

City of Tigard



SANITARY SEWER  
INFRASTRUCTURE  
FINANCING SERVICES  
Tigard Sewer Surcharge  
Draft Report

October 29, 2014

**FCS GROUP**  
4000 Kruse Way Place  
Building 1, Suite 220  
Lake Oswego, OR 97035  
T: 503.841.6543

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## SECTION I: INTRODUCTION

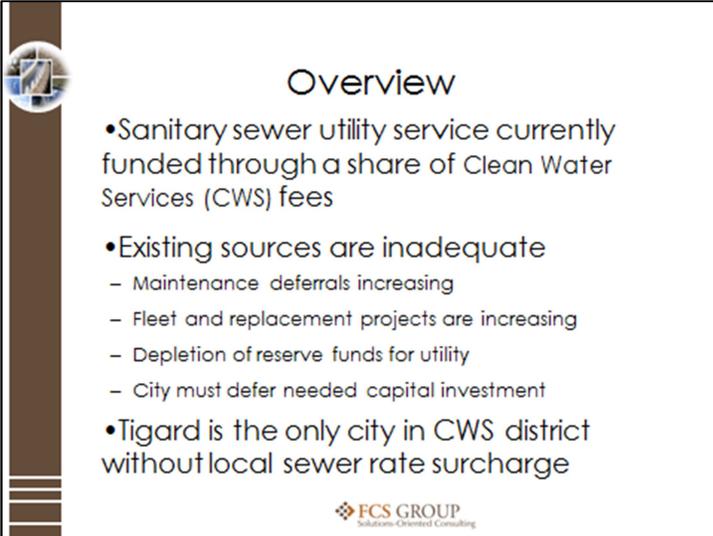
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The City of Tigard (City) Sanitary Sewer Division maintains and operates a safe and reliable wastewater collection system that protects public health, protects the environment, and meets or exceeds all regulatory standards. In addition to managing and operating 167 miles of pipe, the Sanitary Sewer Division provides a wide range of services such as line repairs and replacements, twenty four hour seven days per week emergency response, line cleaning, video inspection of sanitary lines and utility locates.

The City operates and maintains the public sanitary sewer system in accordance with an intergovernmental agreement with Clean Water Services (CWS). CWS acts as the overall permit holder with the Department of Environmental Quality (DEQ) and sets the performance standards for operation and maintenance best management practices. The cities within CWS boundaries are expected to meet or exceed those performance standards and provide periodic reports to CWS to keep them updated and to fulfill their individual obligations as a co-implementer of the permit. The City participates with CWS and the other cities through a variety of periodic meetings to ensure ongoing cooperation and collaboration as to any necessary changes in performance standards.

CWS provides sanitary sewer treatment and sets all fees related to these services contracting with the City for billing and collection of sanitary sewer charges within the city's limits. The city currently retains approximately 16 percent of these revenues and sends the remaining 84 percent to CWS each month. Approximately 5 percent of the retained revenues are related to franchise fees, which are transferred to the General Fund. There are currently no local charges assessed by the city.

This report evaluates the sufficiency of the City's share of CWS revenues to meet its ongoing operating and capital expenses and evaluates an option of establishing a local charge to assist in funding any revenue deficiencies. In addition, this report provides a sensitivity analysis of the local sewer surcharge rate under the current CWS franchise fee allocation, and under a potential revised franchise fee allocation.

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**Overview**

- Sanitary sewer utility service currently funded through a share of Clean Water Services (CWS) fees
- Existing sources are inadequate
  - Maintenance deferrals increasing
  - Fleet and replacement projects are increasing
  - Depletion of reserve funds for utility
  - City must defer needed capital investment
- Tigard is the only city in CWS district without local sewer rate surcharge

