



Comprehensive Water, Sewer and Storm Utilities Rate Study

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FINAL

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SECTION I: INTRODUCTION

In 2017, the City of Camas (the City) engaged FCS GROUP to begin the process of completing a comprehensive rate study for the water, sewer and stormwater utilities. The results of this study establish a blueprint for achieving strong financial performance in the future and delivering efficient and effective services to the City's customers. The scope of the project included the following key elements:

- Review of fiscal policies.
- Assess revenue needs for a multi-year period that includes adequate funding for operations and maintenance, system reinvestment, debt service, and other program activities.
- Project long-term capital needs and incorporate these needs into a long-term funding forecast.
- Use industry standard methodologies to establish a defensible basis for assigning “cost shares” and establishing “equity” for utility customers.
- Develop and recommend rate structures that generate sufficient revenue to meet each utility's financial obligations on a standalone basis.
- Update the City's System Development Charge (SDCs) calculation.

The methodology, key factors, conclusions and recommendations for each of the key task areas of the study are summarized in this report. The full rate study can be found in the Technical Appendix.

SECTION II: RATE STUDY METHODOLOGY

A. RATE SETTING PRINCIPLES AND METHODOLOGY

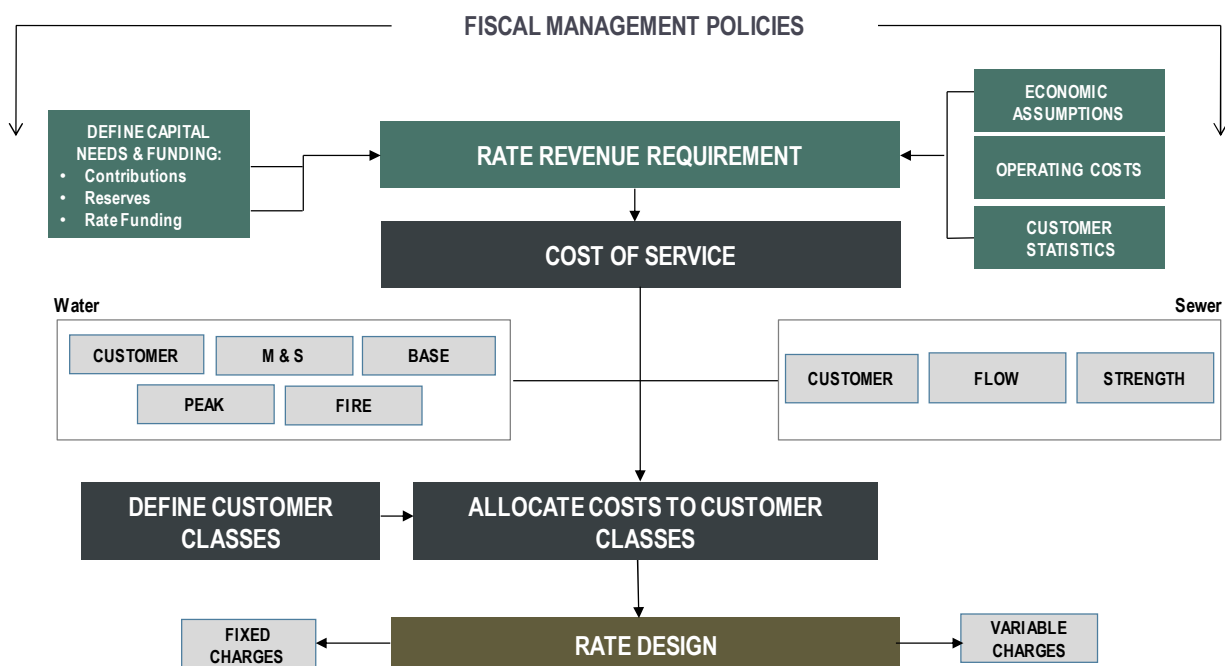
The methods used to establish user rates are based on principles that are generally accepted and widely followed throughout the industry. These principles are designed to produce rates that equitably recover costs from each class of customer by setting the appropriate level of revenue to be collected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

The primary tasks of the rate study are listed below:

- **Revenue Requirement Analysis.** This analysis identifies the total revenue needed to fully fund each system on a standalone basis, considering operating and maintenance expenditures, capital funding needs, debt requirements and fiscal policy objectives.
- **Cost of Service Analysis.** This analysis equitably distributes costs to customer classes based on their proportional demand and use of the system. Due to the simplicity of the stormwater rate structure, a cost of service analysis is not performed for the service.
- **Rate Design Analysis.** This analysis includes the development of rates that generate sufficient revenue to meet each system’s revenue requirement forecast and continue to address the City’s pricing objectives (e.g. conservation and revenue stability).

Revenue requirement, cost of service and rate design were completed for all utilities, except as noted for stormwater. **Exhibit 2.1** illustrates the entire rate study process.

Exhibit 2.1: Overview of the Rate Study Process



B. REVENUE REQUIREMENT

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy for each system. It also enables the City to set utility rate structures which fully recover the total cost of operating each 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 utility enterprise funds, but also a clear and reasonable relationship between the costs imposed on utility customers and the costs incurred to provide the service.

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

- **Fiscal Policy Analysis.** Identifies formal and informal fiscal policies of the City to ensure that prudent policies are considered, including reserve levels, capital/system replacement funding and debt service coverage.
- **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.).
- **Operating Forecast.** Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the system.
- **Sufficiency Testing.** Evaluates the sufficiency of revenues in meeting all financial obligations, including any coverage requirements associated with long-term debt.
- **Strategy Development.** Designs a forward-looking strategy for adjusting rates to fully fund all financial obligations on a periodic or annual basis over the projection period.

This study uses 2018 budget documents as the primary basis for forecasting 2018 through 2037 expenses. The main focus of the report is on the first five (5) year projection period 2019 through 2023, which is consistent with the City's past practices of adopting a five (5) year rate strategy. The complete forecast can be found in the technical appendix.

C. COST OF SERVICE

The purpose of a cost of service analysis is to provide a rational basis for distributing the full costs of each utility service to each class of customers in proportion to the demands they place on the system. Detailed cost allocations, along with appropriate customer class designations, help to sharpen the degree of equity that can be achieved in the resulting rate structure design. The key analytical steps of the cost of service analysis are as follows:

- **Functional Cost Allocation.** Apportions the annual revenue requirement to the major functions of the system:
 - Water: base (average use), peak (highest use), meters & services (reading and servicing meters), fire protection (fire specific costs) and customer (general customer costs).
 - Sewer: flow (collection), strength (treatment) and customer (general customer costs).
- **Customer Class Designation.** Identifies the customer classes that will be evaluated as part of the study. Existing as well as new or revised customer classes or class definitions may be considered. It is appropriate to group customers that exhibit similar usage characteristics and service requirements.

- **Cost Allocation.** Allocates the costs from the functional cost allocation to different customer classes based on their unique demands for each service as defined by system planning documents, industry standards, and recorded user history (from billing data). The results identify shifts in cost recovery by customer class from that experienced under the existing rate structure.

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. Variable charges typically serve two functions, equitably recovering variable costs such as chemicals and electricity and encouraging customers to use the system efficiently.

SECTION III: WATER UTILITY

A. INTRODUCTION

The City of Camas owns and operates its water system, which provides water to approximately 8,500 customers including residential, industrial and commercial users. The City performs operation and maintenance of the water system source of supply, water treatment and repair and maintenance of water meters.

B. REVENUE REQUIREMENT

B.1 Operating Forecast

The ensuing discussion highlights the key assumptions used to develop the water utility operating forecast.

Reserves

- **Operating Reserves.** A minimum balance of 90 days of operating and maintenance (O&M) expenses (\$966,000 to \$1.07 million, per discussion with City staff). A target of 90 days of O&M expenses allows the utility to weather volatility in revenue due to seasonality and conservation measures.
- **Capital Contingency Reserves.** A minimum balance target of \$250,000 (per discussion with City staff). The capital contingency reserve is sufficient to cover an emergency main break.

Operating Revenue

- **Retail Rate Revenue.** Based on actual detailed customer accounts and usage statistics from the City's billing system.
- **Non Rate Revenue.** Non rate revenue consists primarily of timber sales (in 2018 and expected every other year with the exception of a four year gap between 2018 and 2022), penalties (past due/NSFs/turn-off), other rent & use charges and water hook-up fees (based on budget provided by City).
- **Customer Growth.** Customer growth was developed using a combination of draft Water System Plant (WSP) projections, internal City forecast and historical actual figures. The aggregate five (5) year growth rate fluctuated between 1.01 percent and 2.21 percent per year.
- **Interest Earnings.** Starting in 2019 a 1.75 percent interest rate was assumed, increasing at 0.50 percent annual increments up to 3.25 percent by 2022 and thereafter (per discussions with City staff).

O&M Expenses

- **General Cost Inflation.** 1.77 percent per year (based on the ten-year historical Consumer Price Index data and discussion with City staff).
- **Construction Cost Inflation.** 3.50 percent per year (based on discussions with City staff).
- **Labor Cost Inflation.** 3.00 percent per year (based on discussions with City staff).

- **Benefit Cost Inflation.** 3.00 percent per year (based on discussions with City staff).
- **State Excise Tax.** 5.029 percent on all water rate revenue (based on prevailing tax rates).
- **State B&O Tax.** 1.50 percent on all non-rate revenues except timber sales (based on prevailing tax rates).
- **Timber Tax.** 5.00 percent on all timber sales (based on prevailing tax rates).
- **Operating & Maintenance (O&M) Additions.** In addition to the 2018 budget, the study assumed an entry level addition in 2019 and 2020, and partial staffing additions related to geographical information system (GIS) and asset management in 2019.

Debt Service

- **Existing Debt.** The water utility currently has eight (8) outstanding debt obligations consisting of two (2) Public Works Trust Fund (PWTF) loans, five (5) Drinking Water State Revolving Fund (DWSRF) loans and one (1) Steigerwald water rights real estate contract. Annual debt payments on the outstanding bonds range from \$888,000 in 2019 to \$870,000 in 2023.
- **New Debt.** Three (3) new debt issues are anticipated to fund the \$32.15 million (inflated to the year of construction) capital program between 2017 and 2022:
 - **2019 Revenue Bond:** \$10.60 million in proceeds, 20-year term, 4.50 percent interest rate and 1.00 percent issuance cost. This loan assumes a 3-year interest only payment. Based on these terms a new annual debt service payment of \$522,000 is assumed in 2019, increasing up to \$992,000 in 2022 when the full principal and interest payment begins.
 - **2021 Revenue Bond:** \$1.00 million in proceeds, 20-year term, 5.00 percent interest rate and 1.00 percent issuance cost. This loan assumes a 3-year interest only payment. Based on these terms a new annual debt service payment of \$55,000 is assumed in 2021, increasing up to \$97,000 in 2024 when the full principal and interest payment begins.
 - **2023 Revenue Bond:** \$6.00 million in proceeds, 20-year term, 5.00 percent interest rate and 1.00 percent issuance cost. Based on these terms a new annual debt service payment of \$529,000 is assumed in 2023.

System Reinvestment

- System reinvestment funding is to ensure system integrity through ongoing repair and replacement. The ideal system reinvestment benchmark is tied to a detailed asset management plan. True replacement costs are generally higher than book values, increasing over time with the cost of labor and materials. Useful lives of assets should be based on condition assessments rather than accounting values. The schedule of replacement combined with accurate replacement costs enables jurisdictions to be more informed when setting a level of funding from rates. Without a formal asset replacement program, utilities commonly use annual depreciation expense to establish an annual funding provision.
- The water utility is not currently funding dedicated system reinvestment. To avoid additional rate pressure, this study does not incorporate dedicated system reinvestment funding, but does assume that any cash above the minimum operating target balances is transferred to the capital fund. We recommend that the City revisit system reinvestment funding during the next study and begin phasing it in towards a minimum of annual depreciation levels (\$1.92 million in 2018).

B.2 Capital Funding Plan

The water utility is anticipating \$32.15 million (inflated to the year of construction) in capital costs from 2019 through 2023. Some of the more significant projects include: Parkers Landing Well, Well

17, Lower Prune Hill Pump Station Expansion, North Shore Pump Station Capacity Phase I & II, New 544 Zone Reservoir and annual North Shore Distribution Program projects. Funding for the capital identified includes cash balances (including interest), system development charge revenue, new revenue bond proceeds, developer contributions for the Annual North Shore Distribution Program and any cash flow above what is needed to satisfy the minimum operating fund balance.

Exhibit 3.1 provides a summary of the funding sources for the capital expenditures. A detailed capital plan can be found in the Technical Appendix.

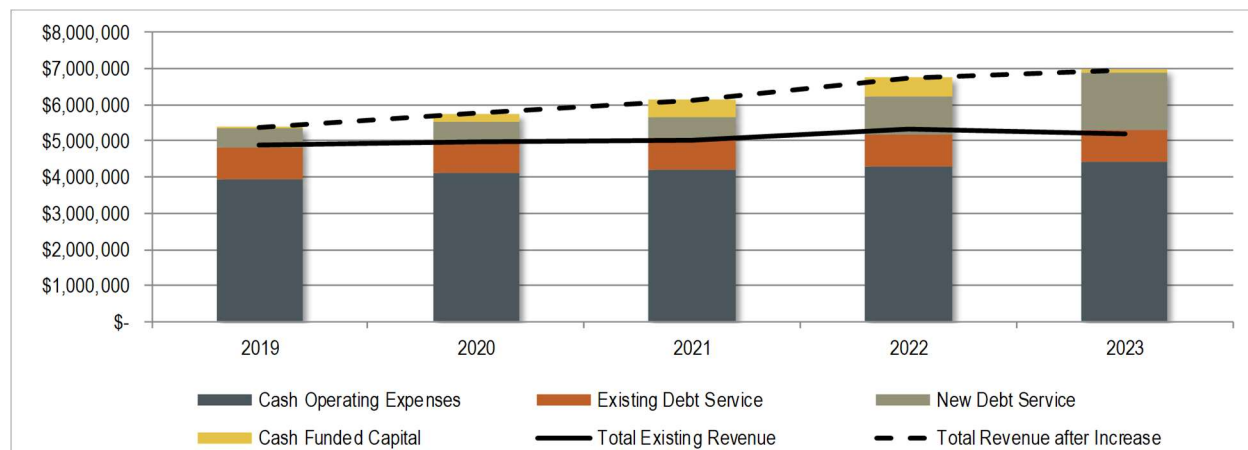
Exhibit 3.1: Water Capital Funding Summary

Funding Summary	2019	2020	2021	2022	2023	Total
Total Capital Costs	\$ 9,144,684	\$ 12,190,453	\$ 3,364,939	\$ 2,764,518	\$ 4,686,843	\$ 32,151,437
Funding Sources						
Cash Balances & Interest	\$ -	\$ 5,858,879	\$ 146,437	\$ 1,091,995	\$ -	\$ 7,097,311
SDC Revenues	1,692,320	1,548,980	1,357,860	781,758	1,176,159	6,557,077
Developer Contributions	803,419	831,538	860,642	890,765	-	3,386,364
Revenue Bond Proceeds	6,648,945	3,951,055	1,000,000	-	3,510,684	15,110,684
Total Capital Funding	\$ 9,144,684	\$ 12,190,453	\$ 3,364,939	\$ 2,764,518	\$ 4,686,843	\$ 32,151,436

B.3 Summary of Revenue Requirement

The operating forecast components of O&M expenses, debt service and rate funded capital come together to form the multi-year revenue requirement. The revenue requirement compares the overall revenue available to the water system to the expenses to evaluate the sufficiency of rates on an annual basis. **Exhibit 3.2** provides a summary of the water system revenue requirement findings.

