ 965,548	\$ 819,485
2019	621,566	383,595	1,005,161	849,589
2020	668,184	390,075	1,058,259	891,019
2021	716,002	396,555	1,112,557	933,349
2022	765,020	403,035	1,168,055	976,578
2023	815,238	409,515	1,224,753	1,020,707
2024	866,656	415,995	1,282,651	1,065,736
2025	919,274	422,475	1,341,749	1,111,664
2026	973,092	428,955	1,402,047	1,158,492
2027	1,028,110	435,435	1,463,545	1,206,219
2028	1,084,328	441,915	1,526,243	1,254,847
2029	1,141,746	448,395	1,590,141	1,304,374
Compound Annual Growth Rate:				
2018 - 2029	6.29%	1.47%	4.64%	4.32%
2019 - 2029	6.27%	1.57%	4.69%	4.38%

[\*] Amounts shown derived from Table 3-2.

As shown in the preceding table, in the absence of any rate adjustments to the City-adopted surface water management rate per EDU, sanitary sewer revenue retained by the City is projected to increase by over 4% per year as a result of the new development activity and assumed increases in the Clean Water Services surface water management rates.

### 3-5: Revenue Requirements – Principal Assumptions and Considerations

The costs associated with operating and maintaining a utility system, as well as the costs of financing the renewals and replacements of existing facilities and the capital improvements for upgrades and expansions, are generally considered to be the revenue requirements of public utilities such as the City's. The sum of these costs, after adjusting for other operating and non-operating (e.g., interest income, system development charges available to pay expansion-related debt service) revenues available to the utility, represents the net revenue requirements of a utility system that must be funded from the monthly user charges or rates. The following is a summary of the net revenue requirement derivation:

+ Cost of Operation and Maintenance
+ Debt Service Payments (Senior and Subordinate)
+ Transfers and Administration Payments
+ Capital Project Financing
+ Working Capital Reserves / Financial Compliance
- Other Operating Revenue and Other Funding Sources
- Interest Income
<u>= Net Revenue Requirements (Funded from User Rates)</u>

Net revenue requirements signify the expenditure levels required to be recovered from monthly user fees or rates. The development of the net revenue requirements of the system is a critical component of the analysis since utility rates should be designed to fully recover the cost of providing service.

The financial evaluation contained in this utility rate analysis covered projections for the 11 fiscal year period of October 1, 2018 through June 30, 2029 (previously defined as the "Forecast Period"). A forecast of surface water management system operations was prepared in order to: i) assess the adequacy of utility rates in the near future; ii) recognize potential cost recovery strategies based on the phase-in of any required rate adjustments to meet the projected revenue requirements and finance identified capital expenditure requirements; and iii) examine the financial implications of alternatives to funding the surface water system's multi-year capital improvement program.

The projected revenue requirements for the surface water management system are shown in Table 3-3 at the end of this section. In the preparation of the financial projections contained in this report and the conclusions that follow, GovRates has made certain assumptions with respect to conditions that may occur in the future. While we believe the assumptions are reasonable and based on the best available information for the purpose of this report, they are dependent upon future events and actual conditions may differ from those assumed. We recommend that the City continue to compare actual results with the projections contained in this report to ensure that the surface water management utility's rates continue to be sufficient.

For the purposes of the financial projections, the principal considerations and assumptions were either made by us or provided to us and include the following:

1. Projected revenues from current rates and charges for the City’s surface water management system have been based on the schedule of rates and charges currently in effect and as set forth in the Rate Resolution. Such rates were applied to the customer and sales usage forecast discussed previously. As previously mentioned, it was assumed that Clean Water Services would continue to increase their surface water management base rate by \$0.50 annually.
2. The City collects a City-adopted system development charge ("SDC"), of which the City retains 100% of the revenue stream. The Cornelius SDCs were assumed to be utilized for funding growth-related capital projects or growth-related debt service. The assumed SDC collections were based on discussions with City staff and are summarized in the following Exhibit 3-3:

**Exhibit 3-3: Projected Surface Water Management System Development Charge Collections**

Fiscal Year Ending June 30, (Projected)	City of Cornelius SDCs	Amount Retained by City
2018 (actual)	\$ 23,607	\$ 23,607
2019	181,053	181,053
2020	192,808	192,808
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
2026	0	0
2027	0	0
2028	0	0
2029	0	0

3. The adopted Fiscal Years 2019 and 2020 operating and capital budgets as provided by the City served as the baseline for the expenditure projections for the remainder of the Forecast Period and the underlying assumptions contained in these budgets were considered to be reasonable and to reflect anticipated operations. The budgeted operating expenses were compared with actual historical results and trends in operating expenses.
4. Table 3-4 at the end of this section summarizes: i) the budgeted Fiscal Year 2019 and Fiscal Year 2020 operations and maintenance expenses for the surface water management system; and ii) the adjustments made to the forecast for known operational and ratemaking considerations.
5. The operation and maintenance expenses for the surface water management system identified for the Fiscal Year 2020 were projected for the remaining nine (9) years of the Forecast Period (through Fiscal Year 2029). These projections are displayed on Table 2-5 at the end of this section. The escalation factors utilized in the analysis were based on the nature of the expense and information

provided by the City staff. The forecast of inflation was based upon the consumer price index ("CPI") forecast prepared by the Congressional Budget Office as contained in "The Budget and Economic Outlook: 2019 to 2029" published in January 2019 and ranges from 2.3% to 2.6% per year. This inflation forecast was compared to other pricing indices used by many utilities for financial forecasting and rate review purposes. Major cost escalation factors assumed were based on discussions with City staff and include:

- Salaries and Wages: 3.0% per year
- Health Insurance: 5.0% per year
- Repair and Maintenance Expenses: 4.0% per year
- InLieu Franchise to General Fund: Based on Labor (3.0% per year)
- Allocated Expenses – General Fund: 3.0% per year
- Allocated Expenses – ISF Fund: 3.0% per year
- Allocated Expenses – Utility Funds: 3.0% per year

6. Based on discussions with City staff, no additional personnel above Fiscal Year 2020 budgeted levels were assumed during the Forecast Period for the surface water management system.
7. Intergovernmental services expenses represent one of the largest operating expenses for the surface water management system and consist of: i) the Clean Water Services portion of the user rate revenues; and ii) an annual fee to Clean Water Services for material recovery. The projected intergovernmental services expenses are summarized in the following Exhibit 3-4:

**Exhibit 3-4: Projection of Intergovernmental Services Expenses**

Fiscal Year Ending June 30, (Projected)	Clean Water Services Portion of User Rate Revenue	Annual Fee to Clean Water Services for Material Recovery	Total Intergovernmental Services Expense
2019	\$ 155,572	\$ 12,500	\$ 168,072
2020	167,240	12,500	179,740
2021	179,208	12,875	192,083
2022	191,477	13,261	204,738
2023	204,046	13,659	217,705
2024	216,915	14,069	230,984
2025	230,085	14,491	244,576
2026	243,555	14,926	258,481
2027	257,326	15,373	272,699
2028	271,397	15,835	287,231
2029	285,768	16,310	302,077

8. In the projection of the estimated expenditure requirements, a contingency allowance has been included for Fiscal Years 2020 through 2029. The contingency allowance assumed for the development of the projected revenue requirements represents approximately 1.0% of the total surface water management operating expenses and for the Fiscal Year 2020 was estimated to be

approximately \$9,700. This annual allowance has been included as an operating expense in order to have additional funds to meet unknown or unplanned expenses throughout the fiscal year and to recognize potential changes in revenues that may result. To the extent the contingency allowance is not required to meet annual operating expenses or provide funds for ongoing system operations, such monies would accrue to the benefit of the surface water management system and could be used for other purposes such as funding renewals, replacements, and upgrades to the sanitary sewer system over time.