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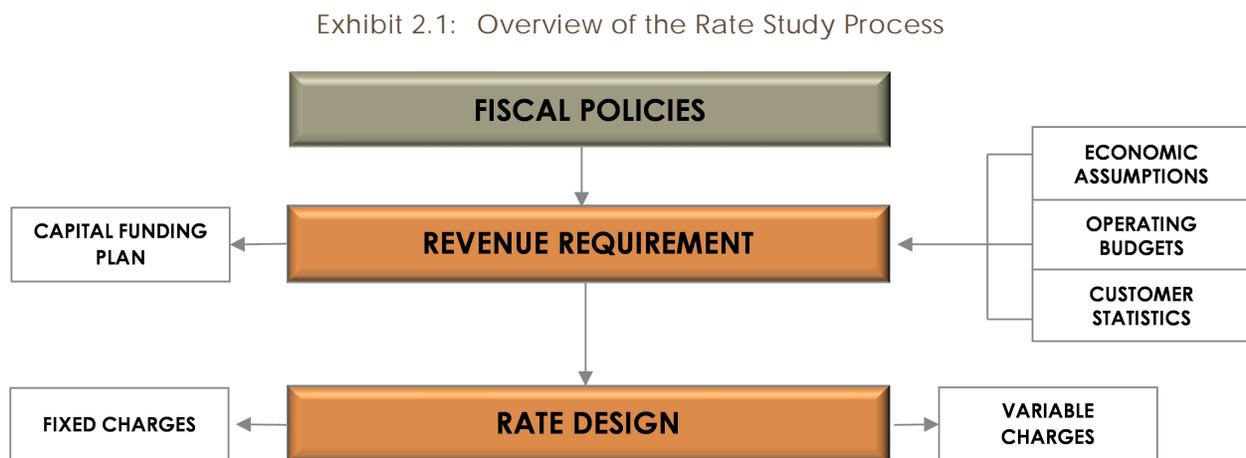
## SECTION II: RATE STUDY METHODOLOGY

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### A. RATE SETTING PRINCIPLES AND METHODOLOGY

The methods used to establish user rates are based on principles that are generally accepted and widely followed throughout the industry. These principles are designed to produce rates that equitably recover costs from each class of customer by setting the appropriate level of revenue to be collected from ratepayers, and establishing a rate structure to equitably collect those revenues.

**Exhibit 2.1** illustrates the primary tasks of the rate study process.



### B. FISCAL POLICIES

The stewardship of public funds is one of the greatest responsibilities given to the officials and the managers of the City. Therefore, the establishment and maintenance of wise fiscal policies enables the City officials to protect public interest and ensure public trust.

This study incorporates formal and informal fiscal policies of the City to ensure that current policies are maintained, including reserve levels, capital/ system replacement funding and debt service coverage.

### C. REVENUE REQUIREMENT

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy for the sanitary sewer system. It also enables the City to set utility rate structures which fully recover the total cost of operating the sanitary sewer system: capital improvement and replacement, operations, maintenance, general administration, fiscal policy attainment, cash reserve management, and debt repayment. Linking rate levels to a financial plan such as this helps to enable not only sound financial performance for the City's sanitary sewer fund,

but also a clear and reasonable relationship between the costs imposed on utility customers and the costs incurred to provide service.

A revenue requirement analysis includes the following core elements to form a complete portrayal of the sanitary sewer utility's financial obligations.

- ◆ Operating Forecast. Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the system.
- ◆ Capital Funding Plan. Defines a strategy for funding the City's capital improvement/equipment replacement program, including an analysis of available resources from rate revenues, debt financing, and any special resources that may be readily available (e.g. grants, outside contributions, etc.). Identifies if additional funding sources are needed.
- ◆ Revenue Sufficiency Testing. Evaluates the sufficiency of revenues in meeting all financial obligations, including any coverage requirements associated with long-term debt.
- ◆ Rate Strategy Development. Designs a forward-looking strategy for adjusting rates to fully fund all financial obligations on an annual basis over the projection period.

## D. RATE DESIGN

The principal consideration of rate design is for the rate structure to generate sufficient revenues for the system which are reasonably commensurate with the cost of providing service. The pricing structure is largely dictated by the objectives of the system. Most rate structures consist of a combination of fixed and variable charges. Fixed charges typically attempt to cover system costs that do not vary with usage, but in practice only recover a portion of those costs (as the majority of utility costs are fixed in nature). Variable charges typically serve two functions, equitably recovering variable costs such as chemicals and electricity and encouraging customers to use the system efficiently (e.g. conservation).