Exhibit 3.2: Water Utility Revenue Requirement Summary



Summary of water revenue requirement:

- With the addition of new debt to fund the capital program and O&M additions existing rates are not sufficient to cover the financial obligations of the water utility. If rates do not increase over the study period, the water utility will be become deficient by \$449,000 in 2019 increasing to \$1.64 million by 2023.
- Revenue associated with timber sales is realized in 2022, and every other year thereafter throughout the twenty-year forecast.
- Revenue bond proceeds totaling \$17.60 million are projected from 2019 through 2023 in three separate issuances. New debt service ranges from \$522,000 to \$1.61 million during this timeframe.

- To meet the total projected financial obligations of the water utility, annual rate increases are proposed at 5.65 percent in 2019 through 2023. It is important to note that annual rate increases are assumed to continue throughout the twenty-year forecast. With the ever-changing nature of a utility and their capital needs, it is prudent to annually review revenue and expenses to plan and adjust the proposed rate strategy, as needed.
- The operating fund balance is at or above the target 90-day level.
- The capital fund balance is forecast to be at or above the target of \$250,000.
- Water utility debt service coverage is forecast to remain above the revenue bond covenant minimum of 1.25 in every year starting at 6.10 in 2019 decreasing to 2.34 in 2023.

C. COST OF SERVICE

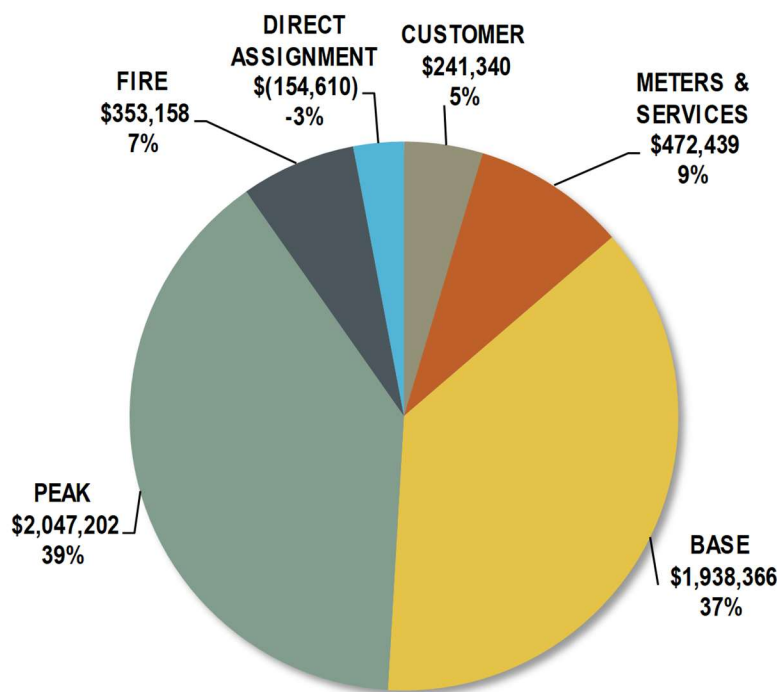
A cost of service analysis determines the equitable recovery of costs from customers according to unique demands each class places on the system. There are three fundamental steps to allocating the annual revenue requirement to customer classes and developing the final rates. 1) Allocate total utility costs by function, 2) develop customer specific allocation factors and 3) allocate costs to customer classes. The methodology used conforms to industry standards as identified by the American Water Works Association (AWWA) Principles of Water Rates, Fees and Charges, M1 Manual.

The functions of service to which water service costs were allocated are listed below.

- **Customer.** These are the costs associated with establishing, maintaining, and serving water customers and tend to include administrative, billing, and customer service costs. These costs are generally uniform by customer regardless of their meter size or demand placed on the water system.
- **Meters & Services Costs.** These costs are associated with installation, maintenance, and repairs of meters and services. These costs are typically allocated based on number of connections and meter size.
- **Base Costs.** These costs relate to average service provided on demand and are essentially correlated with year-round water consumption.
- **Peak Costs.** These costs relate to peak demand service typically associated with the ability of the system to provide capacity to customers with higher than average volume, which usually occurs during the summer months.
- **Fire Protection.** These are the costs associated with the ability of the system to provide adequate capacity and water flow corresponding to minimum fire safety standards required to serve its customer demographic. These are mostly incremental costs related to providing storage, transmission capacity, and hydrants for fire protection.
- **Direct Assignment.** These are costs or revenue offsets that are to be applied to one specific customer or customer class. The revenue offset associated with this allocation is the penalties non-rate revenue. This offset is only related to the residential customer class.

Exhibit 3.3 provides a summary of the functional cost allocation results.

Exhibit 3.3: Water Utility Functional Cost Allocation Summary



The water utility cost allocation indicates that the largest share of costs, 39 percent, relate to meeting peak demands, followed by 37 percent related to meeting base demands.

C.1 Customer Class Distinctions

One of the main objectives of the cost of service rate study is to evaluate if cost differences exist when serving different customer classes of the system.

The City's current customer class structure consists of the following classes of service:

- Residential
- Commercial
- Industrial
- Irrigation
- City
- Cemetery

No changes to the customer classes were recommended as part of this study. The analysis was performed for the existing six (6) classes of service.

C.2 Allocation Factors

Once the customer classes were defined, functional cost pools (shown in **Exhibit 3.3**) were then allocated to these customer classes based on the demand each class places on the system. In order to complete this task, the analysis consisted of first developing allocation factors that identified customer characteristics including number of accounts, consumption levels, peak demand patterns, and fire flow requirements. The allocation factors are intended to equitably allocate total costs based on the cost incurred to provide service. For this study, the water fund costs were allocated based on the following:

- **Customer.** Based on customer accounts.
- **Meters & Services Costs.** Based on number of meter service equivalents (e.g. 2” meter is equivalent to eight 5/8” meters).
- **Base Costs.** Based on total annual water use.
- **Peak Costs.** Based on use during the system’s peak month.
- **Fire Protection.** Based on fire flow gallons per minute and duration requirements identified by the City for each class of service.
- **Direct Assignment.** Costs directly assigned to a specific class of service.

C.3 Water Cost of Service

Exhibit 3.4 provides a comparison of current rate revenue distribution between customer classes and the results of the cost of service analysis.

Exhibit 3.4: Comparison of Water Current Revenue Distribution to Cost of Service Distribution

Class	2019 Revenues		Difference	
	Existing	COSA	\$	%
Residential	\$ 2,826,202	\$ 2,996,659	\$ 170,457	6.03%
Commercial	230,788	256,451	25,663	11.12%
Industrial	1,229,352	1,205,182	(24,170)	-1.97%
Irrigation	309,286	391,160	81,874	26.47%
City	38,941	46,898	7,956	20.43%
Cemetery	1,392	1,545	152	10.93%
Total	\$ 4,635,963	\$ 4,897,895	\$ 261,932	5.65%

It should be noted, given the need to make a host of assumptions to complete a cost-of-service analysis, the margin of error for class-specific results is typically considered to be plus-or-minus 5.00 percent, relative to the system average. Because costs fluctuate each year, the needed increase by class can also fluctuate and interclass rate changes are not suggested unless the class’s revenue difference is outside of the 5.00 percent threshold. Based on these guidelines, the cost of service for the water utility indicates that some adjustments are warranted. The analysis concludes that the commercial, irrigation, city and cemetery classes have been paying below their cost of service while the industrial class has been paying more than their cost of service. The residential class is considered within cost of service.

Because the City’s priority is overall revenue generation, cost of service adjustments were not implemented at this time. The City should update the analysis during the next rate study update. If similar results are present, the City should consider phasing-in cost of service adjustments.

D. RATE DESIGN

The principal objective of the rate design stage is to implement water rate structures that collect the appropriate level of revenue. Establishing rates is a blend of “Art” and “Science” and especially so when it comes to the rate levels and structures. Several variables must be balanced to arrive at optimal rates. The results of the revenue requirement analysis were used to develop new water rate alternatives to recover the projected revenue from customers.

D.1 Existing Water Rates

The existing water rates are composed of a fixed monthly charge and a variable consumption charge per hundred cubic feet (CCF) of water usage. Meter charges are the same for all customer classes and vary by meter size. Volume charges are different for each customer class. The City also has an outside city multiplier of 1.50 applied to both the fixed and variable charges.

Exhibit 3.5 provides a summary of the existing monthly water utility rates.

Exhibit 3.5: Existing Monthly Water Rates

Description	Existing 2018
Monthly Fixed	
3/4"	\$ 10.51
1"	12.97
1.25"	14.60
1.5"	16.25
2"	25.25
3"	91.47
4"	116.03
6"	173.27
8"	238.71
10"	312.31
Variable	
Residential	\$ 1.86
Commercial and City	2.27
Industrial	1.88
Irrigation	2.11
Cemetery	0.84

D.2 Proposed Water Rates

Across the board adjustments – equal increases to the fixed meter charge and variable consumption charges – were implemented for all customer classes. **Exhibit 3.6** provides a summary of the proposed rates for the 5-year rate period.

Exhibit 3.6: Proposed Monthly Water Rates

Description	Existing		Proposed				
	2018	2019	2020	2021	2022	2023	
Monthly Fixed							
3/4"	\$ 10.51	\$ 11.10	\$ 11.73	\$ 12.39	\$ 13.09	\$ 13.83	
1"	12.97	13.70	14.47	15.29	16.15	17.06	
1.25"	14.60	15.42	16.29	17.21	18.18	19.21	
1.5"	16.25	17.17	18.14	19.16	20.24	21.38	
2"	25.25	26.68	28.19	29.78	31.46	33.24	
3"	91.47	96.64	102.10	107.87	113.96	120.40	
4"	116.03	122.59	129.52	136.84	144.57	152.74	
6"	173.27	183.06	193.40	204.33	215.87	228.07	
8"	238.71	252.20	266.45	281.50	297.40	314.20	
10"	312.31	329.96	348.60	368.30	389.11	411.09	
Variable (\$/ccf)							
Residential	\$ 1.86	\$ 1.97	\$ 2.08	\$ 2.20	\$ 2.32	\$ 2.45	
Commercial and City	2.27	2.40	2.54	2.68	2.83	2.99	
Industrial	1.88	1.99	2.10	2.22	2.35	2.48	
Irrigation	2.11	2.23	2.36	2.49	2.63	2.78	
Cemetery	0.84	0.89	0.94	0.99	1.05	1.11	

E. SUMMARY

The analysis described above concludes the rate study for the water utility. After performing a rate revenue analysis it was identified that the revenues at current levels are not sufficient to fund the five (5) year planning period costs inclusive of the \$32.15 million capital program and associated debt service. As a result, 5.65 percent increases are proposed from 2019 through 2023. The proposed rate increases will be applied equally to all existing customers and rate components (fixed and variable charges).

Cost of service adjustments will not be implemented at this time. The City should revisit the cost of service analysis during the next study update. If the results are consistent, a cost of service phase-in should be considered by class of service.

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 use the study findings as a living document, continuously comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes will require adjustments to the rate strategy proposed.

The detailed technical exhibits developed as part of the water rate study can be found at the end of this report in the Technical Appendix.

SECTION IV: SEWER UTILITY

A. INTRODUCTION

The City of Camas operates a sewer system that serves approximately 8,000 utility customers, including residential, industrial and commercial users. The City performs water treatment, inspection of septic systems (STEP, STEF, and conventional gravity), and collection and treatment of sanitary sewage.

B. REVENUE REQUIREMENT

B.1 Operating Forecast

The ensuing discussion highlights the key assumptions used to develop the sewer utility operating forecast.

Reserves

- **Operating Reserves.** A minimum balance of 60 days, of operating and maintenance (O&M) expenses (\$753,000 to \$842,000, per discussion with City staff).
- **Capital Contingency Reserves.** A minimum balance target of \$750,000 (per discussion with City staff). The reserve target is sufficient to cover one block of emergency repair.

Operating Revenue

- **Retail Rate Revenue.** Based on actual detailed customer statistics from the City's billing system.
- **Customer Growth.** Customer growth was developed using the internal City forecast and historical actual figures. The average five (5) year growth rate fluctuated between 0.84 percent and 1.82 percent per year.
- **Interest Earnings.** Starting in 2019 a 1.75 percent interest rate was assumed, increasing at 0.50 percent annual increments up to 3.25 percent by 2022 and thereafter (per discussions with City staff).

O&M Expenses

- **General Cost Inflation.** 1.77 percent per year (based on the ten-year historical Consumer Price Index data and discussion with City staff).
- **Construction Cost Inflation.** 3.50 percent per year (based discussions with City staff).
- **Labor Cost Inflation.** 3.00 percent per year (based on discussion with City staff).
- **Benefit Cost Inflation.** 3.00 percent per year (based on discussion with City staff).
- **State Excise Tax.** 3.85 percent on all rate revenue that is collection related – 39 percent (based on prevailing public utility excise tax rates).
- **State B&O Tax.** 1.50 percent on all treatment and transmission related rate revenue – 61 percent – and on all non-rate revenues (based on prevailing tax rates).

- **Operating & Maintenance (O&M) Additions.** In addition to the 2018 budget, the study assumed two (2) entry level staffing additions for the collection system maintenance one in each year of 2019 and 2020, two (2) entry level staffing additions for the wastewater treatment plant one in each year of 2019 and 2020, and partial staffing additions related to geographical information system (GIS), asset management and pump station telemetry and supervisory control and data acquisition (SCADA) upgrades (2019 through 2022 for SCADA).

Debt Service

- **Existing Debt.** The sewer utility currently has seven (7) outstanding debt obligations made up of one (1) revenue bond, four (4) Public Works Trust Fund (PWTF) loans and two (2) Department of Energy (DOE) loans. Annual debt service ranges from \$3.54 million in 2019 to \$2.70 million in 2023.
- **New Debt.** Two (2) new debt issues are anticipated to fund the \$41.51 million (inflated to the year of construction) capital program between 2019 and 2023:
 - **2021 Revenue Bond:** \$27.00 million in proceeds, 20-year term, 5.00 percent interest rate and 1.00 percent issuance cost. This loan assumes a 3-year interest only payment. Based on these terms a new annual debt service payment of \$1.48 million is assumed in 2021 increasing up to \$2.63 million in 2022 when the full principal and interest payment begins.
 - **2023 Revenue Bond:** \$3.00 million in proceeds, 20-year term, 5.00 percent interest rate and 1.00 percent issuance cost. Based on these terms a new annual debt service payment of \$265,000 is assumed in 2023.