9. An allowance for bad debt expenses has been made to recognize that a certain amount of revenues will be considered as uncollectible and written off throughout the year. This expenditure item reflects an incremental adjustment to each year’s operating expenses and was estimated at 0.25% of user rate revenue.
10. For the purposes of this analysis, amounts associated with depreciation and amortization expenses have not been recognized. These expenditures are non-cash in nature and are also not considered as operating expenses for ratemaking purposes. Therefore, such amounts have not been recognized as a revenue requirement to be recovered from rates for the Forecast Period. It should be noted that an allowance for the funding of capital projects, renewals and replacements, and/or reserves has been recognized which essentially provides for the cash funding of these expenses.
11. The surface water management system currently has no debt outstanding, and no additional borrowing is currently assumed during the Forecast Period.
12. The projected 11-year capital expenditures (i.e., through the Fiscal Year ending June 30, 2029) for the surface water management system were based on discussions with the City staff. Table 3-6 at the end of this section provides a detailed listing of the capital projects for the surface water management system as well as projected funding sources for such projects within the analysis period. The capital improvement program ("CIP") funding plan is summarized in the following Exhibit 3-5:

**Exhibit 3-5: Assumed Capital Improvement Program Funding Plan**

Funding Source	Surface Water Management System	
	Amount	Percent
User Rate Revenues	\$ 264,850	100.0%
Total	264,850	100.0%

[\*] Derived from Table 3-6.

As shown in the preceding table, the multi-year capital improvement program was assumed to be funded entirely from user rate revenues.

13. Interest income has been recognized as an available revenue source to fund the expenditure needs of the surface water management system. For the Forecast Period, interest income was based on estimated balances in unrestricted funds. Thus, for the determination of the revenue requirements



from rates, no earnings have been reflected on balances in the system development charge fund or in any construction fund established from proceeds derived from the issuance of debt obligations to fund capital projects. Although the restricted earnings are available for capital project funding, the earnings are not being considered as being available to fund utility operating expenses since such earnings are restricted to the account. As such, the earnings on the restricted funds are not included in the development of the net revenue requirements of the City's surface water management system.

In the development of the estimated interest earnings, an average interest rate of 1.00% was assumed to be earned on the estimated average fund balances during the Forecast Period. This interest rate is based on recent earning performance results of the utility and discussions with the City staff.

Table 3-7 at the end of this section contains the projection of fund balances and interest income.

14. The City receives other operating revenues from miscellaneous charges for specific customer service requests or needs which serve to reduce rate revenue requirements. For the purpose of the surface water system rate analysis, any revenue stream over which the City has no control has been classified as "other operating revenue." Other operating revenue for purposes of the surface water management system rate analysis includes the Clean Water Services portion of the user rate revenues, the Clean Water Services user rate revenue retained by the City, miscellaneous fees, and allocated revenue (reimbursements from other funds for services provided on behalf of such funds). Such amounts were projected through the Forecast Period based on a review of historical trends, the projected growth in customers to be served and rate revenues, and discussions with City staff.

Table 3-8 at the end of this section contains the projection of other operating revenues.

### **3-6: Summary of Surface Water Management Revenue Requirements Analysis**

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As shown on Table 3-3 at the end of this section, no annual rate increases in the City base charge per ESU have been recognized for the surface water management system. However, as discussed previously, it has been assumed that Clean Water Services would continue to adjust their fees per ESU, of which the City retains about 75% of the revenue stream. The recognized adjustments are based on the assumptions discussed throughout this report.

### **3-7: Projected Sources and Uses of Funds**

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To provide additional information to the City, a summary of the projected sources and uses of funds for each of the surface water management system's major funds is shown in Table 3-9 at the end of this section. The projected sources equal the projected uses.

### 3-8: Bill Comparisons – Neighboring Utilities

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In order to provide the City with additional information regarding the current rates charged for service, a comparison of the City's existing and proposed surface water management rates with charges for similar service by 18 neighboring Oregon utilities has been made. For purposes of the comparison, the City and Clean Water Services rates for Cornelius are combined.

It should be noted that when making a comparison of the rates charged by other utilities, several factors have an effect on the level of rates charged. These factors may include, but are not limited to, the following:

1. Infrastructure age and assistance in the funding of such infrastructure by federal grants, system development charges, etc.;
2. Overall size of the customer base (economies of scale) served as well as the type of customers served;
3. Geographic density of the customer base (utilities with many high-density multifamily customers may have lower unit costs);
4. General fund and administrative fee transfers made by municipal and county systems which may account for differences in level of rates charged;
5. Bond covenants and funding requirements of the rates; and
6. Level of capital improvements required to meet service area needs, including the construction of growth-related assets in relation to service area expansion.

For the utilities included in the rate comparison on Table 3-10 at the end of this section, no analysis has been made of the above-mentioned factors as they relate to the reported surface water management rates currently being charged by the other utilities surveyed for the purposes of this analysis. However, the proposed surface water management rates of the City produce bills that are comparable with those of neighboring utilities.

Figure 3-1 at the end of this section show graphical comparisons of how bills under the proposed Fiscal Year 2020 rates compare with those of other "neighboring" utilities for a single family residential customer. As indicated in Figure 3-1, three (3) utilities – the City of Sherwood, the City of Salem, and the City of Portland currently charge more for surface water management service than what the City would charge under the Fiscal Year 2020 proposed rates.

**Table 3-1**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Surface Water Management System**

**Summary of Historical and Projected Surface Water Management Customer Statistics**

Line No.	Description	Rate Code	Fiscal Year Ending June 30,											
			Historical 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SURFACE WATER MANAGEMENT</b>														
Customers														
1	Growth - Storm Drain Rate - Clean Water Services	SD1		25	100	100	100	100	100	100	100	100	100	100
2	Growth - Storm Drain Rate - City	SD2		25	100	100	100	100	100	100	100	100	100	100
Equivalent Surface Units														
3	Growth - Storm Drain Rate - Clean Water Services	SD1		25	100	100	100	100	100	100	100	100	100	100
4	Growth - Storm Drain Rate - City	SD2		25	100	100	100	100	100	100	100	100	100	100
Total Customers - Average Monthly														
5	Clean Water Services	SD1	2,963	2,988	3,088	3,188	3,288	3,388	3,488	3,588	3,688	3,788	3,888	3,988
6	City	SD2	2,963	2,988	3,088	3,188	3,288	3,388	3,488	3,588	3,688	3,788	3,888	3,988
Total Equivalent Surface Units - Average Monthly														
7	Equivalent Surface Units - Clean Water Services	SD1	5,895	5,920	6,020	6,120	6,220	6,320	6,420	6,520	6,620	6,720	6,820	6,920
8	Equivalent Surface Units - City	SD2	5,895	5,920	6,020	6,120	6,220	6,320	6,420	6,520	6,620	6,720	6,820	6,920