## SECTION III: REVENUE REQUIREMENT

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### A. INTRODUCTION

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy. The analysis is developed by completing an operating forecast that identifies future annual operating costs and a capital funding plan that defines a strategy for funding the capital improvement needs of the City.

### B. OPERATING FORECAST

The purpose of the operating forecast is to determine whether the existing rates and charges are sufficient to recover the costs the City incurs to operate and maintain the sanitary sewer system. The fiscal year (FY) 2015 Budget provided the primary basis for developing a multi-year forecast for FY 2016 through FY 2034 expenses. The main focus of the report is on the first five (5) year projection period FY 2015 through FY 2019. The complete forecast can be found in the technical appendix. The ensuing discussion highlights the key assumptions used to develop the sanitary sewer operating forecast.

#### Reserves

- ◆ Operating Reserves. A minimum of 60 days of operating and maintenance (O&M) expenses (\$353,000 to \$427,000, per industry standards and discussion with City staff).
- ◆ Capital Contingency Reserves. A target of \$1.00 million for emergency repairs and unanticipated capital (per discussion with City staff).

#### Operating Non Rate Revenue

- ◆ Non-Rate Revenue. Non-rate revenue consists primarily of the City's share of CWS revenue, bad debt, interest earnings and recovered expenditures.
  - CWS revenue projections were derived by applying the FY2015 rate structure to detailed customer statistics (dwelling units and billed usage) from the City's billing system, adjusting for expected growth. Based on the previous four years of increases, it was assumed that CWS will raise rates at 3.00 percent per year. This increases the share the City receives from CWS annually.
- ◆ Customer Growth. All existing customer accounts, dwelling units and consumption were escalated with 0.45 percent annual growth rate based on the assumptions from the Tigard River Terrace analysis.
  - In addition to growth in the existing system, the medium growth option of the Tigard River Terrace analysis was incorporated starting in FY2017 with 80 to 120 new dwelling units per year through FY2035.

- ◆ Interest Earnings. 0.50 percent per year through 2034 (based on latest trends and discussion with City staff).

#### O&M Expenses

- ◆ General Cost Inflation. 3.00 percent per year (based on discussion with City staff).
- ◆ Construction Cost Inflation. 4.00 to 4.50 percent per year (based on discussion with City staff).
- ◆ Labor Cost Inflation. 3.40 to 4.00 percent per year (based on City internal analysis).
- ◆ Medical Benefit Cost Inflation. 5.67 to 6.67 percent per year (based on City internal analysis).
- ◆ Contractual Services Inflation. 4.00 percent per year (based on discussion with City staff).
- ◆ Franchise Fees. City franchise fees are calculated based on projected revenue and the prevailing fee of 5.00 percent. The fee is collected in the sanitary sewer fund and transferred out to the general fund.

#### Debt Service

- ◆ Existing Debt. The City's sanitary sewer utility does not have any existing debt service.
- ◆ New Debt. No new debt is anticipated within the projection period.

#### System Reinvestment

- ◆ System reinvestment funding policies aim to ensure system integrity through reinvestment in capital infrastructure. There are a variety of funding benchmarks – at a minimum most utilities use annual depreciation expense to establish an annual funding provision.
- ◆ This study assumed the sanitary sewer is funding full depreciation at \$611,000 to \$726,000 per year for FY2015 through FY2019.

## C. CAPITAL FUNDING PLAN

The sewer utility's capital plan includes \$21.32 million in capital costs in the 20-year projection period. There is approximately \$8.70 million in the first five year period FY2015 through FY2019. Costs represented in this plan are based on inflated dollars to the year of construction. The projects include:

- ◆ Citywide Sanitary Sewer Extension Program
- ◆ Derry Dell Creek Sewer Interceptor Relocation
- ◆ East Tigard Sewer Replacement
- ◆ Krueger Creek Slope Stabilization
- ◆ Sewer Rehabilitation Program; and
- ◆ Various renewal and replacement projects.

In addition to the existing system, the CIP also include two projects related to Tigard River Terrace:

- ◆ Scholls Ferry Trunk Extension Phase 1; and
- ◆ Beef Bend Road Line Upsizing.