System Reinvestment

- System reinvestment funding is to ensure system integrity through ongoing repair and replacement. The ideal system reinvestment benchmark is tied to a detailed asset management plan. True replacement costs are generally higher than book values, increasing over time with the cost of labor and materials. Useful lives of assets should be based on condition assessments rather than accounting values. The schedule of replacement combined with accurate replacement costs enables jurisdictions to be more informed when setting a level of funding from rates. Without a formal asset replacement program, utilities commonly use annual depreciation expense to establish an annual funding provision.
- System reinvestment funding is phased-in throughout the forecast period, to avoid additional rate pressure, beginning at 2.5 percent of annual depreciation in 2019 increasing up to 10 percent of annual depreciation by 2023 (\$43,800 in 2019 - \$247,000 in 2023). We recommend that the City revisit system reinvestment funding during the next study and evaluate accelerating the phase-in toward a minimum of annual depreciation levels (\$1.64 million in 2018).

B.2 Capital Funding Plan

The sewer utility is anticipating \$41.51 million in capital costs from 2019 through 2023. Project costs are based on the remaining CIP identified in the 2010 General Sewer Plan, inflated to the year of construction. Some of the more significant capital projects include: annual in-City sewer main rehab, Lacamas Creek Pump Station, WWTP Upgrade Phase 3 and WWTP R&R. Funding for the capital identified includes cash balances (including interest), system development charge revenue, dedicated rate funding and new debt service.

Exhibit 4.1 provides a summary of the funding sources for the capital funding expenditures. A detailed capital plan can be found in the Technical Appendix.

Exhibit 4.1: Sewer Capital Funding Summary

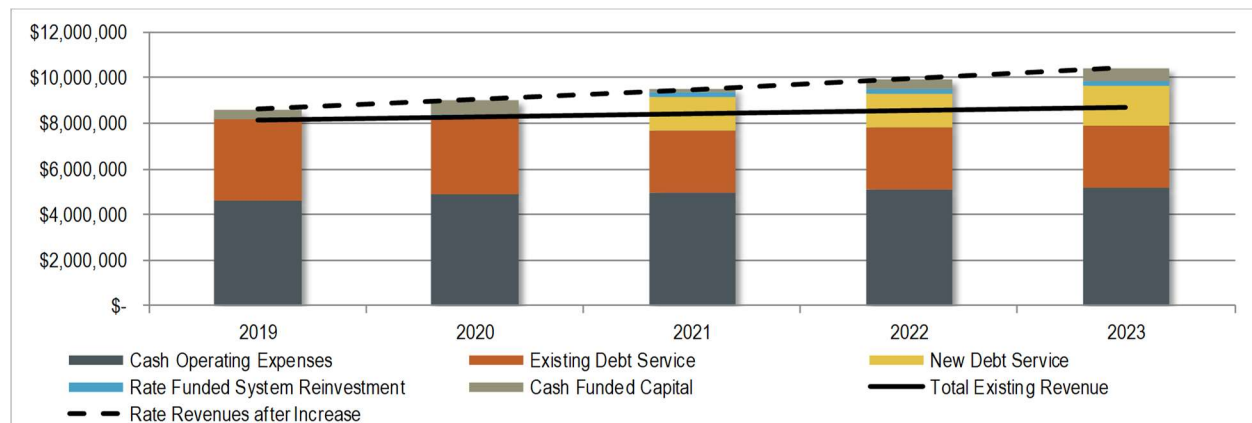
Funding Summary	2019	2020	2021	2022	2023	Total
Total Capital Costs	\$ 5,409,686	\$ 6,763,179	\$ 6,024,496	\$ 21,081,432	\$ 2,151,197	\$ 41,429,990
Funding Sources						
Cash Balances	\$ 4,398,070	\$ 5,685,873	\$ -	\$ -	\$ -	\$ 10,083,943
Rate Funded System Reinvestment	43,796	184,276	200,915	243,078	247,380	919,445
SDC Revenue	967,820	893,030	793,310	440,613	795,570	3,890,343
Developer Contributions	-	-	-	-	-	-
Revenue Bond Proceeds	-	-	5,030,271	20,397,741	1,108,246	26,536,258
Total Capital Funding	\$ 5,409,686	\$ 6,763,179	\$ 6,024,496	\$ 21,081,432	\$ 2,151,197	\$ 41,429,990

The City is in the process of updating the General Sewer Plan. Once the update is completed, we recommend that the City review the capital funding assumptions included in this rate study and make adjustments if necessary.

B.3 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 sewer system to the expenses to evaluate the sufficiency of rates. **Exhibit 4.2** provides a summary of the sewer system revenue requirement findings.

Exhibit 4.2: Sewer Utility Revenue Requirement Summary



Summary of sewer revenue requirement:

- Current revenue levels are not sufficient to meet existing sewer annual financial obligations. With the addition of new debt, O&M additions and beginning to fund the system reinvestment phase-in, the utility is projected to be deficient by \$69,000 in 2019 increasing to \$1.13 million by 2023.
- Revenue bond proceeds totaling \$30.00 million are projected from 2021 through 2023 in two separate issuances. New debt service ranges from \$1.48 million in 2021 to \$1.75 million in 2023.
- To meet the total projected financial obligations of the sewer utility, rate increases are proposed at 3.30 percent per year from 2019 through 2023. It is important to note that annual rate increases are assumed to continue throughout the twenty-year forecast. With the ever-changing nature of a utility and their capital needs, it is prudent to annually review revenue and expenses to plan and adjust the proposed rate strategy, as needed.

- The operating fund balance is at the target of 60 day.
- The capital fund balance is forecast to remain at or above the target level of \$750,000.
- Sewer utility debt service coverage is forecast to remain above the revenue bond covenant minimum of 1.25 in every year starting at 3.62 in 2019, decreasing to a low of 1.80 in 2021, and ending the 5-year period projection at 1.90 in 2023.

C. SEWER COST OF SERVICE ANALYSIS

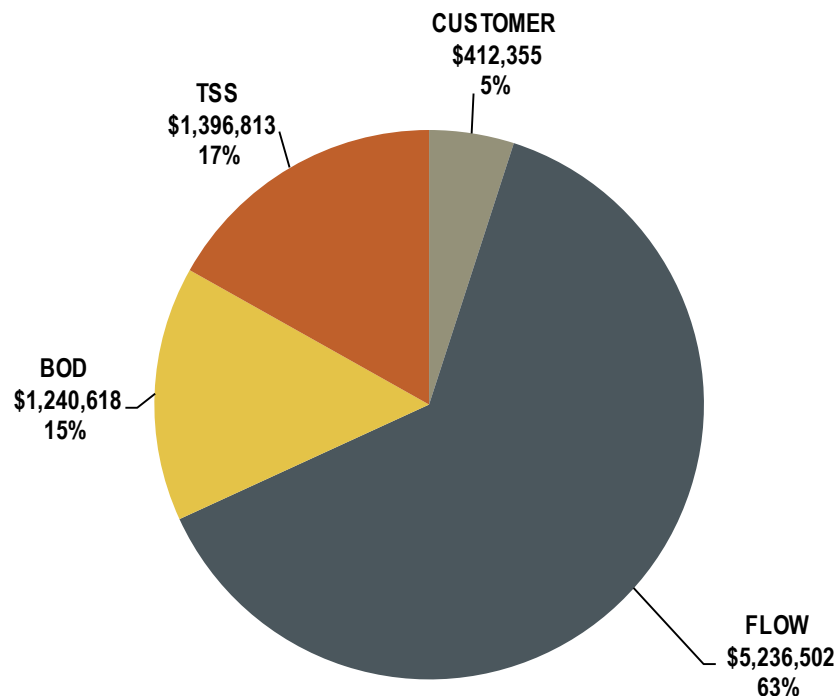
Similar to the water utility, the cost of service allocation process for the sewer utility involves three steps. 1) Allocate total utility costs by function, 2) develop customer specific allocation factors and 3) allocate costs to customer classes. The methodology used conforms to industry standards as identified by the Water Environment Federation (WEF) Financing and Charges for Sewer Systems Manual 27.

The functions of service to which sewer service costs have been allocated are listed below.

- **Customer.** These costs are associated with providing service to customers regardless of sewer contribution, such as billing and office support.
- **Sewer Flow.** These costs relate to actual and estimated sewer volume processed within the system in a year.
- **Strength.** These costs reflect strength of sewage processed. Strength is typically tracked by two measurements – biochemical oxygen demand (BOD) and total suspended solids (TSS). BOD is the parameter used to characterize the organic strength of sewage and TSS is the parameter that measures the number of particles suspended in water that will not pass through a filter and require treatment.

Exhibit 4.3 provides a summary of the functional cost allocation results.

Exhibit 4.3: Sewer Utility Functional Cost Allocation Summary



The sewer utility cost allocation indicates that 32 percent of the costs are related to strength and 63 percent are related to flow.

C.1 Customer Class Distinctions

One of the main objectives of the cost of service rate study is to evaluate if cost differences exist when serving different customer classes of the system.

The City’s current customer class structure consists of the following classes of service:

- Residential
- Commercial/Industrial

No changes to the customer classes were recommended as part of this study. The analysis was performed for the existing two (2) classes of service

C.2 Allocation Factors

The next step in the cost of service analysis involves distribution of the allocated system costs to the customer classes served by the system. The functionally allocated system-wide costs are allocated to these customer classes as follows:

- **Customer.** Based on customer accounts.
- **Flow.** Based on annual billed volume contributed to the sewer system. Billed volume represents winter usage to avoid charging for water that is used for irrigation and does not impact the sewer system.
- **Strength.** Based on billed volume adjusted for class specific BOD and TSS concentrations. The City requires that all wastewater be of domestic strength prior to discharging to the system. Therefore, all classes are assumed to contribute the same level of BOD and TSS and require no weighting.

C.3 Sewer Cost of Service

Exhibit 4.4 provides a comparison of current rate revenue distribution between customer classes and the distribution of revenues indicated from the cost of service analysis.

Exhibit 4.4: Comparison of Sewer Current Revenue Distribution to Cost of Service Distribution

Class	2019 Revenues		Difference	
	Existing	COSA	\$	%
Residential	\$ 4,651,670	\$ 4,099,719	\$ (551,950)	-11.87%
Commercial/Industrial	3,369,907	4,186,569	816,662	24.23%
Total	\$ 8,021,577	\$ 8,286,289	\$ 264,712	3.30%

As previously discussed for the water utility, if a class specific increase is within 5.00 percent of the overall increase needed, the class is considered within cost of service for the utility. Because costs fluctuate each year, the needed increase by class can also fluctuate and interclass rate changes are not suggested unless the class’s revenue difference is outside of the 5.00 percent threshold. Based on these guidelines, cost of service adjustments are warranted. The analysis concludes that the commercial/industrial class has been paying less than their cost of service while the residential class has been paying more than their cost of service. It should be mentioned that the system specifications used in the development of the cost of service analysis were based on the 2010 General Sewer Plan.

The City should review the assumptions used in this analysis once the new general sewer plan is updated.

Consistent with the water utility, the City’s priority during this study was overall revenue collection. Cost of service adjustments were not implemented at this time. The city should update the analysis during the next rate study update. If similar results are present, the City should consider phasing-in cost of service adjustments.

D. RATE DESIGN

As discussed in the water utility section, the principal objective of the rate design stage is to implement rate structures that collect the appropriate level of revenue as outlined by the revenue requirement.

D.1 Existing Sewer Rates

The existing sewer rates consist of a fixed flat rate plus a volume rate per hundred cubic feet (CCF) of flow. Rates are different between classes of service. The City has an outside city multiplier of 1.50 applied to both the fixed and variable charges.

Exhibit 4.5 provides a summary of the existing sewer utility rates.

Exhibit 4.5: Existing Sewer Rates

Description	Existing 2018
Monthly Fixed	
Residential	\$ 24.73
Commercial/Industrial	11.86
Variable (\$/ccf)	
Residential	\$ 3.77
Commercial/Industrial	5.03

D.2 Proposed Sewer Rates

No rate structure changes were proposed for the sewer utility. Across the board adjustments – equal increases to the fixed charge and variable consumption charges – were implemented for all customer classes. **Exhibit 4.6** provides a summary of the proposed rates for the 5-year rate period.

Exhibit 4.6: Proposed Sewer Rates

Description	Existing			Proposed		
	2018	2019	2020	2021	2022	2023
Monthly Fixed						
Residential	\$ 24.73	\$ 25.55	\$ 26.39	\$ 27.26	\$ 28.16	\$ 29.09
Commercial/Industrial	11.86	12.25	12.65	13.07	13.50	13.95
Variable (\$/ccf)						
Residential	\$ 3.77	\$ 3.89	\$ 4.02	\$ 4.15	\$ 4.29	\$ 4.43
Commercial/Industrial	5.03	5.20	5.37	5.55	5.73	5.92

E. SUMMARY

The analysis described above concludes the rate study for the sewer utility. After performing a rate revenue analysis it was identified that the revenues at current levels are not sufficient to fund the five (5) year planning period costs inclusive of the \$41.51 million capital program and associated debt service. As a result, annual 3.30 percent increases are proposed from 2019 through 2023. The proposed rate increases will be applied equally to all existing customers and rate components (fixed and variable charges).

Cost of service adjustments will not be implemented at this time. The City should revisit the cost of service analysis during the next study update. If the results are consistent, a cost of service phase-in should be considered.

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 use the study findings as a living document, continuously comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes will require adjustments to the rate strategy proposed.

The detailed technical exhibits developed as part of the sewer rate study can be found at the end of this report in the Technical Appendix.

SECTION V: STORMWATER UTILITY

A. INTRODUCTION

The City of Camas maintains over 2,500 catch basins, with storm line cleaning, drainage system maintenance, cleaning and repair. The Public Works Department provides administration of the National Pollutant Discharge Elimination System (NPDES) Municipal Phase II Permit, review for stormwater compliance on all projects, inspection of stormwater facilities (both public and private), ensuring compliance with erosion prevention and sediment control standards, and investigation and elimination of illicit discharges and/or connections.

B. REVENUE REQUIREMENT

B.1 Operating Forecast

The ensuing discussion highlights the key assumptions used to develop the stormwater utility operating forecast.

Reserves

- **Operating Reserves.** A minimum balance of 60 days of operating and maintenance (O&M) expenses (\$243,000 to \$267,000, per discussion with City staff).
- **Capital Contingency Reserves.** A minimum balance target of 1.00 percent of plant in service (\$221,000 to \$250,000, per discussion with City staff).

Operating Revenue

- **Retail Rate Revenue.** Based on actual detailed customer statistics from the City's billing system.
- **Customer Growth.** Customer growth was developed using the internal City forecast and historical actual figures. The average five (5) year growth rate fluctuated between 1.13 percent and 2.51 percent per year.
- **Interest Earnings.** Interest begins 2019 at 1.75 percent and increases .50 percent per year until it reaches 3.25 percent in 2022 where it remains for the remainder of the forecast period (per discussions with City staff).