**Table 3-2**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Surface Water Management System**

**Projected Surface Water Management Rate Revenues Under Existing Rates**

Line No.	Description	Rate Code	Historical	Fiscal Year Ending September 30.										
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SURFACE WATER MANAGEMENT</b>														
<b>Base Fees</b>														
1	Base Fee - Storm Drain Rate - Clean Water Services		\$ 8.25	\$ 8.75	\$ 9.25	\$ 9.75	\$ 10.25	\$ 10.75	\$ 11.25	\$ 11.75	\$ 12.25	\$ 12.75	\$ 13.25	\$ 13.75
2	Monthly Equivalent Surface Units - Clean Water Services		5,895	5,920	6,020	6,120	6,220	6,320	6,420	6,520	6,620	6,720	6,820	6,920
3	Total Base Fee - Storm Drain Rate - Clean Water Services Revenue - Annual	SW1	\$ 583,573	\$ 621,566	\$ 668,184	\$ 716,002	\$ 765,020	\$ 815,238	\$ 866,656	\$ 919,274	\$ 973,092	\$ 1,028,110	\$ 1,084,328	\$ 1,141,746
4	Base Fee - Storm Drain Rate - City		\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40
5	Monthly Equivalent Surface Units - City		5,895	5,920	6,020	6,120	6,220	6,320	6,420	6,520	6,620	6,720	6,820	6,920
6	Total Base Fee - Storm Drain Rate - City Revenue - Annual	SW2	\$ 381,975	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395
7	<b>TOTAL SURFACE WATER MANAGEMENT REVENUE -</b>		\$ 965,548	\$ 1,005,161	\$ 1,058,259	\$ 1,112,557	\$ 1,168,055	\$ 1,224,753	\$ 1,282,651	\$ 1,341,749	\$ 1,402,047	\$ 1,463,545	\$ 1,526,243	\$ 1,590,141
8	Revenue Adjustment		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	<b>ADJUSTED TOTAL SURFACE WATER MANAGEMENT REVENUE</b>		\$ 965,548	\$ 1,005,161	\$ 1,058,259	\$ 1,112,557	\$ 1,168,055	\$ 1,224,753	\$ 1,282,651	\$ 1,341,749	\$ 1,402,047	\$ 1,463,545	\$ 1,526,243	\$ 1,590,141
<b>Adjusted Revenue By Rate Code:</b>														
10	Base Fee - Storm Drain Rate - Clean Water Services	SW1	\$ 583,573	\$ 621,566	\$ 668,184	\$ 716,002	\$ 765,020	\$ 815,238	\$ 866,656	\$ 919,274	\$ 973,092	\$ 1,028,110	\$ 1,084,328	\$ 1,141,746
11	Base Fee - Storm Drain Rate - City	SW2	381,975	383,595	390,075	396,555	403,035	409,515	415,995	422,475	428,955	435,435	441,915	448,395
12	Total Adjusted Revenue		\$ 965,548	\$ 1,005,161	\$ 1,058,259	\$ 1,112,557	\$ 1,168,055	\$ 1,224,753	\$ 1,282,651	\$ 1,341,749	\$ 1,402,047	\$ 1,463,545	\$ 1,526,243	\$ 1,590,141
<b>City Percentage of Revenues By Rate Code:</b>														
13	Base Fee - Storm Drain Rate - Clean Water Services	SW1	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%	74.971%
14	Base Fee - Storm Drain Rate - City	SW2	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
15	<b>Total City Revenue</b>		\$ 819,485	\$ 849,589	\$ 891,019	\$ 933,349	\$ 976,578	\$ 1,020,707	\$ 1,065,736	\$ 1,111,664	\$ 1,158,492	\$ 1,206,219	\$ 1,254,847	\$ 1,304,374
16	City Revenue Under City Control		\$ 381,975	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395
17	Clean Water Services User Rate Rate Revenues Retained By City (Other Operating Revenue)		437,510	465,994	500,944	536,794	573,543	611,192	649,741	689,189	729,537	770,785	812,932	855,979
18	Total		\$ 819,485	\$ 849,589	\$ 891,019	\$ 933,349	\$ 976,578	\$ 1,020,707	\$ 1,065,736	\$ 1,111,664	\$ 1,158,492	\$ 1,206,219	\$ 1,254,847	\$ 1,304,374
19	<b>Rate Revenue Amount Due to Clean Water Services</b>		\$ 146,062	\$ 155,572	\$ 167,240	\$ 179,208	\$ 191,477	\$ 204,046	\$ 216,915	\$ 230,085	\$ 243,555	\$ 257,326	\$ 271,397	\$ 285,768

Table 3-3

City of Cornelius, Oregon  
Utility Rate Study  
Surface Water Management System

Development of Net Revenue Requirements from User Rates and Projected Revenue Adjustments - Surface Water Management System

Line No.	Description	Fiscal Year Ending June 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Expenses												
1	Personnel Services	\$ 203,739	\$ 209,365	\$ 217,328	\$ 225,614	\$ 234,237	\$ 243,211	\$ 252,552	\$ 262,276	\$ 272,398	\$ 282,937	\$ 293,910
2	Materials and Services	290,338	328,719	346,221	364,214	382,709	401,708	421,219	441,254	461,819	482,923	504,579
3	Transfers and Allocations	431,332	427,506	445,896	465,089	485,119	506,023	527,840	550,611	574,376	599,181	625,070
4	Contingency and Bad Debt Expense	959	10,631	11,086	11,557	12,044	12,549	13,072	13,614	14,175	14,755	15,357
5	Total Operating Expenses	\$ 926,368	\$ 976,221	\$ 1,020,531	\$ 1,066,474	\$ 1,114,109	\$ 1,163,491	\$ 1,214,684	\$ 1,267,754	\$ 1,322,768	\$ 1,379,796	\$ 1,438,916
Other Revenue Requirements												
6	Capital Funded from Rates	\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -
7	Library Capital Project Transfer	16,000	-	-	-	-	-	-	-	-	-	-
8	Total Other Revenue Requirements	\$ 20,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -
9	Gross Revenue Requirements	\$ 946,368	\$ 1,048,021	\$ 1,068,831	\$ 1,112,274	\$ 1,140,409	\$ 1,178,041	\$ 1,229,234	\$ 1,286,504	\$ 1,327,968	\$ 1,395,396	\$ 1,438,916
Less Income and Funds from Other Sources												
10	Other Operating Revenue	\$ 675,132	\$ 725,544	\$ 775,083	\$ 825,873	\$ 877,917	\$ 931,215	\$ 985,770	\$ 1,041,583	\$ 1,098,656	\$ 1,156,990	\$ 1,216,588
11	Unrestricted Interest Income	6,626	7,816	8,570	9,684	10,947	12,527	14,344	16,277	18,280	20,524	22,765
12	Net Revenue Requirements	\$ 264,610	\$ 314,661	\$ 285,178	\$ 276,717	\$ 251,545	\$ 234,299	\$ 229,120	\$ 228,643	\$ 211,032	\$ 217,882	\$ 199,563
Revenue from Existing Rates												
13	Sanitary System Rate Revenue - Cornelius Portion	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395
14	Prior Year Rate Adjustment	-	-	-	-	-	-	-	-	-	-	-
15	Total Applicable Rate Revenue	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395
16	Rate Adjustments	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Effective Months	12	12	12	12	12	12	12	12	12	12	12
18	Percent of Current Year Effective	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
19	Revenue from Current Rate Adjustment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Total Rate Revenue	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395
21	Revenue Surplus/(Deficiency) Under Proposed Rates	\$ 118,985	\$ 75,414	\$ 111,377	\$ 126,318	\$ 157,970	\$ 181,695	\$ 193,355	\$ 200,311	\$ 224,403	\$ 224,033	\$ 248,832