The capital funding strategy envisions funding these project through a mix of available cash balances (including interest), rate funded system reinvestment, City's share of CWS System Development

Charges (SDCs) and transfers from other funds. **Exhibit 3.1** provides a summary of the funding sources for the capital funding expenditures. A detailed capital plan can be found in the Technical Appendix.

Table 3.1: Sanitary Sewer Capital Funding Summary

Year	Capital Costs	Transfers In	SDCs	Cash/Rate Funding	Total Funding
FY2015	\$ 2,912,500	\$ 1,622,400	\$ 74,506	\$ 1,215,594	\$ 2,912,500
FY2016	2,864,832	262,853	23,547	2,578,433	2,864,832
FY2017	634,562	273,892	40,997	319,673	634,562
FY2018	1,114,395	285,670	46,623	782,101	1,114,395
FY2019	1,163,428	298,239	52,551	812,638	1,163,428
<b>Subtotal</b>	<b>\$ 8,689,717</b>	<b>\$ 2,743,054</b>	<b>\$ 238,224</b>	<b>\$ 5,708,439</b>	<b>\$ 8,689,717</b>
FY2020+	12,628,012	-	1,026,360	11,601,652	12,628,012
<b>Total</b>	<b>\$ 21,317,729</b>	<b>\$ 2,743,054</b>	<b>\$ 1,264,584</b>	<b>\$ 17,310,092</b>	<b>\$ 21,317,729</b>

## D. SUMMARY OF REVENUE REQUIREMENT

The operating forecast components of O&M expenses, debt service and rate-funded system reinvestment come together to form the multi-year revenue requirement. The revenue requirement compares the overall revenue available to the sanitary sewer system to the expenses and evaluates the sufficiency of rates on an annual basis.

Two scenarios were developed to evaluate the sanitary sewer’s revenue requirement based on the collection of Franchise Fees.:

1. **Scenario 1:** existing franchise fee collection – this scenario evaluates “business as usual”, where the City pays the 5.00 percent franchise fee out of its 16.00 percent share of CWS revenue leaving 11.00 percent to be used towards meeting ongoing sanitary sewer expense.
2. **Scenario 2:** proportional franchise fee collection between the City and CWS – this scenario evaluates the impact of collecting the franchise fees from CWS and the City proportionally. Instead of taking out the full 5.00 percent franchise fees from the City’s revenue share, it would be proportionally deducted from the City and CWS share. Based on this distribution, the City would retain 15.20 percent of revenue instead of 11.00 percent to be used towards meeting ongoing sanitary sewer expenses. Implementation of this scenario will require close coordination with CWS.

**Table 3.2** provides the cost sharing differences between the two scenarios.

Table 3.2: Franchise Fee Cost Sharing

Revenue	S1: EXISTING		S2: PROPORTIONAL	
	CWS	City	CWS	City
Revenue Share	84.00%	16.00%	84.00%	16.00%
less: Franchise Fee	0.00%	5.00%	4.20%	0.80%
<b>Net Revenue Share</b>	<b>84.00%</b>	<b>11.00%</b>	<b>79.80%</b>	<b>15.20%</b>

## D.1 Scenario 1 Summary Existing Franchise Fee Collection

Key findings of the sanitary sewer revenue requirement scenario 1 analysis include:

- ◆ Current rate revenue levels are not sufficient to meet the sanitary sewer utility’s existing financial obligations; the annual deficiency is \$853,000 in FY2015, increasing to \$1.24 million by FY2019.
- ◆ Deficiencies are due to:
  - Capital infrastructure needs to maintain the system and associated rate funded system reinvestment
  - Cost increases that are greater than growth in the system

The City currently does not set sanitary sewer utility rates; therefore, in order to cover the forecasted needs it is proposed that a local sanitary sewer utility charge be established. The level of the charge will be discussed in Section IV Rate Design.

**Exhibit 3.1** and **Table 3.3** provide a summary of the sanitary sewer system revenue requirement forecast for scenario 1.