O&M Expenses

- **General Cost Inflation.** 1.77 percent per year (based on the ten-year historical Consumer Price Index data and discussion with City staff).
- **Construction Cost Inflation.** 3.50 percent per year (based discussions with City staff).
- **Labor Cost Inflation.** 3.00 percent per year (based on discussion with City staff).
- **Benefit Cost Inflation.** 3.00 percent per year (based on discussion with City staff).
- **State B&O Tax.** 1.50 percent on all revenue (based on prevailing tax rates).
- **Operating & Maintenance (O&M) Additions.** In addition to the 2018 budget, the study assumed the following additions in 2019: one (1) lead worker position, one (1) engineering position

addition, one (1) maintenance worker, partial staffing addition for geographical information systems (GIS), asset management costs and Lacamas Lake Dame operations.

Debt Service

- **Existing Debt.** The stormwater utility currently has two (2) outstanding debt obligations made up of one (1) Public Works Trust Fund Loan (PWTF) loan and one (1) Long Term General Obligation Bond (LTGO). Annual debt service is \$64,000 per year.
- **New Debt.** One (1) new debt issue is anticipated to fund the \$3.97 million (inflated to the year of construction) capital program between 2019 and 2023:
 - **2023 Revenue Bond:** \$2.00 million in proceeds, 20-year term, 5.00 percent interest rate and 1.00 issuance cost. Based on these terms a new annual debt service payment of \$176,000 is assumed in 2023.

System Reinvestment

- System reinvestment funding is to ensure system integrity through ongoing repair and replacement. The ideal system reinvestment benchmark is tied to a detailed asset management plan. True replacement costs are generally higher than book values, increasing over time with the cost of labor and materials. Useful lives of assets should be based on condition assessments rather than accounting values. The schedule of replacement combined with accurate replacement costs enables jurisdictions to be more informed when setting a level of funding from rates. Without a formal asset replacement program, utilities commonly use annual depreciation expense to establish an annual funding provision.
- System reinvestment funding is phased-in throughout the forecast period at 20.0 percent of annual depreciation (\$144,000 in 2019 - \$155,000 in 2023) to avoid additional rate pressure. We recommend that the City revisit system reinvestment funding during the next study and evaluate accelerating the phase-in toward a minimum of annual depreciation levels (\$702,000 in 2018).

B.2 Capital Funding Plan

The stormwater utility is anticipating \$3.97 million (inflated to the year of construction) in capital costs from 2019 through 2023, as developed by City staff. The City currently does not have a stormwater capital facilities plan and relied on a project list from other internally developed studies and NPDES permit requirements. Some of the more significant capital projects include: Columbia Summit 2A Detention projects, the Columbia Summit 2B and 3 Detention projects as well as annual repair and replacement of system infrastructure. Funding for the capital identified includes cash balances (including interest), dedicated rate funding and new debt service.

Exhibit 5.1 provides a summary of the funding sources for the capital funding expenditures. A detailed capital plan can be found in the Technical Appendix.

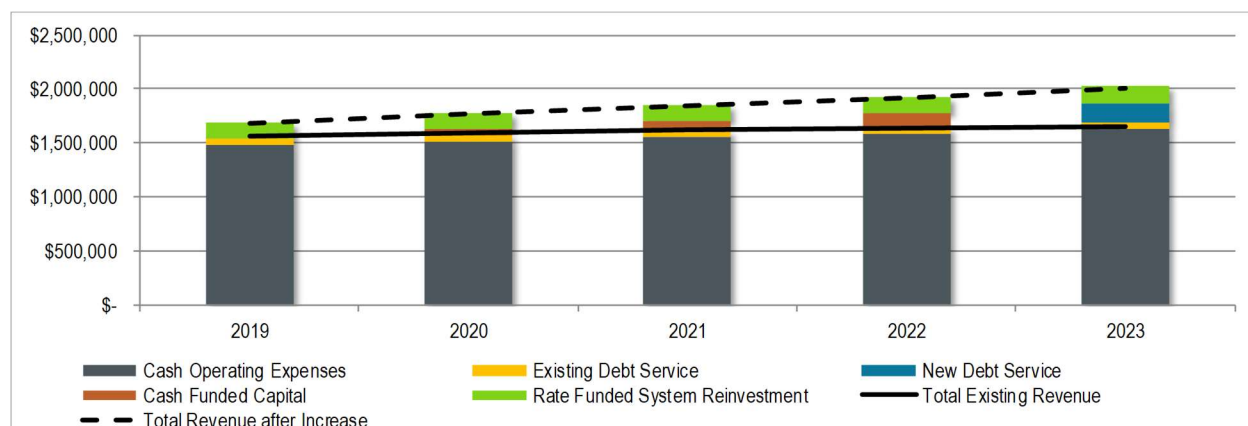
Exhibit 5.1: Stormwater Capital Funding Summary

Funding Summary	2019	2020	2021	2022	2023	Total
Total Capital Costs	\$ 1,003,738	\$ 695,166	\$ 644,908	\$ 536,834	\$ 1,090,349	\$ 3,970,996
Funding Sources						
Cash Balances	\$ 859,793	\$ 548,884	\$ 496,046	\$ 385,825	\$ -	\$ 2,290,548
Rate Funded System Reinvestment	143,945	146,282	148,862	151,009	155,370	745,468
Revenue Bond Proceeds					934,979	934,979
Total Capital Funding	\$ 1,003,738	\$ 695,166	\$ 644,908	\$ 536,834	\$ 1,090,349	\$ 3,970,995

B.3 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 stormwater system to the expenses to evaluate the sufficiency of rates. **Exhibit 5.2** provides a summary of the stormwater system revenue requirement findings.

Exhibit 5.2: Stormwater Utility Revenue Requirement Summary



Summary of stormwater revenue requirement:

- Current revenue levels are not sufficient to meet existing stormwater annual financial obligations. The annual existing rate deficiency is projected to be \$117,000 in 2019 increasing to \$366,000 by 2023.
- Revenue bond proceeds totaling \$2.00 million are projected in 2023 resulting in new annual debt service of \$176,000.
- To meet the total projected financial obligations of the stormwater utility, rate increases are proposed at 3.00 percent annually from 2019 through 2023. It is important to note that annual rate increase are assumed to continue throughout the 20-year forecast. With the ever-changing nature of utility and their capital needs, it is prudent to annually review revenue and expenses to plan and adjust the planned rate strategy, as needed.
- The operating fund balance is maintained at the target of 60 days.
- The capital fund balance is forecast to remain at or above the target level of 1.00 percent of plant in service.

- Individual stormwater utility debt service coverage is forecast to remain above the revenue bond covenant minimum of 1.25 in every year of the study period starting at 2.18 in 2023 when the first revenue bond is issued.

C. RATE DESIGN

As discussed in the water and sewer sections, the principal objective of the rate design stage is to develop equitable rate structures that collect the appropriate level of revenue as outlined by the revenue requirement.

C.1 Existing Stormwater Rates

The existing stormwater rate is a bi-monthly flat rate that is charged to each customer per equivalent service unit (ESU). All single family customers are considered to be one ESU. All non single family customers are charged based on the total amount of impervious surface area on site. The average single family residential lot has 3,218 square feet so the total impervious surface area for a non-residential lot is divided by 3,218 to calculate the number of ESUs for that site. **Exhibit 5.3** provides a summary of the existing stormwater utility rates per ESU.

Exhibit 5.3: Existing Bi-Monthly Stormwater Rates

Description	Existing 2018
Per ESU	\$ 23.38

C.2 Proposed Stormwater Rates

No rate structure changes were proposed for the stormwater utility. **Exhibit 5.4** provides a summary of the proposed rates for the five-year rate period.

Exhibit 5.4: Proposed Bi-Monthly Stormwater Rates

Description	Proposed Bi-Monthly Rates					
	Existing 2018	2019	2020	2021	2022	2023
Per ESU	\$ 23.38	\$ 24.08	\$ 24.80	\$ 25.55	\$ 26.31	\$ 27.10

D. SUMMARY

The analysis described above concludes the stormwater utility rate study. After completing the study, it was determined that existing rate levels are not sufficient to meet total stormwater utility financial obligations on a stand-alone basis. In addition to implementing a level of dedicated rate funded capital, \$2.00 million in revenue bond issuances are required to complete the capital plan through 2023. To cover capital expenditures through a combination of rates and debt service, 3.00 percent annual rate increases are needed throughout the study period.

We recommend that the City revisit the rate study on an annual basis to review if revenue and expense projections are consistent when compared to actual experience. If significant or unexpected changes occur, the City should update the rate study and the proposed rate plan.

The detailed analysis developed as part of the stormwater rate study can be found in the Technical Appendix.

SECTION VI: SYSTEM DEVELOPMENT CHARGES

A. INTRODUCTION

In conjunction with this rate study the City has completed a Water System Plan (WSP) update, which had identified future infrastructure needs to support the projected growth for the water utility. The City was also in the process of beginning a sewer utility General Sewer Plan (GSP) update, which would identify the future infrastructure needs for the sewer utility. Since the updated sewer utility infrastructure plan was not available for this study, the City decided to defer the system development charge (SDC) update for the Sewer utility. This section of the report will focus on the water utility SDCs.

The City currently imposes class-based area specific charges for both water and sewer utilities. For the water utility, the charges vary by size of meter (increasing with capacity of each meter), class of service (industrial and non-industrial) and location (South Shore related to existing City; North Shore related to urban growth area expansion). As part of the SDC update, the City wanted to evaluate a “one system” charge approach assessing the same charge on an equivalent unit basis to all classes of service throughout the entire City. If a new large industrial customer were to connect in the future, a separate SDC engineering analysis would be performed to evaluate the impact (additional dedicated facilities) and contributions (facilities donated to the City) the new customer would impose on the City.

One argument in favor of area specific charges is depending on the level of existing system infrastructure, some sub-areas within a service area may require substantially greater future capital investment – more projects, and more associated project costs. However, the perceived equity of area-specific charges must be balanced against the practicality of the approach. Calculated SDCs may vary widely among sub-areas. While the argument can be made that such distinctions are accurate and fair, the counter-argument, that the community benefits as a whole from a complete and adequate system and should share in the total costs, is at least as compelling. Other factors are also important to consider, such as administrative complexity, availability of information and consistency of community goals.

B. METHODOLOGY

System Development Charges are imposed as a condition of service on new customers connecting to the system. In addition to any other costs related to physically connecting a customer to the system, the SDC is typically based on a blend of historical and planned future capital investments in system infrastructure – its underlying premise is that growth (future customers) will pay for growth-related costs that the utility has incurred (or will incur) to provide system capacity to serve new customers.

The purpose of the SDC is two-fold: 1) to provide a source for capital financing and 2) to equitably recover a proportionate share of utility plant-in-service costs from new customers. In the absence of SDCs, growth-related costs would be borne in large part by existing customers. The cost of the system to be recovered by SDCs can be defined in two parts:

1. *Existing cost basis* portion based on historical investments in existing infrastructure, and
2. *Future cost basis* portion, based on recovering costs related to planned capital projects.

Revenues generated from the SDCs can be used to fund capital projects or debt service incurred to finance capital projects but cannot be used to pay for operating and maintenance costs.

Section 35.92.025 of the Revised Code of Washington (RCW) authorizes Cities to impose SDCs (connection charges); however, it does not outline a specific methodology for calculating them. The City has considerable latitude in choosing from a variety of legally defensible approaches used in the industry, but it is important that the City’s SDCs are based on an equitable allocation of system capacity costs. Since the calculated charges represent the maximum allowable charge, the City may choose to implement a charge at any level up to the calculated charge. This study uses an “integrated” approach to compute the SDCs, which is summarized in **Exhibit 6.1**.

Exhibit 6.1: SDC Calculation Methodology

$$\frac{\text{EXISTING COST}}{\text{CURRENT \& FUTURE CUSTOMERS}} + \frac{\text{FUTURE COST}}{\text{FUTURE CUSTOMERS}} = \text{SDC}$$

The “integrated” approach allocates costs to customers based on who benefits from the related facilities. Because existing assets are built to meet existing demands and oversized to accommodate growth, the cost of the existing system is allocated to both existing and future customers. Cost that are associated with capacity-expanding projects that are necessary to serve growth are allocated exclusively to growth (future customers). The SDC also reflects an allocation of projects related to upgrading existing assets on the premise that existing and future customers benefit from these projects.

C. DEDUCTIONS FOR CONTRIBUTIONS (CIAC)

One of the key questions of the SDC update was the treatment of contributions in aid of construction (CIAC) infrastructure – assets that have been, or will be, grant funded or donated to the City. As discussed above, the SDC is based on the cost of the system. The City’s water utility operates under RCW Title 35, which does not offer guidance or restrictions regarding inclusion of CIAC in the cost basis of the SDC. Referencing similar legal statutes, RCW 57.08.005 (11) for special-purpose districts, indicates that a deduction for grants and donations are required when computing the cost basis.

This issue was directly addressed in *Landmark v. Roy*, where the Washington State Supreme Court upheld the City of Roy’s decision to include grant-funded improvements in its SDCs on the premise that the “cost of the system” remained the total cost to construct it, regardless of the funding source. Though not specifically addressed in *Landmark v. Roy*, this finding could arguably be extended to developer-donated facilities. Another argument in favor of including developer-donated facilities might be that such donations are no more than a requirement of service, and thus a customer payment (or payment on their behalf) as a condition of system access. Consistent with this perspective, current accounting standards classify such contributions as revenues. The “trap” of this argument is that the connection charge structure should then reasonably credit the cost of any such facilities built by developers against the applicable connection charges.

For future facilities in the capital improvement program (CIP), there may also be intent to pursue grant or developer funding. Given the tenuous availability of grant funding and low success rate on grant pursuit, it would be imprudent to deduct planned future grants unless a commitment is in-hand or the project is wholly contingent on receiving such funding. In the case of developer-funded projects, it is important to avoid double charging a developer in the SDC for improvements that they already funded as a condition of receiving service. One option would be to exclude developer-funded projects from the SDC cost basis; the other option would be to include those projects and provide for

reimbursement via SDC credits (for developers fulfilling the CIP through in-kind payment).

After considering both alternatives the City elected to perform a deduction from the existing cost basis removing any infrastructure that was grant funded or developer donated. For future facilities, the City elected to include all projects identified in the CIP and provide a credit towards the SDC to developers that construct a project, or projects, identified in the CIP.

D. EXISTING COST BASIS

The existing cost basis is intended to recognize the current ratepayers' net investment in the original cost of the system assets. The existing cost basis is described below for the water utility.