**Table 3-4**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Surface Water Management System**

Surface Water Management System Historical and Budgeted Expenditures

Line No.	Division Code	Expense Code	Description	Operating Expense? (Yes/No)	Actual Fiscal Year 2014	Actual Fiscal Year 2015	Actual Fiscal Year 2016	Actual Fiscal Year 2017	Audited Fiscal Year 2018	Difference		Budgeted Fiscal Year 2019	Adjusted Fiscal Year 2019	Budgeted Fiscal Year 2020	Adjusted Fiscal Year 2020	Average Annual Rates of Change							
										Amount	Percentage					5-Year Actual 2014 to 2018	3-Year Actual 2016 to 2018	1-Year Actual 2017 to 2018	Budgeted 2018 to 2019	Adjusted 2018 to 2019	Adjusted 2019 to 2020		
<b>Personnel Services</b>																							
1	04	4100	Salaried	Yes	\$ 104,753	\$ 100,012	\$ 107,920	\$ 109,165	\$ 114,103	\$ 5,436	4.8%	\$ 119,539	\$ -	\$ 119,539	\$ 122,261	\$ 122,261	2.2%	2.8%	4.5%	4.8%	4.8%	2.3%	
2	04	4200	Hourly	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	
3	04	4300	Overtime	Yes	1,977	2,501	1,652	1,965	1,552	1,449	93.4%	3,000	-	3,000	3,000	3,000	-5.9%	-3.1%	-21.1%	93.4%	93.4%	0.0%	
4	04	4500	Fringe Benefits	Yes	58,554	49,345	69,699	75,755	81,867	(667)	-0.8%	81,200	-	81,200	84,104	84,104	8.7%	8.4%	8.1%	-0.8%	-0.8%	3.6%	
5	04	AddPers	Additional Personnel	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	
6			<b>Total Personnel Services</b>		\$ 165,284	\$ 151,858	\$ 179,271	\$ 186,886	\$ 197,521	\$ 6,218	3.1%	\$ 203,739	\$ -	\$ 203,739	\$ 209,365	\$ 209,365	4.6%	5.0%	5.7%	3.1%	3.1%	2.8%	
<b>Materials and Services</b>																							
7	04	5050	Operational Supplies	Yes	\$ 11,504	\$ 11,768	\$ 16,715	\$ 15,835	\$ 14,906	\$ 9,294	62.4%	\$ 24,200	\$ -	\$ 24,200	\$ 25,060	\$ 25,060	6.7%	-5.6%	-5.9%	62.4%	62.4%	3.6%	
8	04	5100	Equipment - O&M	Yes	29,630	16,574	17,878	22,480	24,252	10,748	44.3%	35,000	-	35,000	45,000	45,000	-4.9%	16.5%	7.9%	44.3%	44.3%	28.6%	
9	04	5250	Dues, Education, Training	Yes	591	1,281	54	912	467	783	167.5%	1,250	-	1,250	1,250	1,250	-5.7%	194.2%	-48.8%	167.5%	167.5%	0.0%	
10	04	5350	Professional Services	Yes	6,554	8,500	75	235	3,720	5,780	155.4%	9,500	-	9,500	22,500	22,500	-13.2%	604.3%	1483.0%	155.4%	155.4%	136.8%	
11	04	5400	Uniforms and Protective Gear	Yes	1,150	1,053	893	1,717	1,437	788	54.8%	2,225	-	2,225	1,550	1,550	5.7%	26.9%	-16.3%	54.8%	54.8%	-30.3%	
12	04	5500	Intergovernmental Services	Yes	108,864	125,609	127,491	136,402	145,117	23,383	16.1%	168,500	(428)	168,072	204,500	(24,760)	179,740	7.5%	6.7%	6.4%	16.1%	15.8%	6.9%
13	04	5530	In lieu Franchise to General Fund	Yes	39,837	42,518	44,610	46,401	48,181	1,910	4.0%	50,091	-	50,091	53,619	53,619	4.9%	3.9%	3.8%	4.0%	4.0%	7.0%	
14	04	5670	Utility Rebates and Incentives	Yes	-	-	-	-	-	-	0.0%	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	
15			<b>Total Materials and Services</b>		\$ 198,130	\$ 207,303	\$ 207,716	\$ 223,983	\$ 238,079	\$ 52,687	22.1%	\$ 290,766	\$ (428)	\$ 290,338	\$ 353,479	\$ (24,760)	\$ 328,719	4.7%	7.1%	6.3%	22.1%	22.0%	13.2%
<b>Capital Outlay</b>																							
16	04	6050	Building and Improvements - Oper	No	\$ -	\$ -	\$ 993	\$ 153,203	\$ -	\$ 50,000	100.0%	\$ 50,000	\$ (50,000)	\$ -	\$ -	\$ -	N/A	-100.0%	-100.0%	N/A	N/A	N/A	
17			Building and Improvement - Forest Hills	No	-	-	263,623	-	-	-	0.0%	-	-	-	-	-	N/A	-100.0%	N/A	N/A	N/A	N/A	
18	04	6200	Equipment - Operations	No	10,767	22,273	4,234	398,665	143,001	(139,001)	-97.2%	4,000	(4,000)	-	70,500	(70,500)	-	90.9%	481.2%	-64.1%	-97.2%	-100.0%	N/A
19			<b>Total Capital Outlay</b>		\$ 10,767	\$ 22,273	\$ 268,850	\$ 551,868	\$ 143,001	\$ (89,001)	-62.2%	\$ 54,000	\$ (54,000)	\$ -	\$ 70,500	\$ (70,500)	\$ -	90.9%	-27.1%	-74.1%	-62.2%	-100.0%	N/A
<b>Debt Service</b>																							
20	04	7300	ASR - Principal	No	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	N/A	
21	04	7350	ASR - Interest	No	-	-	-	-	-	-	0.0%	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	
22			<b>Total Debt Service</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Transfers and Allocations</b>																							
23	04	8350	Street Fund Transfer	No	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	N/A	N/A	N/A	N/A	N/A	
24	04	8600	Library Capital Project Transfer	No	-	-	-	-	-	16,000	100.0%	16,000	(16,000)	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	
25	04	8950	Allocated Expenses - General Fund	Yes	47,146	47,288	48,259	48,970	51,142	1,371	2.7%	52,513	-	52,513	56,497	56,497	2.1%	2.9%	4.4%	2.7%	2.7%	7.6%	
26	04	8960	Allocated Expenses - ISF Fund	Yes	238,770	240,292	255,660	261,520	276,673	29,395	10.6%	306,068	-	306,068	293,895	293,895	3.8%	4.0%	5.8%	10.6%	10.6%	-4.0%	
27	04	8990	Allocated Expenses - Utility Funds	Yes	92,101	94,936	97,523	100,217	106,188	(33,437)	-31.5%	72,751	-	72,751	77,114	77,114	3.6%	4.3%	6.0%	-31.5%	-31.5%	6.0%	
28			<b>Total Transfers and Allocations</b>		\$ 378,017	\$ 382,516	\$ 401,442	\$ 410,707	\$ 434,003	\$ 13,329	3.1%	\$ 447,332	\$ (16,000)	\$ 431,332	\$ 427,506	\$ 427,506	3.5%	4.0%	5.7%	3.1%	-0.6%	-0.9%	
<b>Contingency and Bad Debt Expense</b>																							
29	04	9000	Contingency	Yes	\$ -	\$ -	\$ -	\$ -	\$ 483,064	\$ 483,064	100.0%	\$ 483,064	\$ (483,064)	\$ 959	\$ 834,890	\$ (825,234)	\$ 9,656	N/A	N/A	N/A	N/A	N/A	N/A
30	04	BadDebt	Bad Debt Expense	Yes	-	-	-	-	-	-	0.0%	-	-	-	975	975	N/A	N/A	N/A	N/A	N/A	1.7%	
31			<b>Total Contingency and Bad Debt Expense</b>		\$ -	\$ -	\$ -	\$ -	\$ 483,064	\$ 483,064	100.0%	\$ 483,064	\$ (482,105)	\$ 959	\$ 834,890	\$ (824,259)	\$ 10,631	N/A	N/A	N/A	N/A	N/A	1008.6%
<b>Unappropriated</b>																							
32	04	9500	Unappropriated	No	\$ -	\$ 911,443	\$ 900,508	\$ 545,017	\$ 617,421	\$ (617,421)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	-17.2%	13.3%	-100.0%	-100.0%	N/A	
33			<b>Total Unappropriated</b>		\$ -	\$ 911,443	\$ 900,508	\$ 545,017	\$ 617,421	\$ (617,421)	-100.0%	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	-17.2%	13.3%	-100.0%	-100.0%	N/A	
34			<b>TOTAL EXPENDITURES</b>		\$ 752,198	\$ 1,675,393	\$ 1,957,787	\$ 1,918,461	\$ 1,630,025	\$ (151,124)	-9.3%	\$ 1,478,901	\$ (552,533)	\$ 926,368	\$ 1,895,740	\$ (919,519)	\$ 976,221	21.3%	-8.8%	-15.0%	-9.3%	-43.2%	5.4%