Exhibit 3.1: Sanitary Sewer Utility Revenue Requirement Summary  
 – Scenario 1

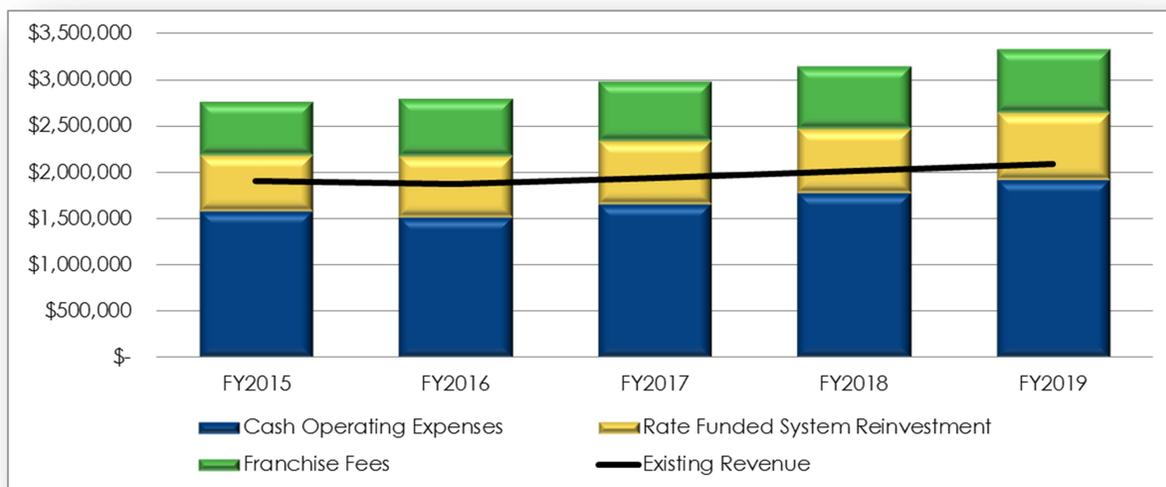


Table 3.3: Sanitary Sewer Utility Revenue Requirement Summary  
– Scenario 1

Revenue Requirement Summary	FY2015	FY2016	FY2017	FY2018	FY2019
<b>Revenues</b>					
Share of CWS Revenue	\$ 1,783,834	\$ 1,845,787	\$ 1,915,687	\$ 1,989,697	\$ 2,068,048
Non-Rate Revenues	120,670	22,101	22,089	22,223	22,338
<b>Total Revenue</b>	<b>\$ 1,904,504</b>	<b>\$ 1,867,889</b>	<b>\$ 1,937,777</b>	<b>\$ 2,011,920</b>	<b>\$ 2,090,386</b>
<b>Expenses</b>					
Cash Operating Expenses	\$ 1,575,168	\$ 1,513,713	\$ 1,654,501	\$ 1,770,987	\$ 1,912,474
Franchise Fees	571,560	618,249	639,983	663,013	687,410
Rate Funded System Reinvestment	610,716	668,013	680,704	702,992	726,260
<b>Total Expenses</b>	<b>\$ 2,757,444</b>	<b>\$ 2,799,975</b>	<b>\$ 2,975,187</b>	<b>\$ 3,136,992</b>	<b>\$ 3,326,145</b>
<b>Surplus (Deficiency)</b>	<b>\$ (852,940)</b>	<b>\$ (932,086)</b>	<b>\$ (1,037,411)</b>	<b>\$ (1,125,072)</b>	<b>\$ (1,235,759)</b>

## D.2 Scenario 2 Summary Proportional Franchise Fee Collection

Key findings of the sanitary sewer revenue requirement scenario 2 analysis include:

- ◆ Current rate revenue levels are not sufficient to meet the sanitary sewer utility's existing financial obligations; the annual deficiency is \$386,000 in FY2015, increasing to \$689,000 by FY2019.
- ◆ Deficiencies are due to:
  - Capital infrastructure needs to maintain the system
  - Cost increases that are greater than growth in the system
- ◆ Similarly to scenario 1, the City currently does not set sanitary sewer utility rates; therefore, in order to cover the forecasted needs it is proposed to establish a local sanitary sewer utility charge. The level of the charge will be discussed in Section IV Rate Design.