- **Utility Capital Assets.** The City's financial records indicate that as of the end of 2017, the water utility had \$61.7 million in fixed assets.
- **Less: Meters and Services.** The total plant in service cost is reduced by the original cost and accrued interest on any assets related to meters and services. The adjustment is made to recognize that the costs associated with this function of the water utility are generally recouped through other fees. The total reduction in costs related to meters and services is \$7.6 million.
- **Less: Contributed Assets.** The total original cost is reduced to recognize known third party contributions. The outside contributions provide a source of capital at no new cost to the City's ratepayers. Since the SDC is necessarily cost based, the net investment by the City excludes those contributions. Because FCS GROUP has removed costs associated with meters and services, all donated plant assets removed will be net of any donations attributed to meters and services. This results in a \$14.6 million reduction to the cost basis.
- **Plus: Interest on Non-Contributed Plant in Service.** The City RCW and subsequent legal interpretations provide a guideline for connection charges which suggests that such charges can include interest on an asset at the rate applicable during the time of construction. Using the historical Bond Buyer Index for 20-year term bonds, interest can accumulate for a maximum of ten years from the date of construction for any particular asset and cannot exceed the original cost of the asset. Conceptually, this interest provision attempts to account for opportunity costs that the City's customers incurred by supporting investments in infrastructure rather than having it available for investment or other uses. Calculated interest for the water utility results in an addition of \$15.0 million.
- **Plus: Construction Work in Progress.** The costs of construction work in progress is added to the existing cost basis to recognize investments that the City has made in capital projects that are currently underway, despite the fact that these projects have not yet been booked as assets. This translates into a \$2.4 million addition to the existing cost basis.
- **Less: Net Debt Principal Outstanding.** Net outstanding debt principal is deducted from the existing cost basis as new customers will pay for their share of debt service through monthly rates. As of the end of 2017, the water utility had approximately \$14.4 million in long-term debt obligations. Because the City's combined cash and investments balances as of the end of 2017 totaled approximately \$6.7 million, an adjustment of \$7.6 million was made to the existing cost basis for outstanding debt.

After factoring in the above adjustments, the existing cost basis will be spread across the total future customer base (existing and incremental future growth), as all existing infrastructure will continue to benefit all customers. The existing cost basis is shown below in **Exhibit 6.2**.

Exhibit 6.2: Water Utility Existing Cost Basis

Existing Cost Basis	
Utility Capital Assets	\$61,723,356
less: Meters and Services	(7,649,300)
plus: Construction Work in Progress	2,438,428
plus: Interest accrued on Utility Funded Assets	14,985,800
less: Contributed Assets	(14,572,325)
less: Net Debt Principal Outstanding	(7,638,863)
Total Existing Cost Basis	\$49,287,096

E. FUTURE COST BASIS

The future cost basis portion of the system development charge is intended to recover a share of the costs associated with planned future capital projects. Future facilities planned for construction can be included in the connection charge. There are three main types of capital projects, described below.

- **Less: Repair and Replacement Projects.** These are projects related to the repair or replacement of existing infrastructure and are most often needed because existing facilities have deteriorated due to use by existing customers. The integrated approach removes these projects from the future cost basis on the grounds that: (a) these projects are attributable to existing customers; and (b) new customers will pay for their share of these projects through ongoing rates once they are connected to the system.
- **Plus: Expansion Projects.** These projects primarily increase system capacity to serve additional customers. They may include main extensions, treatment plant expansions, replacing pumps with higher capacity equipment, or pipe upsizing.
- **Plus: Upgrade Projects.** These projects broadly benefit both existing and future customers without increasing system capacity. Examples might include construction of an operations facility, system security upgrade, projects driven by new regulations, upgrades to treatment processes, covering reservoirs, providing back-up power supplies at existing operational facilities, installing improvements in information systems or telemetry, etc. Only the expansion portion of upgrade projects is included in the charge calculation. The expansion portion is established based on the proportionate share of future customer equivalents compared to the total of existing and future customer equivalents.

As discussed in section VI.C above, if a developer constructs a project, or projects, identified in the CIP, a reimbursement should be made via an SDC credit (for developers fulfilling the CIP through in-kind payment).

The City's 2017 through 2036 capital plan identifies \$139.7 million (current dollars) in capital project costs. City staff allocated \$62.9 million of the total cost to repair and replacement projects (including share of upgrade costs), which are deducted from the future cost basis as described above. In addition to the repair and replacement projects, the City also identified \$1.85 million in projects related to comprehensive plans and meters and services that were removed from the future cost basis.

Exhibit 6.3 provides a summary of the future cost basis.

Exhibit 6.3: Water Utility Future Cost Basis

Future Cost Basis	
Total Allocable CIP	\$139,654,133
less: Comp Plans & M&S	(1,850,000)
less: R&R (including Upgrade Share)	(62,926,122)
Total Future Cost Basis	\$74,878,011

F. CUSTOMER BASE

Given that the City’s customers can impose different demands on the system, the SDC calculation uses the concept of Meter Capacity Equivalents (MCEs) to “standardize” the customer base. An MCE will apply a weighting factor to meter sizes above the smallest meter to define the customer base relative to the capacity of the smallest metered customer.

The City’s existing customer account data, by class of service and meter size, was used to calculate the existing customer base represented in MCEs. Converting existing accounts to MCEs results in 9,686 existing MCEs.

WSP data was used to estimate the future customer base. The WSP provided a 20-year projection of Equivalent Residential Units (ERUs). Similar to MCEs, an ERU is a standardized measure of equivalent demand a non-single family account places on the system in relation to an average single-family account. The purpose of an ERU is to maintain equitable proportions between single-family and other customers. Since SDCs are to be applied on a meter size basis, the provided future ERUs were converted to MCEs using the same growth ratio between existing and future ERUs.

To account for the fact that the capital infrastructure provided capacity beyond the 20-year planning period included in the WSP, the City’s engineer working on the WSP, Carollo Engineers, calculated excess capacity outside the 20-year period by zone and function of service. The excess capacity was added to the 20-year growth projections and compared to existing capacity. To recognize that different functions of service had various levels of available capacity, a weighted average was taken between the estimated future cost value of functional plant and the capacity each function of plant had available once the capital facilities were constructed. This resulted in an additional 12,214 MCEs or 21,900 total future and existing MCEs.

Exhibit 6.4 provides a summary of the customer base separated into two groups: existing and future customers.

Exhibit 6.4: Water Utility Existing, Future and Total Customer Base

Water Customer Base	MCEs
Existing Customer Base	9,686
Future Customer Base	12,214
Total Customer Base	21,900

G. SDC CALCULATION

As described previously, under the “integrated” approach, the existing cost basis for each utility is divided by the total customer base, while the future cost basis is divided by the future customers

only. The results are added together to determine the maximum allowable SDC. **Exhibit 6.5** provides a summary of the SDC calculation.

Exhibit 6.5: Water System SDC Calculation

Water System Development Charge	
Existing Cost Basis	\$49,287,096
Total Customers (MCEs)	21,900
Existing Cost Basis Charge	\$2,251
Future Cost Basis	\$74,878,011
Future Customers (MCEs)	12,214
Future Cost Basis Charge	\$6,131
Total System Development Charge	\$8,381

For a three quarter (3/4) inch meter, the City currently has an area specific charge of \$4,778 in the South Shore portion of the City and \$7,310 in the North Shore. The calculated system wide maximum allowable charge would increase the South Shore charge by \$3,603 and the north area charge by \$1,071 for a three quarter (3/4) inch meter.

As discussed in the methodology section, the calculated charge is the maximum allowable charge. The City may choose to implement a charge at any level up to the calculated charge. After initial considerations, the City decided to implement a charge below the maximum allowable, tying it to the existing North Shore charge of \$7,310 for a three quarter (3/4) inch meter. The South Shore charge would be phased-in up to \$7,310 over a two (2) year period. **Exhibit 6.6** provides the 2-year phase-in of the South Shore charge and the final City-Wide SDC by meter size.

Exhibit 6.6: Adopted Meter Based SDCs

Meter Size	2019		2020
	South Shore SDC	North Shore SDC	City-Wide SDC
3/4"	\$6,044	\$7,310	\$7,310
1"	\$10,373	\$12,183	\$12,183
1.5"	\$20,145	\$24,365	\$24,365
2"	\$32,232	\$38,948	\$38,948
3"	\$64,464	\$77,968	\$77,968
4"	\$100,725	\$121,825	\$121,825
6"	\$201,450	\$243,650	\$243,650
8"	\$322,320	\$389,840	\$389,840

Costs used in the charge calculation are based on “today’s” dollars. The City can escalate the charge annually with an accredited inflation index, such as the Engineering News Record Construction Cost Index (ENR-CCI).

TECHNICAL APPENDIX

WATER UTILITY TECHNICAL EXHIBITS



City of Camas Water Rate Study Summary

Revenue Requirement	2019	2020	2021	2022	2023
Revenues					
Rate Revenues Under Existing Rates	\$ 4,415,203	\$ 4,500,468	\$ 4,572,090	\$ 4,618,133	\$ 4,687,405
Non-Rate Revenues	461,962	493,574	464,738	710,286	487,538
Total Revenues	\$ 4,877,165	\$ 4,994,042	\$ 5,036,828	\$ 5,328,419	\$ 5,174,943
Expenses					
Cash Operating Expenses	\$ 3,915,583	\$ 4,071,183	\$ 4,157,544	\$ 4,239,290	\$ 4,339,371
Existing Debt Service	887,798	883,277	878,758	874,237	869,718
New Debt Service	522,383	522,383	577,342	1,046,530	1,575,743
Rate Funded System Reinvestment	-	-	-	-	-
Total Expenses	\$ 5,325,763	\$ 5,476,843	\$ 5,613,644	\$ 6,160,057	\$ 6,784,831
Net Surplus (Deficiency)	\$ (448,598)	\$ (482,802)	\$ (576,816)	\$ (831,638)	\$ (1,609,888)
Additions to Meet Coverage	-	-	-	-	-
Total Surplus (Deficiency)	\$ (448,598)	\$ (482,802)	\$ (576,816)	\$ (831,638)	\$ (1,609,888)
% of Rate Revenue	10.16%	10.73%	12.62%	18.01%	34.34%
Annual Rate Adjustment	5.65%	5.65%	5.65%	5.65%	5.65%
Cumulative Annual Rate Adjustment	10.93%	17.20%	23.82%	30.82%	38.21%
Rate Revenues After Rate Increase	\$ 4,897,895	\$ 5,274,556	\$ 5,661,253	\$ 6,041,347	\$ 6,478,423
Additional In-Lieu of Taxes from Rate Increase	\$ 24,275	\$ 38,929	\$ 54,774	\$ 71,573	\$ 90,070
Net Cash Flow After Rate Increase	\$ 9,819	\$ 252,358	\$ 457,573	\$ 520,002	\$ 91,059
Coverage After Rate Increases	6.10	6.49	5.72	3.14	2.39
Sample Residential Bi-Monthly Bill (3/4" Meter, x 20 ccf)	\$ 61.51	\$ 64.98	\$ 68.66	\$ 72.54	\$ 76.63
Bi-Monthly Average Increase (\$)	\$ 3.29	\$ 3.48	\$ 3.67	\$ 3.88	\$ 4.10



City of Camas Water Rate Study Summary

Fund Balance	2019	2020	2021	2022	2023
OPERATING FUND					
Beginning Balance	\$ 3,955,576	\$ 3,965,395	\$ 1,717,754	\$ 1,025,148	\$ 1,145,150
plus: Net Cash Flow after Rate Increase	9,819	252,358	457,573	520,002	91,059
less: Transfer of Surplus to Capital Fund	-	(2,500,000)	(1,150,179)	(400,000)	(166,227)
Ending Balance	\$ 3,965,395	\$ 1,717,754	\$ 1,025,148	\$ 1,145,150	\$ 1,069,982
<i>O&M Target Balance</i>	\$ 965,486	\$ 1,003,853	\$ 1,025,148	\$ 1,045,304	\$ 1,069,982
<i>Days</i>	370	154	90	99	90
CAPITAL					
Beginning Balance	\$ 4,170,228	\$ 8,194,262	\$ 1,068,699	\$ 2,101,830	\$ 1,478,144
plus: Rate Funded System Reinvestment/ Equipment Transfers	-	-	-	-	-
plus: Transfers from Operating Fund	-	2,500,000	1,150,179	400,000	166,227
plus: Grants/ Donations/ CIAC	-	-	-	-	-
plus: Additional Proceeds (Costs)	803,419	831,538	860,642	890,765	-
plus: Connection Charge Revenue	1,692,320	1,548,980	1,357,860	781,758	1,176,159
less: Connection Charge Revenue Towards Debt	-	-	-	-	-
plus: Net Debt Proceeds Available for Projects	10,600,000	-	1,000,000	-	6,000,000
plus: Interest Earnings	72,979	184,371	29,389	68,309	48,040
Total Funding Sources	\$ 17,338,946	\$ 13,259,152	\$ 5,466,769	\$ 4,242,662	\$ 8,868,571
less: Capital Expenditures	(9,144,684)	(12,190,453)	(3,364,939)	(2,764,518)	(4,686,843)
Ending Working Capital Balance	\$ 8,194,262	\$ 1,068,699	\$ 2,101,830	\$ 1,478,144	\$ 4,181,727
<i>Minimum Target Balance</i>	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
COMBINED BEGINNING FUND BALANCE	\$ 8,125,804	\$ 12,159,658	\$ 2,786,452	\$ 3,126,978	\$ 2,623,294
COMBINED ENDING FUND BALANCE	\$ 12,159,658	\$ 2,786,452	\$ 3,126,978	\$ 2,623,294	\$ 5,251,709
<i>Combined Days</i>	1,133	251	275	226	442
<i>Total Combined Ending Fund Balance Target</i>	\$ 1,215,486	\$ 1,253,853	\$ 1,275,148	\$ 1,295,304	\$ 1,319,982



City of Camas Water Rate Study Assumptions

Economic & Financial Factors		2019	2020	2021	2022	2023
General Cost Inflation		1.77%	1.77%	1.77%	1.77%	1.77%
Construction Cost Inflation		3.50%	3.50%	3.50%	3.50%	3.50%
Labor Cost Inflation		3.00%	3.00%	3.00%	3.00%	3.00%
Benefit Cost Inflation		3.00%	3.00%	3.00%	3.00%	3.00%
General Inflation plus Composite Growth		4.02%	3.73%	3.39%	2.79%	3.29%
Customer Growth		2.21%	1.93%	1.59%	1.01%	1.50%
Demand Growth		2.21%	1.93%	1.59%	1.01%	1.50%
No Escalation		0.00%	0.00%	0.00%	0.00%	0.00%
[Extra]		0.00%	0.00%	0.00%	0.00%	0.00%
[Extra]		0.00%	0.00%	0.00%	0.00%	0.00%
Investment Interest		1.75%	2.25%	2.75%	3.25%	3.25%
Excise Taxes		5.029%	5.029%	5.029%	5.029%	5.029%
B&O Taxes		1.50%	1.50%	1.50%	1.50%	1.50%
City Tax (General Fund) - Rate Revenue Only		0.00%	0.00%	0.00%	0.00%	0.00%
Timber Sales		5.00%	5.00%	5.00%	5.00%	5.00%