Table 3-5

City of Cornelius, Oregon  
Utility Rate Study  
Surface Water Management System

Projected Operating Expenses - Surface Water Management System

Line No.	Division Code	Expense Code	Description	Escalation Reference	Fiscal Year Ending June 30,											
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
<b>Personnel Services</b>																
1	04	4100	Salaried	Labor	\$ 119,539	\$ 122,261	\$ 125,929	\$ 129,707	\$ 133,598	\$ 137,606	\$ 141,734	\$ 145,986	\$ 150,366	\$ 154,877	\$ 159,523	
2	04	4200	Hourly	Labor	-	-	-	-	-	-	-	-	-	-	-	
3	04	4300	Overtime	Labor	3,000	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	
4	04	4500	Fringe Benefits	HealthIns	81,200	84,104	88,309	92,725	97,361	102,229	107,340	112,707	118,343	124,260	130,473	
5	04	AddPers	Additional Personnel	Input	-	-	-	-	-	-	-	-	-	-	-	
6			<b>Total Personnel Services</b>		\$ 203,739	\$ 209,365	\$ 217,328	\$ 225,614	\$ 234,237	\$ 243,211	\$ 252,552	\$ 262,276	\$ 272,398	\$ 282,937	\$ 293,910	
<b>Materials and Services</b>																
7	04	5050	Operational Supplies	Repair	\$ 24,200	\$ 25,060	\$ 26,062	\$ 27,105	\$ 28,189	\$ 29,317	\$ 30,489	\$ 31,709	\$ 32,977	\$ 34,296	\$ 35,668	
8	04	5100	Equipment - O&M	Repair	35,000	45,000	46,800	48,672	50,619	52,644	54,749	56,939	59,217	61,586	64,049	
9	04	5250	Dues, Education, Training	Inflation	1,250	1,250	1,283	1,315	1,347	1,380	1,411	1,444	1,477	1,511	1,547	
10	04	5350	Professional Services	Labor	9,500	22,500	23,175	23,870	24,586	25,324	26,084	26,866	27,672	28,502	29,357	
11	04	5400	Uniforms and Protective Gear	Inflation	2,225	1,550	1,590	1,630	1,671	1,711	1,750	1,791	1,832	1,874	1,919	
12	04	5500	Intergovernmental Services	Calculated	168,072	179,740	192,083	204,738	217,705	230,984	244,576	258,481	272,699	287,231	302,077	
13	04	5530	InLieu Franchise to General Fund	Labor	50,091	53,619	55,228	56,884	58,591	60,349	62,159	64,024	65,945	67,923	69,961	
14	04	5670	Utility Rebates and Incentives	Inflation	-	-	-	-	-	-	-	-	-	-	-	
15			<b>Total Materials and Services</b>		\$ 290,338	\$ 328,719	\$ 346,221	\$ 364,214	\$ 382,709	\$ 401,708	\$ 421,219	\$ 441,254	\$ 461,819	\$ 482,923	\$ 504,579	
<b>Transfers and Allocations</b>																
16	04	8350	Street Fund Transfer	Eliminate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
17	04	8600	Library Capital Project Transfer	Eliminate	-	-	-	-	-	-	-	-	-	-	-	
18	04	8950	Allocated Expenses - General Fund	GeneralFund	52,513	56,497	58,192	59,938	61,736	63,588	65,496	67,460	69,484	71,569	73,716	
19	04	8960	Allocated Expenses - ISF Fund	ISF	306,068	293,895	307,120	320,941	335,383	350,475	366,247	382,728	399,950	417,948	436,756	
20	04	8990	Allocated Expenses - Utility Funds	UtilFund	72,751	77,114	80,584	84,210	88,000	91,960	96,098	100,422	104,941	109,664	114,599	
21			<b>Total Transfers and Allocations</b>		\$ 431,332	\$ 427,506	\$ 445,896	\$ 465,089	\$ 485,119	\$ 506,023	\$ 527,840	\$ 550,611	\$ 574,376	\$ 599,181	\$ 625,070	
<b>Contingency and Bad Debt Expense</b>																
22	04	9000	Contingency	Calculated	\$ -	\$ 9,656	\$ 10,094	\$ 10,549	\$ 11,021	\$ 11,509	\$ 12,016	\$ 12,541	\$ 13,086	\$ 13,650	\$ 14,236	
23	04	BadDebt	Bad Debt Expense	Calculated	959	975	991	1,008	1,024	1,040	1,056	1,072	1,089	1,105	1,121	
24			<b>Total Contingency and Bad Debt Expense</b>		\$ 959	\$ 10,631	\$ 11,086	\$ 11,557	\$ 12,044	\$ 12,549	\$ 13,072	\$ 13,614	\$ 14,175	\$ 14,755	\$ 15,357	
<b>Unappropriated</b>																
25	04	9500	Unappropriated	Eliminate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
26			<b>Total Unappropriated</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
27			<b>TOTAL SURFACE WATER MANAGEMENT SYSTEM OPERATING EXPENSES</b>		\$ 926,368	\$ 976,221	\$ 1,020,531	\$ 1,066,474	\$ 1,114,109	\$ 1,163,491	\$ 1,214,684	\$ 1,267,754	\$ 1,322,768	\$ 1,379,796	\$ 1,438,916	

**Table 3-6**  
**City of Cornelius, Oregon**  
**Utility Rate Study**  
**Surface Water Management System**

**Estimated Multi-Year Capital Improvement Program and Funding Sources**

Line No.	Description	Funding Source	Escalation Factor	Fiscal Year Ending June 30,										Total	
				Adjusted 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		2029
<b>CAPITAL IMPROVEMENT PROGRAM</b>															
<b>Capital Projects</b>															
1	Phase 4 Storm Sewer Upgrades	REV	None	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000
2	Phase 5 Storm Sewer Upgrades	REV	None	-	-	-	25,000	-	-	-	-	-	-	-	25,000
3	Kodiak Covered Storage Bins	REV	None	-	-	-	-	5,000	5,000	-	10,000	-	-	-	20,000
4	Kodiak Carpet Replacement	REV	None	-	800	800	800	800	800	800	-	-	-	-	4,800
5	Kodiak Exterior Surface Seal	REV	None	-	5,000	-	-	-	-	-	-	-	-	-	5,000
6	Kodiak Round Room Demolition	REV	None	-	-	-	20,000	-	-	-	-	-	-	-	20,000
7	Equipment Replacement	REV	None	-	45,500	22,500	-	3,000	-	5,000	-	5,200	15,600	-	96,800
8	Vehicle Replacement	REV	None	-	-	-	-	17,500	8,750	8,750	8,750	-	-	-	43,750
9	Surface Water Management Portion of Covered Trailer for Public Works	REV	None	4,000	-	-	-	-	-	-	-	-	-	-	4,000
10	Industrial Mower	REV	None	-	18,000	-	-	-	-	-	-	-	-	-	18,000
11	Storm Portion of a Trimble	REV	None	-	2,500	-	-	-	-	-	-	-	-	-	2,500
12	Subtotal - Capital Projects			\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -	\$ 264,850
13	<b>TOTAL SURFACE WATER MANAGEMENT SYSTEM CAPITAL IMPROVEMENT PROGRAM</b>			<b>\$ 4,000</b>	<b>\$ 71,800</b>	<b>\$ 48,300</b>	<b>\$ 45,800</b>	<b>\$ 26,300</b>	<b>\$ 14,550</b>	<b>\$ 14,550</b>	<b>\$ 18,750</b>	<b>\$ 5,200</b>	<b>\$ 15,600</b>	<b>\$ -</b>	<b>\$ 264,850</b>
<b>FUNDING SOURCES</b>															
<b>SURFACE WATER MANAGEMENT SYSTEM</b>															
14	User Rate Revenue	REV		\$ 4,000	\$ 71,800	\$ 48,300	\$ 45,800	\$ 26,300	\$ 14,550	\$ 14,550	\$ 18,750	\$ 5,200	\$ 15,600	\$ -	\$ 264,850
15	<b>TOTAL SURFACE WATER MANAGEMENT SYSTEM FUNDING SOURCES</b>			<b>\$ 4,000</b>	<b>\$ 71,800</b>	<b>\$ 48,300</b>	<b>\$ 45,800</b>	<b>\$ 26,300</b>	<b>\$ 14,550</b>	<b>\$ 14,550</b>	<b>\$ 18,750</b>	<b>\$ 5,200</b>	<b>\$ 15,600</b>	<b>\$ -</b>	<b>\$ 264,850</b>