**Exhibit 3.2** and **Table 3.4** provide a summary of the sanitary sewer system revenue requirement forecast for scenario 2.

Exhibit 3.2: Sanitary Sewer Utility Revenue Requirement Summary  
– Scenario 2

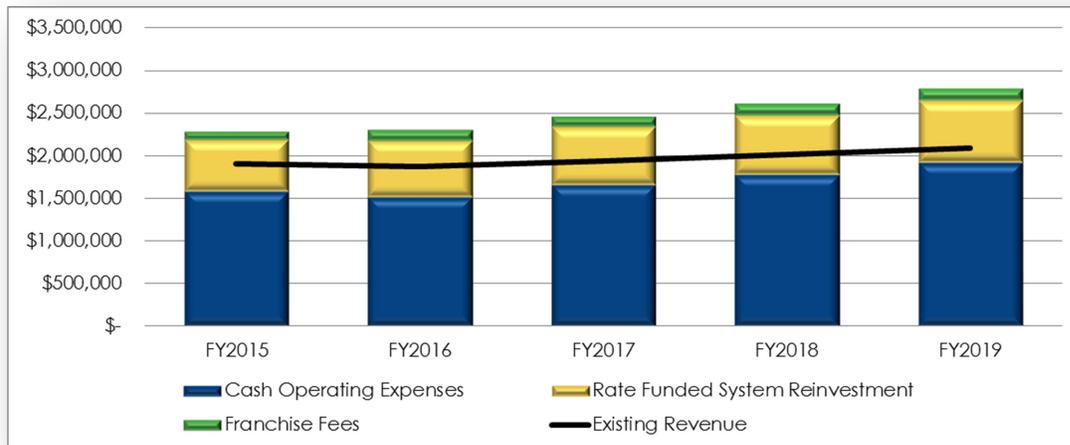


Table 3.4: Sanitary Sewer Utility Revenue Requirement Summary  
– Scenario 2

Revenue Requirement Summary	FY2015	FY2016	FY2017	FY2018	FY2019
<b>Revenues</b>					
Share of CWS Revenue	\$ 1,783,834	\$ 1,845,787	\$ 1,915,687	\$ 1,989,697	\$ 2,068,048
Non-Rate Revenues	120,670	21,717	21,682	21,802	21,903
<b>Total Revenue</b>	<b>\$ 1,904,504</b>	<b>\$ 1,867,505</b>	<b>\$ 1,937,369</b>	<b>\$ 2,011,499</b>	<b>\$ 2,089,951</b>
<b>Expenses</b>					
Cash Operating Expenses	\$ 1,575,168	\$ 1,513,713	\$ 1,654,501	\$ 1,770,987	\$ 1,912,474
Franchise Fees	104,354	122,751	127,999	133,960	140,685
Rate Funded System Reinvestment	610,716	668,013	680,704	702,992	726,260
<b>Total Expenses</b>	<b>\$ 2,290,238</b>	<b>\$ 2,304,477</b>	<b>\$ 2,463,204</b>	<b>\$ 2,607,939</b>	<b>\$ 2,779,420</b>
<b>Surplus (Deficiency)</b>	<b>\$ (385,735)</b>	<b>\$ (436,972)</b>	<b>\$ (525,835)</b>	<b>\$ (596,440)</b>	<b>\$ (689,469)</b>

## SECTION IV: RATE DESIGN

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### A. INTRODUCTION

The principal objective of the rate design stage is to develop sanitary sewer rate structures that collect the appropriate level of revenue. The City currently does not assess local charges for sanitary sewer service. In order to fund the ongoing deficiencies identified in the revenue requirement section above, it is recommended that a local charge be formed.

### B. EXISTING SANITARY SEWER RATES CHARGED BY CWS

The existing sanitary sewer rates charges by CWS are composed of a fixed monthly charge and a variable consumption charge per one hundred (100) cubic feet (CCF) for individual customer's average winter usage. The City currently does not assess a local service fee. **Exhibit 4.1** provides a summary of the existing CWS monthly sanitary sewer rates.