Accounting Assumptions		2019	2020	2021	2022	2023
FISCAL POLICY RESTRICTIONS						
Min. Op. Fund Balance Target (days of O&M expense)		90	90	90	90	90
Max. Op. Fund Balance (days of O&M expense)		90	90	90	90	90
Minimum Capital Fund Balance Target						
Select Minimum Capital Fund Balance Target		2				
1 - Defined as % of Plant	Estimated Net Assets					
Plant-in-Service in 2016	\$ 61,723,356	\$ 1,241,859	\$ 1,246,735	\$ 1,248,081	\$ 1,249,187	\$ 1,251,062
Minimum Capital Fund Balance - % of plant assets		2.00%	2.00%	2.00%	2.00%	2.00%
2 - Amount at Right ==>		\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
RATE FUNDED SYSTEM REINVESTMENT						
Select Reinvestment Funding Strategy		3				
Amount of Annual Cash Funding from Rates		\$ 9,819	\$ 252,358	\$ 457,573	\$ 520,002	\$ 91,059
1 - Equal to Annual Depreciation Expense		\$ 2,107,744	\$ 2,351,554	\$ 2,418,852	\$ 2,474,143	\$ 2,567,880
2 - Equal to Annual Depreciation Expense less Annual Debt Principal Payments		1,379,097	1,617,960	1,680,129	1,260,905	1,128,540
3 - Equal to Amount at Right ==>		\$ -	\$ -	\$ -	\$ -	\$ -
4 - Do Not Fund System Reinvestment		20.00%	20.00%	35.00%	40.00%	40.00%



City of Camas Water Rate Study Assumptions

Capital Financing Assumptions		2019	2020	2021	2022	2023
Connection Fees						
South Area SDC	\$ 3,185	\$ 4,778	\$ 4,778	\$ 4,778	\$ 4,778	\$ 4,778
Total Meter Customer Equivalents		12,730	12,840	12,910	12,991	13,113
Additional MCEs Per Year		140	110	70	81	122
Subtotal: South Area SDCs		\$ 668,920	\$ 525,580	\$ 334,460	\$ 387,018	\$ 582,271
North Shore Area SDC	\$ 4,873	\$ 7,310	\$ 7,310	\$ 7,310	\$ 7,310	\$ 7,310
Total Meter Customer Equivalents		215	355	495	549	630
Additional MCEs Per Year		140	140	140	54	81
Subtotal: North Shore Area SDCs		\$ 1,023,400	\$ 1,023,400	\$ 1,023,400	\$ 394,740	\$ 593,889
Connection Fee Revenues		\$ 1,692,320	\$ 1,548,980	\$ 1,357,860	\$ 781,758	\$ 1,176,159
		280	250	210	135	203
		2.21%	1.93%	1.59%	1.01%	1.50%
FUNDING SOURCES						
Grants		\$ -	\$ -	\$ -	\$ -	\$ -
Additional Proceeds (Costs)						
Developer Share of PS-4 (NS PS Capacity Phase I) - 75%	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
Developer Share of PS-5 (NS PS Capacity Phase II) - 75%	75.00%	-	-	-	-	-
Develop Share of Gregg Tank - 75%	0.00%	-	-	-	-	-
Develop Share of Annual NS Distribution Program - 75%	75.00%	803,419	831,538	860,642	890,765	-
Developer Share of Leadbetter Road Transmission Main - 75%	75.00%	-	-	-	-	-
Remaining Greg Reservoir Draw						
Water Transmission Main						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
Total Additional Proceeds		\$ 803,419	\$ 831,538	\$ 860,642	\$ 890,765	\$ -



City of Camas Water Rate Study Assumptions

REVENUE BONDS						
Term (years)		20	20	20	20	20
Interest Only Payments		3	0	3	0	0
Interest Rate		4.50%	5.00%	5.00%	5.00%	5.00%
Issuance Cost		1.00%	1.00%	1.00%	1.00%	1.00%
Revenue Bond Coverage Requirement	1.25					
Use Reserves to Pay for Last Payment	No					
PWTF LOANS						
Term		19	19	19	19	19
Interest Rate		2.55%	2.55%	2.55%	2.55%	2.55%
OTHER LOANS						
Term (years)		20	20	20	20	20
Interest Rate		1.50%	1.50%	1.50%	1.50%	1.50%
Issuance Cost		1.00%	1.00%	1.00%	1.00%	1.00%



City of Camas Water Rate Study Operating Revenue and Expenditure Forecast

Revenues/Expenses		FORECAST BASIS	Budget 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023
Acct. #	Rate Revenue							
	Residential	<i>Calculated</i>	\$ 2,633,404	\$ 2,691,621	\$ 2,743,601	\$ 2,787,264	\$ 2,815,333	\$ 2,857,563
	Commercial	<i>Calculated</i>	215,044	219,798	224,043	227,608	229,901	233,349
	Industrial	<i>Calculated</i>	1,145,488	1,170,812	1,193,422	1,212,415	1,224,624	1,242,994
	Irrigation	<i>Calculated</i>	288,187	294,558	300,246	305,025	308,096	312,718
	City	<i>Calculated</i>	36,285	37,087	37,803	38,405	38,792	39,374
	Cemetery	<i>Calculated</i>	1,297	1,326	1,352	1,373	1,387	1,408
	Private Fire	<i>Calculated</i>	29,546	-	-	-	-	-
	[Extra]	Customer Growth	-	-	-	-	-	-
	[Extra]	Customer Growth	-	-	-	-	-	-
	Total Actual	Customer Growth	-	-	-	-	-	-
	Total Rate Revenue		\$ 4,349,253	\$ 4,415,203	\$ 4,500,468	\$ 4,572,090	\$ 4,618,133	\$ 4,687,405
	Misc. Revenue							
424.00.343.440.90	Public Author/Hydrants	Customer Growth	\$ 10,800	\$ 11,039	\$ 11,252	\$ 11,431	\$ 11,546	\$ 11,719
424.00.343.450.00	Water Hook-up Fees	Customer Growth	103,679	105,971	108,018	109,737	110,842	112,504
424.00.343.560.00	Sewer Sales and Service	Customer Growth	-	-	-	-	-	-
424.00.343.810.00	Turn off Fees by Owner	Customer Growth	24,579	25,123	25,608	26,016	26,278	26,672
424.00.343.818.00	Penalties	Customer Growth	151,266	154,610	157,596	160,104	161,716	164,142
424.00.346.200.00	Inspection Fees-Step System	Customer Growth	-	-	-	-	-	-
424.00.361.110.00	Investment Earnings	<i>Calculated</i>	11,676	84,840	109,301	74,205	65,187	86,287
424.00.362.500.00	Space & Facilities Lease	General Cost Inflation	19,112	19,450	19,793	20,143	20,499	20,861
424.00.362.900.00	Other Rent and Charges	General Cost Inflation	57,372	58,386	59,418	60,468	61,536	62,624
424.00.363.000.00	Insurance Prem. & Recovery	General Cost Inflation	-	-	-	-	-	-
424.00.369.100.00	Sale of Junk or Salvage	General Cost Inflation	-	-	-	-	-	-
424.00.369.810.00	Cashier Overage & Shortage	General Cost Inflation	-	-	-	-	-	-
424.00.369.900.00	Other Misc. Revenue	General Cost Inflation	2,500	2,544	2,589	2,635	2,681	2,729
	Timber Sales	General Cost Inflation	250,000	-	-	-	250,000	-
	Total Non Rate Revenue		\$ 630,984	\$ 461,962	\$ 493,574	\$ 464,738	\$ 710,286	\$ 487,538
TOTAL REVENUES			\$ 4,980,236	\$ 4,877,165	\$ 4,994,042	\$ 5,036,828	\$ 5,328,419	\$ 5,174,943
Revenues/Expenses		FORECAST BASIS	2018	2019	2020	2021	2022	2023
	Excise Taxes	<i>Calculated</i>	\$ 240,332	\$ 254,355	\$ 256,967	\$ 257,269	\$ 250,877	\$ 260,685
WATER	Salaries							
424-00-534-810-11	WTR S.O.S. - Reg Salaries	Labor Cost Inflation	\$ 629,691	\$ 648,582	\$ 668,039	\$ 688,080	\$ 708,723	\$ 729,984
424-00-534-820-11	WTR PUMPING - Reg Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-830-11	Reg Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-850-11	WTR TRANS/DISTR - Reg Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-860-11	WTR SERVICES - Reg Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-870-11	WTR METERS - Regular Salaries	Labor Cost Inflation	-	-	-	-	-	-



**City of Camas
Water Rate Study
Operating Revenue and Expenditure Forecast**

			Budget	Forecast	Forecast	Forecast	Forecast	Forecast
Revenues/Expenses		FORECAST BASIS	2018	2019	2020	2021	2022	2023
424-00-534-810-12	Overtime	Labor Cost Inflation	20,000	20,600	21,218	21,855	22,510	23,185
424-00-534-820-12	Overtime	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-830-12	Overtime	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-850-12	Overtime	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-860-12	Overtime	Labor Cost Inflation	-	-	-	-	-	-
424-00-534-870-12	Overtime	Labor Cost Inflation	-	-	-	-	-	-
Personnel Benefits								
424-00-534-810-21	Personnel Benefits	Benefit Cost Inflation	\$ 333,740	\$ 343,752	\$ 354,065	\$ 364,687	\$ 375,628	\$ 386,896
424-00-534-820-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-534-830-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-534-850-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-534-860-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-534-870-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
Supplies								
424-00-534-810-31	Office And Operating Supplies	General Cost Inflation	\$ 51,020	\$ 51,922	\$ 52,839	\$ 53,773	\$ 54,723	\$ 55,690
424-00-534-820-31	Office And Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-31	Office And Operating Supplies	General Cost Inflation	4,082	4,154	4,227	4,302	4,378	4,455
424-00-534-850-31	Office And Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-31	Office And Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-534-870-31	Office And Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-534-810-32	Fuel Consumed	General Cost Inflation	-	-	-	-	-	-
424-00-534-810-35	Small Tools And Minor Equip	General Cost Inflation	255,100	259,608	264,196	268,864	273,615	278,451
424-00-534-820-35	Small Tools And Minor Equip	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-35	Small Tools And Minor Equip	General Cost Inflation	5,000	5,088	5,178	5,270	5,363	5,458
424-00-534-850-35	Small Tools And Minor Equip	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-35	Small Tools and Minor Equip	General Cost Inflation	-	-	-	-	-	-
424-00-534-870-35	Small Tools And Minor Equip	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-36	Supplies - Chemicals	General Cost Inflation	100,000	101,767	103,565	105,396	107,258	109,154
Services								
424-00-534-810-41	Professional Ser	General Cost Inflation	\$ 275,000	\$ 279,860	\$ 284,805	\$ 289,838	\$ 294,960	\$ 300,172
424-00-534-820-41	Professional Ser	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-41	Professional Ser	General Cost Inflation	15,000	15,265	15,535	15,809	16,089	16,373
424-00-534-850-41	Professional Ser	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-41	Professional Ser	General Cost Inflation	-	-	-	-	-	-
424-00-534-870-41	Professional Services	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-42	Communication	General Cost Inflation	4,158	4,232	4,306	4,382	4,460	4,539
424-00-534-820-43	Travel	General Cost Inflation	-	-	-	-	-	-
424-00-534-810-44	Advertising	General Cost Inflation	-	-	-	-	-	-
424-00-534-810-45	Intfund Oper. Rentals & Lease	General Cost Inflation	124,171	126,365	128,598	130,871	133,183	135,537
424-00-534-850-45	Intfund Oper. Rentals & Lease	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-45	Intfund Oper. Rentals & Lease	General Cost Inflation	-	-	-	-	-	-
424-00-534-870-45	Intfund Oper. Rentals & Leases	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-46	Insurance	General Cost Inflation	49,634	50,511	51,403	52,312	53,236	54,177
424-00-534-810-47	Public Utility	General Cost Inflation	397,956	404,988	412,145	419,428	426,840	434,383
424-00-534-820-47	Public Utility	General Cost Inflation	-	-	-	-	-	-



**City of Camas
Water Rate Study
Operating Revenue and Expenditure Forecast**

			Budget	Forecast	Forecast	Forecast	Forecast	Forecast
			2018	2019	2020	2021	2022	2023
Revenues/Expenses		FORECAST BASIS						
424-00-534-830-47	Public Utility	General Cost Inflation	-	-	-	-	-	-
424-00-534-850-47	Public Utility	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-47	Public Utility	General Cost Inflation	-	-	-	-	-	-
424-00-534-810-48	Repairs & Maintenance	General Cost Inflation	102,040	103,843	105,678	107,546	109,446	111,380
424-00-534-820-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-534-850-48	Intfund Repairs & Maint.	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-534-870-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-534-810-49	Miscellaneous	General Cost Inflation	5,426	5,522	5,620	5,719	5,820	5,923
424-00-534-820-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
424-00-534-830-49	Miscellaneous	General Cost Inflation	263	268	273	277	282	287
424-00-534-850-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
424-00-534-860-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
424-00-534-870-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
	Misc.							
424-00-534-810-51	Intgovt Profess Services	General Cost Inflation	\$ 15,306	\$ 15,576	\$ 15,852	\$ 16,132	\$ 16,417	\$ 16,707
424-00-597-300-00	Transfer to GMA	General Cost Inflation	-	-	-	-	-	-
	W/S Administration							
	Salaries							
424-00-538-100-11	ADMIN/GEN - Reg Salaries	Labor Cost Inflation	\$ 165,549	\$ 170,516	\$ 175,631	\$ 180,900	\$ 186,327	\$ 191,917
424-00-538-170-11	CUSTOMER SERVICE - Reg S	Labor Cost Inflation	-	-	-	-	-	-
424-00-594-340-11	Regular Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-594-350-11	Regular Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-538-100-12	Overtime	Labor Cost Inflation	100	103	106	109	113	116
	Benefits							
424-00-538-100-21	Personnel Benefits	Benefit Cost Inflation	\$ 68,682	\$ 70,742	\$ 72,864	\$ 75,050	\$ 77,302	\$ 79,621
424-00-538-170-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-594-340-21	Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-594-350-21	Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-538-100-28	OPEB Expense	Benefit Cost Inflation	-	-	-	-	-	-
	Supplies							
424-00-538-100-31	Office And Operating Supplies	General Cost Inflation	\$ 778	\$ 791	\$ 805	\$ 819	\$ 834	\$ 849
424-00-538-170-31	Office And Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-538-100-35	Small Tools And Minor Equip	General Cost Inflation	-	-	-	-	-	-
	Services							
424-00-538-100-41	Interfund Profess. Serv.	General Cost Inflation	\$ 692,092	\$ 704,322	\$ 716,768	\$ 729,435	\$ 742,325	\$ 755,443
424-00-538-170-41	Interfund Profess. Serv.	General Cost Inflation	11,150	11,347	11,548	11,752	11,960	12,171
424-00-594-350-41	Professional Services	General Cost Inflation	14,338	14,591	14,849	15,112	15,379	15,650
424-00-538-100-42	Communication	General Cost Inflation	8,989	9,148	9,310	9,474	9,641	9,812
424-00-538-170-42	Communication	General Cost Inflation	224	227	231	236	240	244
424-00-538-100-43	Travel	General Cost Inflation	182	185	188	191	195	198
424-00-538-100-45	Intfund Oper. Rentals & Lease	General Cost Inflation	50,162	51,048	51,951	52,869	53,803	54,754
424-00-594-350-45	Interfund Oper Rentals	General Cost Inflation	-	-	-	-	-	-
424-00-538-100-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-538-100-49	Miscellaneous	General Cost Inflation	12,846	13,072	13,304	13,539	13,778	14,021
424-00-538-170-49	Miscellaneous	General Cost Inflation	16,342	16,630	16,924	17,223	17,528	17,837