Table 3-7

City of Cornelius, Oregon  
Utility Rate Study  
Surface Water Management System

Projection of Fund Cash Balances and Interest Income

Line No.	Description	[1]	Fiscal Year Ending June 30,										
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>OPERATION AND MAINTENANCE FUND</b>													
1	Beginning Balance		\$ 662,609										
2	Adjustment for Open Purchase Orders		-										
3	Adjusted Beginning Balance		\$ 662,609	\$ 781,594	\$ 857,008	\$ 968,384	\$ 1,094,703	\$ 1,252,673	\$ 1,434,368	\$ 1,627,723	\$ 1,828,034	\$ 2,052,438	\$ 2,276,471
4	Transfers In - Grant Reimbursement		-	-	-	-	-	-	-	-	-	-	-
5	Transfers Out - Capital Improvement Program		-	-	-	-	-	-	-	-	-	-	-
6	Transfers Out - Renewal and Replacement Fund		-	-	-	-	-	-	-	-	-	-	-
7	Transfers In / (Out) - Surplus / (Deficiency)		118,985	75,414	111,377	126,318	157,970	181,695	193,355	200,311	224,403	224,033	248,832
8	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
9	Interest Income	USW	6,626	7,816	8,570	9,684	10,947	12,527	14,344	16,277	18,280	20,524	22,765
	Recognition of Interest Earnings												
10	in Revenue Requirements		6,626	7,816	8,570	9,684	10,947	12,527	14,344	16,277	18,280	20,524	22,765
11	Ending Balance		\$ 781,594	\$ 857,008	\$ 968,384	\$ 1,094,703	\$ 1,252,673	\$ 1,434,368	\$ 1,627,723	\$ 1,828,034	\$ 2,052,438	\$ 2,276,471	\$ 2,525,303
<b>FIXED ASSET SURFACE WATER MANAGEMENT FUND - SYSTEM DEVELOPMENT CHARGES</b>													
	Beginning Balance		\$ 80,164										
	Adjustment For Open Purchase Orders		-										
12	Adjusted Beginning Balance		\$ 80,164	\$ 262,924	\$ 459,325	\$ 463,918	\$ 468,557	\$ 473,243	\$ 477,975	\$ 482,755	\$ 487,583	\$ 492,459	\$ 497,383
13	Transfers In		181,053	192,808	-	-	-	-	-	-	-	-	-
14	Transfers In - Grant Funding		-	-	-	-	-	-	-	-	-	-	-
15	Transfers Out - Capital Improvement Program		-	-	-	-	-	-	-	-	-	-	-
16	Transfers Out - Payment of City Debt Service		-	-	-	-	-	-	-	-	-	-	-
17	Transfers Out - Developer Reimbursement		-	-	-	-	-	-	-	-	-	-	-
18	Interest Rate	(S)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
19	Interest Income	RSW	1,707	3,593	4,593	4,639	4,686	4,732	4,780	4,828	4,876	4,925	4,974
	Recognition of Interest Earnings												
20	in Revenue Requirements		-	-	-	-	-	-	-	-	-	-	-
21	Ending Balance		\$ 262,924	\$ 459,325	\$ 463,918	\$ 468,557	\$ 473,243	\$ 477,975	\$ 482,755	\$ 487,583	\$ 492,459	\$ 497,383	\$ 502,357
<b>INTEREST INCOME</b>													
22	Unrestricted	USW	6,626	7,816	8,570	9,684	10,947	12,527	14,344	16,277	18,280	20,524	22,765
23	Restricted	RSW	1,707	3,593	4,593	4,639	4,686	4,732	4,780	4,828	4,876	4,925	4,974
24	Total		\$ 8,333	\$ 11,409	\$ 13,163	\$ 14,323	\$ 15,633	\$ 17,259	\$ 19,123	\$ 21,105	\$ 23,156	\$ 25,449	\$ 27,739

Footnotes:

- [1] USW = Interest earnings unrestricted and assumed to be available to meet system expenditure requirements.
- RSW = Interest earnings restricted and assumed to not be available to meet system expenditure requirements.

Table 3-8

City of Cornelius, Oregon  
Utility Rate Study  
Surface Water Management System

Projected Other Operating Revenues

Line No.	Revenue Code	Description	Escalation Reference	Fiscal Year Ending June 30,										
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SURFACE WATER MANAGEMENT SYSTEM</b>														
1		User Rate Revenues - Remit to Clean Water Services	Calculated	\$ 155,572	\$ 167,240	\$ 179,208	\$ 191,477	\$ 204,046	\$ 216,915	\$ 230,085	\$ 243,555	\$ 257,326	\$ 271,397	\$ 285,768
2		Clean Water Services User Rate Revenues Retained By City	Calculated	465,994	500,944	536,794	573,543	611,192	649,741	689,189	729,537	770,785	812,932	855,979
3	3850	Miscellaneous	Constant	-	-	-	-	-	-	-	-	-	-	-
4	3990	Allocated Revenue	Labor	53,566	57,360	59,081	60,853	62,679	64,559	66,496	68,491	70,546	72,662	74,842
5		Total Other Surface Water Management System Operating Revenue		<u>\$ 675,132</u>	<u>\$ 725,544</u>	<u>\$ 775,083</u>	<u>\$ 825,873</u>	<u>\$ 877,917</u>	<u>\$ 931,215</u>	<u>\$ 985,770</u>	<u>\$ 1,041,583</u>	<u>\$ 1,098,656</u>	<u>\$ 1,156,990</u>	<u>\$ 1,216,588</u>