Table 4.1: Existing CWS Monthly Sanitary Sewer Rates

Charge	FY2015
Monthly Base Charge (per DU or DUE)	\$25.85
Use Charge (per ccf)	\$1.72

**Notes:**  
 DU = Dwelling units  
 DUE = Dwelling unit equivalents

### C. PROPOSED LOCAL SANITARY SEWER RATES

The primary driver behind the projected annual revenue deficiencies in both scenarios are tied to ongoing capital renewal and replacement needs. These expenses are fixed in nature; therefore, the local service fee is proposed to be collected through a monthly fixed fee per dwelling unit or dwelling unit equivalent consistent with the monthly base charge methodology currently in the CWS rate structure. **Table 4.2** and **Table 4.3** provide a summary of the proposed rates for the five-year period for scenarios 1 and 2. Consistent with existing City practices, the charge would be escalated

annually with the Engineering News Record (ENR) City of Seattle index with a minimum floor set at 2.00 percent annually.

Table 4.2: Proposed Local Rates – Scenario 1 Existing Franchise Fee Collection

CWS Fees	FY2015	FY2016	FY2017	FY2018	FY2019
Monthly Base Charge (per DU or DUE)	\$25.85	\$26.63	\$27.42	\$28.25	\$29.09
Use Charge (per ccf)	\$1.72	\$1.77	\$1.82	\$1.88	\$1.94

Local Fees	FY2015	FY2016	FY2017	FY2018	FY2019
Monthly Base Charge (per DU or DUE)	\$3.55	\$3.66	\$3.77	\$3.88	\$4.00

**Notes:**  
 DU = Dwelling units  
 DUE = Dwelling unit equivalents  
 Assumes a 3.00% increase in CWS charges starting in FY2016

Table 4.3: Proposed Local Rates – Scenario 2 Proportional Franchise Fee Collection

CWS Fees	FY2015	FY2016	FY2017	FY2018	FY2019
Monthly Base Charge (per DU or DUE)	\$25.85	\$26.63	\$27.42	\$28.25	\$29.09
Use Charge (per ccf)	\$1.72	\$1.77	\$1.82	\$1.88	\$1.94

Local Fees	FY2015	FY2016	FY2017	FY2018	FY2019
Monthly Base Charge (per DU or DUE)	\$1.95	\$2.01	\$2.07	\$2.13	\$2.19

**Notes:**  
 DU = Dwelling units  
 DUE = Dwelling unit equivalents  
 Assumes a 3.00% increase in CWS charges starting in FY2016

## SECTION V: SUMMARY

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Sanitary sewer revenues at current levels are not sufficient to fund ongoing sanitary sewer system obligations. Two scenarios were evaluated for the sanitary sewer system based on the method of collection of Franchise Fees. The revenue deficiencies identified in Scenario 1 Existing Franchise Fee Collection range from \$853,000 in FY2015 increasing to \$1.24 million in FY2019. Scenario 2 Proportional Franchise Fee Collection deficiencies identified range from \$386,000 in FY2015 increasing to \$689,000 in FY2019. The main difference between the two scenarios is that Scenario 1 collects 11.00 percent of revenue versus 15.20 percent in scenario 2 to be used towards ongoing sanitary sewer requirements.

The City sanitary sewer utility's current source of revenue to cover expenses in either scenario are tied the amount of revenue CWS collects on an annual basis, with the City having no control of the level of revenue the sanitary sewer utility generates. In order to meet future revenue needs it is proposed that the sanitary sewer utility establish a local fee based on dwelling units or dwelling unit equivalents. The fee would be escalated on an annual basis using the Seattle ENR construction cost index with a minimum of 2.00 percent per year consistent with other utility rate practices within the City.

We recommend that the City revisit the study findings during the budget cycle to check that the assumptions used are still appropriate and no significant changes have occurred that would alter the results of the study. The City should continue to monitor the financial status of the sanitary sewer utility, adjusting the sanitary sewer rate strategy as needed.

The detailed technical exhibits developed as part of the sanitary sewer study can be found in the Technical Appendix.

# TECHNICAL APPENDIX

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