City of Camas Water Rate Study Operating Revenue and Expenditure Forecast

Revenues/Expenses	FORECAST BASIS	Budget 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023
Intgov Profess Services	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers							
Transfer to GMA	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer to 6th and Nonwood	General Cost Inflation	-	-	-	-	-	-
Transfer to WS Capital Fund	General Cost Inflation	-	-	-	-	-	-
Transfer to Retiree Medical	General Cost Inflation	10,541	10,727	10,917	11,110	11,306	11,506
FTE Additions							
Entry Level FTE - 2020	Labor Cost Inflation	\$ -	\$ -	\$ 71,027	\$ 73,158	\$ 75,353	\$ 77,613
Entry Level FTE - 2019 (Entry L	Labor Cost Inflation	-	68,959	71,027	73,158	75,353	77,613
GIS (Partial)	Labor Cost Inflation	-	23,870	24,586	25,324	26,084	26,866
Asset Management	Labor Cost Inflation	-	53,045	54,636	56,275	57,964	59,703
Total Cash O&M Expenditures		\$ 3,679,892	\$ 3,915,583	\$ 4,071,183	\$ 4,157,544	\$ 4,239,290	\$ 4,339,371
		12.38%	6.40%	3.97%	2.12%	1.97%	2.36%
Depreciation Expense		2018	2019	2020	2021	2022	2023
Total Depreciation Expense in 2016		\$ 1,738,141					
Depreciation Expense	<i>Last year's plus annual additions from CIP</i>	\$ 1,924,851	\$ 2,107,744	\$ 2,351,554	\$ 2,418,852	\$ 2,474,143	\$ 2,567,880
	<i>debt principal payments</i>	(485,392)	(728,648)	(733,593)	(738,724)	(1,213,238)	(1,439,339)
	<i>System Reinvestment Funding</i>	1,439,459	1,379,097	1,617,960	1,680,129	1,260,905	1,128,540
TOTAL EXPENSES		\$ 5,604,742	\$ 6,023,328	\$ 6,422,737	\$ 6,576,396	\$ 6,713,432	\$ 6,907,250



City of Camas Water Rate Study Existing Debt Input

Existing Debt Service - Revenue Bonds	2019	2020	2021	2022	2023
2007 WS Bond					
Annual Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	-	-	-	-	-
Total Annual Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Debt reserve for Debt Service	-	-	-	-	-
TOTAL REVENUE BONDS					
Annual Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	-	-	-	-	-
Total Annual Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Debt reserve for Debt Service	-	-	-	-	-
Annual Debt Reserve Target on Existing Revenue Bonds	-	-	-	-	-
Existing Debt Service - PWTF Loans					
2012 PWTF 544 Res. Loan					
Annual Interest Payment	\$ 289	\$ 268	\$ 248	\$ 227	\$ 206
Annual Principal Payment	4,127	4,127	4,127	4,127	4,127
Total Annual Payment	\$ 4,416	\$ 4,395	\$ 4,375	\$ 4,354	\$ 4,333
Remaining 544 Res Loan.					
Annual Interest Payment	\$ 9,870	\$ 9,399	\$ 8,927	\$ 8,451	\$ 7,974
Annual Principal Payment	94,092	94,562	95,035	95,510	95,988
Total Annual Payment	\$ 103,962	\$ 103,962	\$ 103,962	\$ 103,962	\$ 103,962
TOTAL PWTF LOANS					
Annual Interest Payment	\$ 10,159	\$ 9,668	\$ 9,174	\$ 8,678	\$ 8,180
Annual Principal Payment	98,219	98,690	99,162	99,638	100,115
Total Annual Payment	\$ 108,378	\$ 108,357	\$ 108,337	\$ 108,316	\$ 108,295



City of Camas Water Rate Study Existing Debt Input

Existing Debt Service - Other Loans	2019	2020	2021	2022	2023
1996 EPA DOE					
Annual Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	-	-	-	-	-
Total Annual Payment	\$ -	\$ -	\$ -	\$ -	\$ -
2009 DWSRF Recovery Camas Well #14					
Annual Interest Payment	\$ 4,006	\$ 3,698	\$ 3,390	\$ 3,082	\$ 2,774
Annual Principal Payment	30,817	30,817	30,817	30,817	30,817
Total Annual Payment	\$ 34,824	\$ 34,515	\$ 34,207	\$ 33,899	\$ 33,591
2012 DWSRF Ft. Pres. Zone Sur. Water Supply					
Annual Interest Payment	\$ 63,914	\$ 60,363	\$ 56,813	\$ 53,262	\$ 49,711
Annual Principal Payment	355,080	355,080	355,080	355,080	355,080
Total Annual Payment	\$ 418,995	\$ 415,443	\$ 411,893	\$ 408,342	\$ 404,791
DWSRF Slow Sands Filtration Project					
Annual Interest Payment	\$ 11,043	\$ 10,430	\$ 9,816	\$ 9,203	\$ 8,589
Annual Principal Payment	61,352	61,352	61,352	61,352	61,352
Total Annual Payment	\$ 72,396	\$ 71,782	\$ 71,169	\$ 70,555	\$ 69,942
DWSRF Water Transmission Main					
Annual Interest Payment	\$ 483	\$ 456	\$ 429	\$ 402	\$ 376
Annual Principal Payment	1,789	1,789	1,789	1,789	1,789
Total Annual Payment	\$ 2,273	\$ 2,246	\$ 2,219	\$ 2,192	\$ 2,165
Remaining Water Transmission					
Annual Interest Payment	\$ 51,000	\$ 48,794	\$ 46,556	\$ 44,284	\$ 41,977
Annual Principal Payment	147,036	149,241	151,480	153,752	156,058
Total Annual Payment	\$ 198,036	\$ 198,036	\$ 198,036	\$ 198,036	\$ 198,036
2015 Real Estate Contract - Steigerwald Water Rights					
Annual Interest Payment	\$ 18,544	\$ 16,274	\$ 13,855	\$ 11,276	\$ 8,527
Annual Principal Payment	34,354	36,623	39,042	41,621	44,371
Total Annual Payment	\$ 52,898	\$ 52,898	\$ 52,898	\$ 52,898	\$ 52,898
TOTAL OTHER LOANS					
Annual Interest Payment	\$ 148,991	\$ 140,017	\$ 130,860	\$ 121,509	\$ 111,954
Annual Principal Payment	630,429	634,904	639,561	644,413	649,468
Total Annual Payment	\$ 779,420	\$ 774,920	\$ 770,421	\$ 765,922	\$ 761,422
Total Existing Debt Service	2019	2020	2021	2022	2023
TOTAL WATER LOANS					
Total Annual Interest Payment	\$ 159,150	\$ 149,684	\$ 140,034	\$ 130,187	\$ 120,134
Total Principal Payment	728,648	733,593	738,724	744,050	749,583
Total Annual Payment	\$ 887,798	\$ 883,277	\$ 878,758	\$ 874,237	\$ 869,718



City of Camas
Water Rate Study
 Capital Improvement Program

Project Costs and O&M Impacts in Year: **2017**

No		Description	2019	2020	2021	2022	2023	Useful Life (Years)
1		WSP						50
2		<u>Supply</u>						50
3	S-1	Well 17	1,400,000	-	-	-		50
4	S-2	Parkers Landing Well	684,000	3,420,000	-	-		50
5	S-3	WWTP Well	-	-	365,100	547,650	2,738,250	50
6	S-4	Washougal Wellfield Improvements	-	-	-	-		50
7	S-5	Steigerwald Regional Source	75,000	75,000	75,000	75,000	75,000	50
8		Watershed Forest Management		100,000		100,000		50
9		544 Zone Watershed Source Improvements						50
10		Parallel Boulder (2k Intake)						50
11		<u>Distribution System Improvements</u>						50
12	D-1	Transmission main from NW 11 Cir to NW Brady Rd	-	-	269,000	-		50
13	D-2	343 Zone Supply Transmission Upsizing			-	-		50
14	D-3	NE Birch St upsized transmission main	-	-	65,000	-		50
15	D-4	New transmission main along NW 16th Ave	-	129,750	389,250	-		50
16	D-5	New Distribution along NW 6th Ave/ NE Adams St	-	-	-	-		50
17	D-6	Dead-end Looping Program	55,000	55,000	55,000	55,000	55,000	50
18	D-7	PRV Adjustment Study	180,000	-		-		50
19		Well 6/14 Transmission Line						50
20								50
21		<u>Pump Station</u>						50
22	PS-1	New Forest Home PS	-	-	-	-		50
23	PS-2	New 455 Zone PS Capacity	-	-	-	-	314,500	50
24	PS-3	Lower Prune Hill PS Expansion	925,000	463,000	-	-		50
25	PS-4	North Shore PS Capacity Phase I	296,000	888,000	-	-		50
26	PS-5	North Shore PS Capacity Phase II	-	-	-	-		50
27	PS-6	NW Couch St PS	-	-	-	-	230,000	50
28	PS-7	NW 10th Ave Study	-	-	-	-		50
29								50



City of Camas
Water Rate Study
 Capital Improvement Program

Project Costs and O&M Impacts in Year: **2017**

No		Description	2019	2020	2021	2022	2023	Useful Life (Years)
30		<u>Storage</u>						50
31	ST-1	New 544 Zone Reservoir	2,696,660	4,289,340	-	-		50
32	ST-2	New Gregg Tank	-	-	-	-		50
33	ST-3	343 Zone Reservoir	-					50
34	ST-4	Lower Prune Hill Reservoir Rehabilitation	-	-	-	-		50
35	ST-5	Upper Prune Hill Pressure Improvements Study	-	-	139,000	-		50
36		Reservoir Condition Assessment and Upgrades	150,000			150,000		50
37		<u>General</u>						50
38	G-1	Water System Plan Update	-	-	-	-		50
39								50
40		<u>Repair and Replacement</u>	300,000	300,000	300,000	400,000	400,000	50
41	R-1	Supply R&R Projects						50
42	R-2	Pump R&R Projects						50
43	R-3	Pipeline R&R Projects						50
44		Meter Replacement Program	275,000	275,000	275,000			50
45		Jones/Boulder	500,000					50
46		<u>North Shore Expansion</u>						50
47	NS-1	Annual North Shore Distribution Program	1,000,000	1,000,000	1,000,000	1,000,000		50
48		Leadbetter Road Transmission Main						50
Total Capital Projects			\$ 8,536,660	\$ 10,995,090	\$ 2,932,350	\$ 2,327,650	\$ 3,812,750	
Total Upgrade/Expansion Projects			8,536,660	10,995,090	2,932,350	2,327,650	3,812,750	
Total R&R Projects			-	-	-	-	-	
Projects by Grants / Developer Donations								
Projects by Enterprise Fund								



City of Camas
Water Rate Study
Revenue Requirements Analysis

Test 1: Cash Flow Sufficiency Test	2019	2020	2021	2022	2023
EXPENSES					
Cash Operating Expenses	\$ 3,915,583	\$ 4,071,183	\$ 4,157,544	\$ 4,239,290	\$ 4,339,371
Existing Debt Service	887,798	883,277	878,758	874,237	869,718
New Debt Service	522,383	522,383	577,342	1,046,530	1,575,743
Rate Funded System Reinvestment	-	-	-	-	-
Total Expenses	\$ 5,325,763	\$ 5,476,843	\$ 5,613,644	\$ 6,160,057	\$ 6,784,831
REVENUES					
Rate Revenue	\$ 4,415,203	\$ 4,500,468	\$ 4,572,090	\$ 4,618,133	\$ 4,687,405
Other Non Rate Revenue	377,122	384,273	390,533	645,098	401,251
Connection Fee Revenue Towards Debt	-	-	-	-	-
Operating Fund & Debt Reserve Fund Interest Earnings	84,840	109,301	74,205	65,187	86,287
Total Revenue	\$ 4,877,165	\$ 4,994,042	\$ 5,036,828	\$ 5,328,419	\$ 5,174,943
NET CASH FLOW (DEFICIENCY)	\$ (448,598)	\$ (482,802)	\$ (576,816)	\$ (831,638)	\$ (1,609,888)
% of Rate Revenue	10.16%	10.73%	12.62%	18.01%	34.34%

Test 2: Coverage Sufficiency Test	2019	2020	2021	2022	2023
EXPENSES					
Cash Operating Expenses	\$ 3,915,583	\$ 4,071,183	\$ 4,157,544	\$ 4,239,290	\$ 4,339,371
Revenue Bond Debt Service	522,383	522,383	577,342	1,046,530	1,575,743
Revenue Bond Coverage Requirement at 1.25	130,596	130,596	144,336	261,632	393,936
Total Expenses	\$ 4,568,561	\$ 4,724,162	\$ 4,879,222	\$ 5,547,452	\$ 6,309,049
ALLOWABLE REVENUES					
Rate Revenue	\$ 4,415,203	\$ 4,500,468	\$ 4,572,090	\$ 4,618,133	\$ 4,687,405
Other Revenue	377,122	384,273	390,533	645,098	401,251
Connection Fee Revenue	1,692,320	1,548,980	1,357,860	781,758	1,176,159
Interest Earnings - All Funds	157,819	293,672	103,594	133,497	134,327
Total Revenue	\$ 6,642,464	\$ 6,727,393	\$ 6,424,077	\$ 6,178,486	\$ 6,399,142
Coverage Realized (Existing Rates)	5.22	5.08	3.93	1.85	1.31
COVERAGE SURPLUS (DEFICIENCY)	\$ 2,073,903	\$ 2,003,231	\$ 1,544,855	\$ 631,034	\$ 90,093



City of Camas
Water Rate Study
 Revenue Requirements Analysis

Maximum Revenue Deficiency	2019	2020	2021	2022	2023
Sufficiency Test Driving the Deficiency	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>
Maximum Revenue Deficiency (Surplus)	\$ 448,598	\$ 482,802	\$ 576,816	\$ 831,638	\$ 1,609,888
plus: Additional (Reduction) Excise Tax	23,755	25,566	30,544	44,038	85,248
less: Net Revenue From Prior Rate Adjustments	(220,760)	(492,014)	(786,408)	(1,100,132)	(1,444,562)
Net Revenue Deficiency (Surplus)	\$ 251,593	\$ 16,354	\$ (179,048)	\$ (224,456)	\$ 250,575
<i>Required Adjustment (Full Year)</i>	5.43%	0.33%	-3.34%	-3.93%	4.09%