Table 3-9

City of Cornelius, Oregon  
Utility Rate Study  
Surface Water Management System

Summary of Sources and Uses of Funds

Line No.	Description	Fiscal Year Ending June 30,										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Unrestricted Cash Balances from Below	\$ 781,594	\$ 857,008	\$ 968,384	\$ 1,094,703	\$ 1,252,673	\$ 1,434,368	\$ 1,627,723	\$ 1,828,034	\$ 2,052,438	\$ 2,276,471	\$ 2,525,303
<b>OPERATION AND MAINTENANCE FUND AND RATE STABILIZATION FUND</b>												
<b>Sources of Funds</b>												
2	Water and Wastewater User Rate Revenue	\$ 383,595	\$ 390,075	\$ 396,555	\$ 403,035	\$ 409,515	\$ 415,995	\$ 422,475	\$ 428,955	\$ 435,435	\$ 441,915	\$ 448,395
3	Other Operating Revenue	675,132	725,544	775,083	825,873	877,917	931,215	985,770	1,041,583	1,098,656	1,156,990	1,216,588
4	Unrestricted Interest Income	6,626	7,816	8,570	9,684	10,947	12,527	14,344	16,277	18,280	20,524	22,765
5	Available Cash Balances	662,609	781,594	857,008	968,384	1,094,703	1,252,673	1,434,368	1,627,723	1,828,034	2,052,438	2,276,471
6	<b>Total Sources of Funds</b>	<b>\$ 1,727,962</b>	<b>\$ 1,905,029</b>	<b>\$ 2,037,216</b>	<b>\$ 2,206,976</b>	<b>\$ 2,393,081</b>	<b>\$ 2,612,410</b>	<b>\$ 2,856,957</b>	<b>\$ 3,114,538</b>	<b>\$ 3,380,405</b>	<b>\$ 3,671,867</b>	<b>\$ 3,964,219</b>
<b>Uses of Funds</b>												
7	Operating Expenses:	\$ 926,368	\$ 976,221	\$ 1,020,531	\$ 1,066,474	\$ 1,114,109	\$ 1,163,491	\$ 1,214,684	\$ 1,267,754	\$ 1,322,768	\$ 1,379,796	\$ 1,438,916
8	Capital Funded from Rates	4,000	71,800	48,300	45,800	26,300	14,550	14,550	18,750	5,200	15,600	-
9	Indirect Cost Allocations and Other Transfers	16,000	-	-	-	-	-	-	-	-	-	-
10	<b>Total Uses of Funds</b>	<b>\$ 946,368</b>	<b>\$ 1,048,021</b>	<b>\$ 1,068,831</b>	<b>\$ 1,112,274</b>	<b>\$ 1,140,409</b>	<b>\$ 1,178,041</b>	<b>\$ 1,229,234</b>	<b>\$ 1,286,504</b>	<b>\$ 1,327,968</b>	<b>\$ 1,395,396</b>	<b>\$ 1,438,916</b>
11	Ending Cash Balances	\$ 781,594	\$ 857,008	\$ 968,384	\$ 1,094,703	\$ 1,252,673	\$ 1,434,368	\$ 1,627,723	\$ 1,828,034	\$ 2,052,438	\$ 2,276,471	\$ 2,525,303
12	<b>Total Uses of Funds and Ending Cash Balances</b>	<b>\$ 1,727,962</b>	<b>\$ 1,905,029</b>	<b>\$ 2,037,216</b>	<b>\$ 2,206,976</b>	<b>\$ 2,393,081</b>	<b>\$ 2,612,410</b>	<b>\$ 2,856,957</b>	<b>\$ 3,114,538</b>	<b>\$ 3,380,405</b>	<b>\$ 3,671,867</b>	<b>\$ 3,964,219</b>
13	Difference Between Sources and Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>FIXED ASSET SURFACE WATER MANAGEMENT FUND - SYSTEM DEVELOPMENT CHARGES</b>												
<b>Sources of Funds</b>												
14	Available Cash Balances	\$ 80,164	\$ 262,924	\$ 459,325	\$ 463,918	\$ 468,557	\$ 473,243	\$ 477,975	\$ 482,755	\$ 487,583	\$ 492,459	\$ 497,383
15	Transfers In - Surface Water Management System	181,053	192,808	-	-	-	-	-	-	-	-	-
16	Interest Income	1,707	3,593	4,593	4,639	4,686	4,732	4,780	4,828	4,876	4,925	4,974
17	<b>Total Sources of Funds</b>	<b>\$ 262,924</b>	<b>\$ 459,325</b>	<b>\$ 463,918</b>	<b>\$ 468,557</b>	<b>\$ 473,243</b>	<b>\$ 477,975</b>	<b>\$ 482,755</b>	<b>\$ 487,583</b>	<b>\$ 492,459</b>	<b>\$ 497,383</b>	<b>\$ 502,357</b>
<b>Uses of Funds</b>												
18	Capital Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Payment of City Debt Service	-	-	-	-	-	-	-	-	-	-	-
20	<b>Total Uses of Funds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
21	Ending Cash Balances	\$ 262,924	\$ 459,325	\$ 463,918	\$ 468,557	\$ 473,243	\$ 477,975	\$ 482,755	\$ 487,583	\$ 492,459	\$ 497,383	\$ 502,357
22	<b>Total Uses of Funds and Ending Cash Balances</b>	<b>\$ 262,924</b>	<b>\$ 459,325</b>	<b>\$ 463,918</b>	<b>\$ 468,557</b>	<b>\$ 473,243</b>	<b>\$ 477,975</b>	<b>\$ 482,755</b>	<b>\$ 487,583</b>	<b>\$ 492,459</b>	<b>\$ 497,383</b>	<b>\$ 502,357</b>

**Table 3-10**  
**City of Cornelius, Oregon**

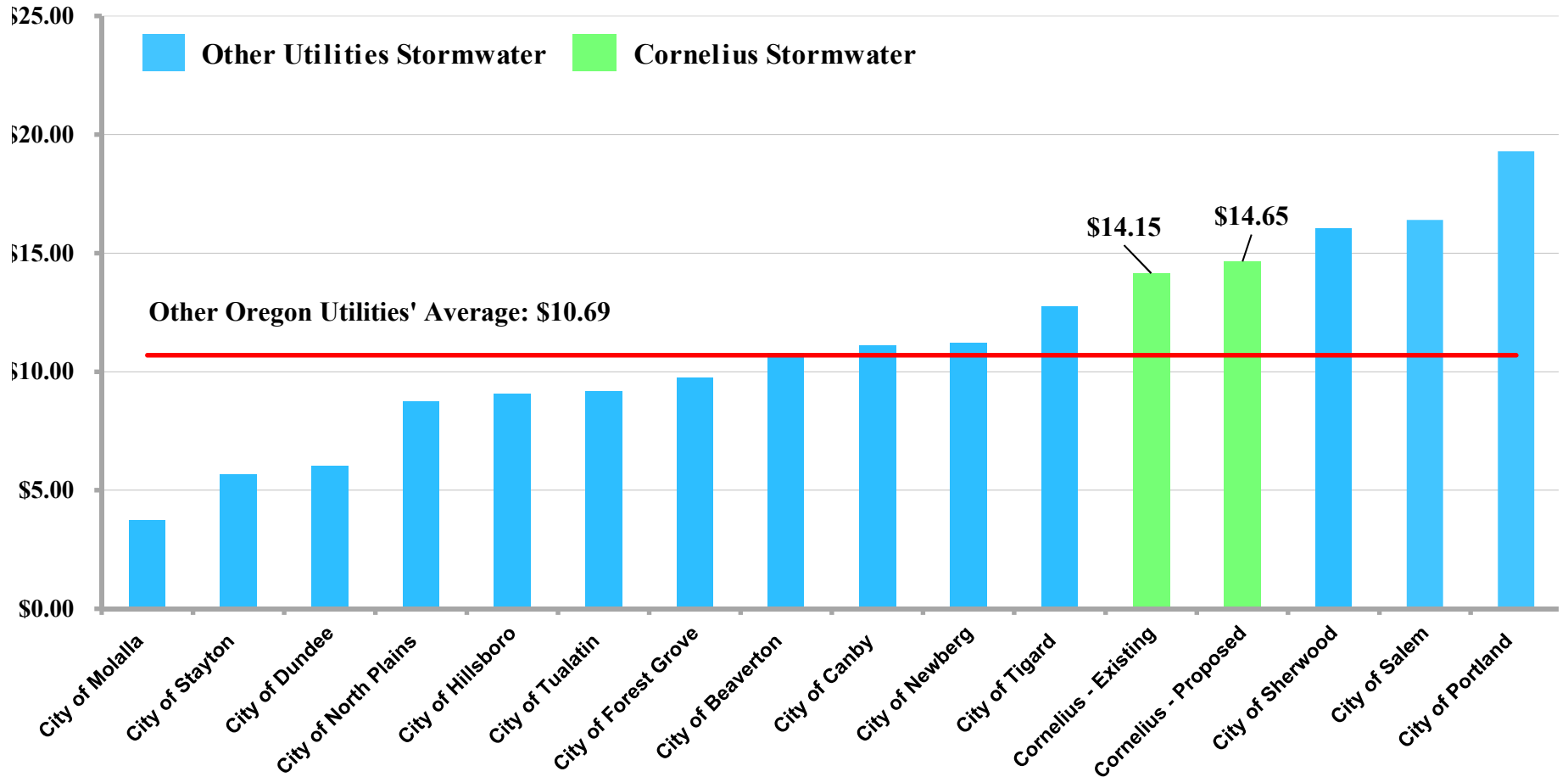
**Comparison of Surface Water Management Fees Per ESU**

Line No.	Description	Fee Per ESU
<b><u>City of Cornelius, Oregon</u></b>		
1	Existing Surface Water Management Fees - Effective July 1, 2018	\$14.15
2	Proposed Surface Water Management Fees - Effective July 1, 2019	14.65
<b><u>Other Oregon Utilities:</u></b>		
3	City of Beaverton	\$10.78
4	City of Canby	11.09
5	City of Carlton	N/A
6	City of Dundee	6.00
7	City of Forest Grove	9.75
8	City of Hillsboro [2]	9.06
9	City of Molalla	3.74
10	City of Mt. Angel	N/A
11	City of Newberg [2]	11.23
12	City of North Plains	8.75
13	City of Portland - Offsite	19.29
14	City of Salem [2]	16.39
15	City of Sherwood [2]	16.02
16	City of Silverton	N/A
17	City of Stayton	5.65
18	City of Tigard	12.75
19	City of Tualatin	9.15
20	City of Woodburn	N/A
21	Other Oregon Utilities Average	\$10.69
22	Minimum	3.74
23	Maximum	19.29

**Footnotes:**

- [1] Amounts reflect bills under rates in effect April 2019 and do not include any taxes or franchise fees, if any. These bills also reflect rates charged to customers within the municipal borders (e.g., no outside-municipality surcharges, if applied, are included in the bill comparison).
- [2] Utility is currently involved in a rate study, is planning to conduct a rate study, or plans to implement a rate revision within the next twelve months following the comparison preparation date.

**Figure 3-1**  
**City of Cornelius, Oregon**  
**Comparison of Monthly Charges for**  
**Surface Water Management Service for Single Family Residential Customers**





**APPENDIX**  
**Existing User Rate Resolution**

**RESOLUTION NO. 2018-18**

**A RESOLUTION ESTABLISHING CERTAIN UTILITY RATES AND CHARGES FOR WATER, SANITARY SEWER, AND STORMWATER**

**FINDINGS:** The City of Cornelius reviews utility rates on an annual basis. The analysis determined that changes are necessary to Water, Sanitary Sewer and Surface Water Management in order to cover current and future operations, capital costs, and to meet prudent reserve requirements.

Clean Water Services provides the City of Cornelius Sanitary Sewer treatment and Surface Water Management billed on a per customer basis. Clean Water Services is increasing their Sanitary Sewer, Surface Water Management, and their Sanitary Sewer SDC.

**NOW THEREFORE, BE IT RESOLVED BY THE CORNELIUS CITY COUNCIL AS FOLLOWS:**

- Section 1.** The City Council authorizes the City to charge the new Water rates as outlined in Exhibit A (attached).
- Section 2.** The City Council authorizes the City to charge the new Sanitary Sewer and Surface Water Management rates, and to change the Clean Water Services SDC as outlined in Exhibit B (attached).
- Section 3.** The rate changes adopted by this resolution become effective July 1, 2018.

**INTRODUCED AND ADOPTED** by the Cornelius City Council at their regular meeting this 4<sup>th</sup> day of June 2018.

CITY OF CORNELIUS, OREGON

By: Jeffrey C. Dalin  
Jeffrey C. Dalin, Mayor

ATTEST:

By: Debby Roth  
Debby Roth, MMC City Recorder-Treasurer



**WATER RATES**

**CURRENT RATE**

Meter Size	Single Family Residential (Base Charge)	Multi Family Residential (Base Charge)	Commercial (Base Charge)
5/8"	25.85	25.80	29.72
3/4"	36.84	36.74	42.63
1"	58.81	58.61	68.45
1 1/2"	113.70	113.36	133.02
2"	179.60	179.04	210.51
3"	355.30	354.20	417.14
4"	552.96	551.25	649.59
6"	1,102.04	1,098.63	1,295.28

**Volume Charges (per 1,000 gallons)**

	Block 1 0 - 6,000 gallons	Block 2 6,000-12,000 gallons	Block 3 >12,000 gallons
Single Family Residential	3.55	5.16	7.60
Multi Family Residential	3.55	3.55	3.55
Commercial	3.70	3.70	3.70

**Monthly Base Charges for Standby Meters**

Meter Size	Single Family Residential (Base Charge)	Multi Family Residential (Base Charge)	Commercial (Base Charge)
5/8"	6.49	8.91	7.02
3/4"	7.79	11.44	8.59
1"	10.37	16.45	11.72
1 1/2"	16.85	28.99	19.58
2"	24.62	44.06	28.99
3"	45.35	84.25	54.08
4"	68.68	129.43	82.32
6"	133.48	254.97	160.75

**WATER RATES**

**NEW RATE - 5% Increase**

Single Family Residential (Base Charge)	Multi Family Residential (Base Charge)	Commercial (Base Charge)
27.14	27.09	31.20
38.68	38.58	44.76
61.75	61.55	71.88
119.39	119.03	139.68
188.58	187.99	221.03
373.06	371.91	437.99
580.61	578.82	682.07
1,157.14	1,153.56	1,360.04

**Volume Charges (per 1,000 gallons)**

Block 1 0 - 6,000 gallons	Block 2 6,000-12,000 gallons	Block 3 >12,000 gallons
3.73	5.42	7.98
3.73	3.73	3.73
3.89	3.89	3.89

**Monthly Base Charges for Standby Meters**

Single Family Residential (Base Charge)	Multi Family Residential (Base Charge)	Commercial (Base Charge)
6.81	9.35	7.37
8.18	12.01	9.02
10.89	17.27	12.31
17.69	30.44	20.56
25.85	46.27	30.44
47.62	88.46	56.78
72.12	135.90	86.44
140.15	267.72	168.78

**NOTES:**

- Combination meters are billed the base fee for the largest meter size
- Senior Citizens receive a per month discount on the base rate (discount rate set by resolution)
- Outside City customers are billed a Commercial Base Charge and Residential Usage
- Hydrant Meter usage is billed at the Commercial rate



Resolution No. 2018-18  
 Exhibit B  
 Effective July 1, 2018

<b>SANITARY SEWER RATES</b>
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DESCRIPTION	OLD RATE	NEW RATE	
1 UNIT - CWS BASE FEE*	28.27	29.12	\$0.85 increase (3%)
1 UNIT - CORNELIUS BASE FEE*	7.79	8.02	\$0.23 increase (3%)
Usage Fee**	\$2.51/1000 gal	\$2.58/1000 gal	\$0.07/1000 gal increase (3%)
1 EDU - CWS SDC Fee	5,500.00	5,650.00	\$150.00 increase

\*Base Fee is multiplied by the number of EDU billing units on account

\*\*Usage Fee is based on Winter Water Consumption Average

\*\*Carwashes are billed for actual water consumption month to month.

<b>SURFACE WATER MANAGEMENT RATES</b>
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DESCRIPTION	OLD RATE	NEW RATE	
1 UNIT - CWS BASE FEE*	8.25	8.75	\$0.50 increase
1 UNIT - CORNELIUS BASE FEE*	5.40	5.40	No increase

\*Base Fee is multiplied by the number of ESU billing units on account