Rate Increases	2019	2020	2021	2022	2023
Rate Revenue with no Increase	\$ 4,415,203	\$ 4,500,468	\$ 4,572,090	\$ 4,618,133	\$ 4,687,405
Revenues from Prior Rate Increases	220,760	492,014	786,408	1,100,132	1,444,562
Rate Revenue Before Rate Increase (Incl. previous increases)	4,635,963	4,992,481	5,358,498	5,718,265	6,131,967
Required Annual Rate Increase (Full Year)	5.43%	0.33%	-3.34%	-3.93%	4.09%
Number of Months New Rates Will Be In Effect	12	12	12	12	12
<i>Info: Percentage Increase to Generate Required Revenue</i>	5.43%	0.33%	-3.34%	-3.93%	4.09%
Policy Induced Rate Increases	5.65%	5.65%	5.65%	5.65%	5.65%
ANNUAL RATE INCREASE	5.65%	5.65%	5.65%	5.65%	5.65%
CUMULATIVE RATE INCREASE	10.93%	17.20%	23.82%	30.82%	38.21%



City of Camas
Water Rate Study
 Revenue Requirements Analysis

Impacts of Rate Increases	2019	2020	2021	2022	2023
Rate Revenues After Rate Increase	\$ 4,897,895	\$ 5,274,556	\$ 5,661,253	\$ 6,041,347	\$ 6,478,423
Full Year Rate Revenues After Rate Increase	4,897,895	5,274,556	5,661,253	6,041,347	6,478,423
<i>Partial Year Adjustment</i>	-	-	-	-	-
Additional (Reduction of) Taxes Due to Rate Increases	24,275	38,929	54,774	71,573	90,070
Net Cash Flow After Rate Increase	\$ 9,819	\$ 252,358	\$ 457,573	\$ 520,002	\$ 91,059
Coverage After Rate Increase	6.10	6.49	5.72	3.14	2.39
Coverage After Rate Increase (Total Debt)	2.26	2.41	2.27	1.71	1.54

New Dept Assumptions	2019	2020	2021	2022	2023
Revenue Bond Proceeds	\$ 10,600,000	\$ -	\$ 1,000,000	\$ -	\$ 6,000,000
PWTF Loans	-	-	-	-	-
Other Loan Proceeds	-	-	-	-	-

Fund Balance Impacts	2019	2020	2021	2022	2023
Ending Fund Balance - Operating Fund	\$ 3,965,395	\$ 1,717,754	\$ 1,025,148	\$ 1,145,150	\$ 1,069,982
Minimum Target - Operating Fund	965,486	1,003,853	1,025,148	1,045,304	1,069,982
Ending Fund Balance - Capital Fund	\$ 8,194,262	\$ 1,068,699	\$ 2,101,830	\$ 1,478,144	\$ 4,181,727
Minimum Target - Capital Fund	250,000	250,000	250,000	250,000	250,000
Annual CIP (Inflated)	\$ 9,144,684	\$ 12,190,453	\$ 3,364,939	\$ 2,764,518	\$ 4,686,843



City of Camas
Water Rate Study
 Fund Activity

Funds	2019	2020	2021	2022	2023
OPERATING					
Beginning Balance	\$ 3,955,576	\$ 3,965,395	\$ 1,717,754	\$ 1,025,148	\$ 1,145,150
plus: Net Cash Flow after Rate Increase	9,819	252,358	457,573	520,002	91,059
less: Transfer of Surplus to Capital Fund (If No Manual Entry)	-	(2,500,000)	(1,150,179)	(400,000)	(166,227)
Ending Balance	\$ 3,965,395	\$ 1,717,754	\$ 1,025,148	\$ 1,145,150	\$ 1,069,982
<i>Maximum Funds to be Kept as Operating Reserves</i>	\$ 965,486	\$ 1,003,853	\$ 1,025,148	\$ 1,045,304	\$ 1,069,982
<i>Info: No of Days of Cash Operating Expenses</i>	370	154	90	99	90
<i>Info: No of Days of Cash Operating Expenses Target</i>	90	90	90	90	90
Difference over or (under) target funds	\$ 2,999,909	\$ 713,900	\$ -	\$ 99,845	\$ -
Manual Entry for Transfer to Capital Fund	-	(2,500,000)		(400,000)	
CAPITAL					
Beginning Balance	\$ 4,170,228	\$ 8,194,262	\$ 1,068,699	\$ 2,101,830	\$ 1,478,144
plus: Rate Funded System Reinvestment	-	-	-	-	-
plus: Transfers from Operating Fund	-	2,500,000	1,150,179	400,000	166,227
plus: Grants/ Donations/ CIAC	-	-	-	-	-
plus: Additional Proceeds (Costs)	803,419	831,538	860,642	890,765	-
plus: Connection Fee Revenue	1,692,320	1,548,980	1,357,860	781,758	1,176,159
less: Connection Fees Towards Debt	-	-	-	-	-
plus: Revenue Bond Proceeds	10,600,000	-	1,000,000	-	6,000,000
plus: PWTF Loans	-	-	-	-	-
plus: Other Loan Proceeds	-	-	-	-	-
plus: Interest Earnings	72,979	184,371	29,389	68,309	48,040
Total Funding Sources	\$ 17,338,946	\$ 13,259,152	\$ 5,466,769	\$ 4,242,662	\$ 8,868,571
less: Capital Expenditures	(9,144,684)	(12,190,453)	(3,364,939)	(2,764,518)	(4,686,843)
Ending Capital Fund Balance	\$ 8,194,262	\$ 1,068,699	\$ 2,101,830	\$ 1,478,144	\$ 4,181,727
<i>Minimum Target Balance</i>	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
COMBINED BEGINNING FUND BALANCE	\$ 8,125,804	\$ 12,159,658	\$ 2,786,452	\$ 3,126,978	\$ 2,623,294
COMBINED ENDING FUND BALANCE	\$ 12,159,658	\$ 2,786,452	\$ 3,126,978	\$ 2,623,294	\$ 5,251,709
<i>Info: No of Days of Cash Operating Expenses</i>	1,133	251	275	226	442
DEBT RESERVE					
Beginning Balance	\$ -	\$ 892,417	\$ 892,417	\$ 980,619	\$ 980,619
plus: Reserve Funding from New Debt	892,417	-	88,202	-	529,213
less: Use of Reserves for Debt Service	-	-	-	-	-
Ending Balance	\$ 892,417	\$ 892,417	\$ 980,619	\$ 980,619	\$ 1,509,832
<i>Minimum Target Balance</i>	\$ 522,383	\$ 522,383	\$ 577,342	\$ 1,046,530	\$ 1,575,743



City of Camas
Water Rate Study
Plant

Year of Cost 2016											2017			
Asset	Description	Date	Life	Original Cost	Make	Water Share	Donated	Net Allocable	Function	Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest	
2002262	1991 Water Pipe	12/31/1991	600	440,557	Donated	100.00%	440,557	-	Transmission & Distribution	8,811	10	6.92%	-	
2002263	1992 Water Pipe	12/31/1992	600	100,650	Donated	100.00%	100,650	-	Transmission & Distribution	2,013	10	6.44%	-	
2002264	1993 Water Pipe	12/31/1993	600	491,209	Donated	100.00%	491,209	-	Transmission & Distribution	9,824	10	5.60%	-	
2002265	1994 Water Pipe	12/31/1994	600	774,681	Donated	100.00%	774,681	-	Transmission & Distribution	15,494	10	6.18%	-	
2002266	1995 Water Pipe	12/31/1995	600	328,193	Donated	100.00%	328,193	-	Transmission & Distribution	6,564	10	5.95%	-	
2002267	1996 Water Pipe	12/31/1996	600	376,316	Donated	100.00%	376,316	-	Transmission & Distribution	7,526	10	5.76%	-	
2002268	1997 Water Pipe	12/31/1997	600	1,048,518	Donated	100.00%	1,048,518	-	Transmission & Distribution	20,970	10	5.52%	-	
2002269	1998 Water Pipe	12/31/1998	600	736,923	Donated	100.00%	736,923	-	Transmission & Distribution	14,738	10	5.09%	-	
2002270	1999 Water Pipe	12/31/1999	600	671,085	Donated	100.00%	671,085	-	Transmission & Distribution	13,422	10	5.43%	-	
2002271	2000 Water Pipe	12/31/2000	600	350,009	Donated	100.00%	350,009	-	Transmission & Distribution	7,000	10	5.71%	-	
2002272	2001 Water Pipe	12/31/2001	600	112,181	Donated	100.00%	112,181	-	Transmission & Distribution	2,244	10	5.15%	-	
2002273	2002 Water Pipe	12/31/2002	600	101,580	Donated	100.00%	101,580	-	Transmission & Distribution	2,032	10	5.04%	-	
2004061	2004 Water Pipe	12/31/2004	600	102,468	Donated	100.00%	102,468	-	Transmission & Distribution	2,049	10	4.68%	-	
2004112	1988 Water Pipe - Short Plats	12/31/2004	600	59,670	Donated	100.00%	59,670	-	Transmission & Distribution	1,193	10	4.68%	-	
2004113	1993 Water Pipe - Short Plats	12/31/2004	600	7,500	Donated	100.00%	7,500	-	Transmission & Distribution	150	10	4.68%	-	
2004114	1995 Water Pipe - Short Plats	12/31/2004	600	90,000	Donated	100.00%	90,000	-	Transmission & Distribution	1,800	10	4.68%	-	
2004115	1997 Water Pipe - Short Plats	12/31/2004	600	90,140	Donated	100.00%	90,140	-	Transmission & Distribution	1,803	10	4.68%	-	
2004116	1998 Water Pipe - Short Plats	12/31/2004	600	7,500	Donated	100.00%	7,500	-	Transmission & Distribution	150	10	4.68%	-	
2004117	1999 Water Pipe - Short Plats	12/31/2004	600	18,600	Donated	100.00%	18,600	-	Transmission & Distribution	372	10	4.68%	-	
2004118	2001 Water Pipe - Short Plats	12/31/2004	600	9,000	Donated	100.00%	9,000	-	Transmission & Distribution	180	10	4.68%	-	
2005026	2005 Water Pipe	12/31/2005	600	400,712	Donated	100.00%	400,712	-	Transmission & Distribution	8,014	10	4.40%	-	
2005029	2005 Water PRV Pump Stations	12/31/2005	600	64,000	Donated	100.00%	64,000	-	Transmission & Distribution	1,280	10	4.40%	-	
2006031	2006 Donated Water Lines	12/31/2006	600	1,407,939	Donated	100.00%	1,407,939	-	Transmission & Distribution	28,159	10	4.40%	-	
2006034	2006 Water PRV Pump Stations	12/31/2006	600	98,592	Donated	100.00%	98,592	-	Transmission & Distribution	1,972	10	4.40%	-	
2007010	2007 Donated Water Lines	12/31/2007	600	832,417	Donated	100.00%	832,417	-	Transmission & Distribution	16,648	10	4.40%	-	
2007013	2007 Donated Water PRV Pump Stations	12/31/2007	600	135,005	Donated	100.00%	135,005	-	Transmission & Distribution	2,700	10	4.40%	-	
2010066	2010 Donated 8" Water Line Fisher Creek Campus	12/31/2010	600	299,220	Donated	100.00%	299,220	-	Transmission & Distribution	5,984	7	4.29%	-	
2010067	2010 Donated 8" Water Line Vista Pointe Subdiv	12/31/2010	600	48,900	Donated	100.00%	48,900	-	Transmission & Distribution	978	7	4.29%	-	
2012120	2011 Donated 10" Water Line Two Creeks Ph 1	1/1/2012	600	157,312	Donated	100.00%	157,312	-	Transmission & Distribution	3,146	5	3.73%	-	
2012121	2011 Donated 8" Water Line Two Creeks Ph 1	1/1/2012	600	6,960	Donated	100.00%	6,960	-	Transmission & Distribution	139	5	3.73%	-	
2012122	2011 Donated 6" Water Line Two Creeks Ph 1	1/1/2012	600	13,728	Donated	100.00%	13,728	-	Transmission & Distribution	275	5	3.73%	-	
2012096	2012 Donated 8" Water Lines Village @ Logan Place	12/31/2012	600	44,414	Donated	100.00%	44,414	-	Transmission & Distribution	888	5	3.73%	-	
2012097	2012 Donated 8" Water Lines Fisher Creek Campus	12/31/2012	600	37,683	Donated	100.00%	37,683	-	Transmission & Distribution	754	5	3.73%	-	
2012098	2012 Donated 6" Water Lines Knight's Court Subdiv	12/31/2012	600	5,568	Donated	100.00%	5,568	-	Transmission & Distribution	111	5	3.73%	-	
2013104	2013 Donated 12" Water Line HARL Sch Site Imp	1/4/2013	600	266,940	Donated	100.00%	266,940	-	Transmission & Distribution	5,339	4	4.27%	-	
2013105	2013 Donated 8" Water Line HARL Sch Site Imp	1/4/2013	600	9,116	Donated	100.00%	9,116	-	Transmission & Distribution	182	4	4.27%	-	
2013109	2013 Donated 8" Water Line Fisher Camp Ph III	1/4/2013	600	37,736	Donated	100.00%	37,736	-	Transmission & Distribution	755	4	4.27%	-	
2013108	2013 Donated 8" Water Line Hidden Leaf Ph II	4/16/2013	600	10,971	Donated	100.00%	10,971	-	Transmission & Distribution	219	4	4.27%	-	
2013102	2013 Donated 8" Water Line Summit @ Col Vista II	5/13/2013	600	78,917	Donated	100.00%	78,917	-	Transmission & Distribution	1,578	4	4.27%	-	
2013103	2013 Donated 8" Water Line HARL Ph I-III	11/22/2013	600	288,912	Donated	100.00%	288,912	-	Transmission & Distribution	5,778	4	4.27%	-	
2014071	2014 Donated 8" Water Line - Breckenridge	3/7/2014	600	61,732	Donated	100.00%	61,732	-	Transmission & Distribution	1,235	3	4.23%	-	
2014079	2014 Donated Gate Valves - Breckenridge	3/7/2014	600	5,560	Donated	100.00%	5,560	-	Transmission & Distribution	111	3	4.23%	-	
2014069	2014 Donated 8" Water Line-Sum @ Col Vista 2/3	3/31/2014	600	35,236	Donated	100.00%	35,236	-	Transmission & Distribution	705	3	4.23%	-	
2014070	2014 Donated 6" Water Line-Sum @ Col Vista 2/3	3/31/2014	600	17,712	Donated	100.00%	17,712	-	Transmission & Distribution	354	3	4.23%	-	
2014073	2014 Donated 8" Water Line - Hidden Meadows	10/22/2014	600	112,148	Donated	100.00%	112,148	-	Transmission & Distribution	2,243	3	4.23%	-	
2014081	2014 Donated Gate Valves - Hidden Meadows	10/22/2014	600	11,120	Donated	100.00%	11,120	-	Transmission & Distribution	222	3	4.23%	-	
2014082	2014 Donated Butterfly Valves - Hidden Meadows	10/22/2014	600	11,200	Donated	100.00%	11,200	-	Transmission & Distribution	224	3	4.23%	-	
2014072	2014 Donated 8" Water Line - Deerhaven	10/23/2014	600	102,212	Donated	100.00%	102,212	-	Transmission & Distribution	2,044	3	4.23%	-	
2014080	2014 Donated Gate Valves - Deerhaven	10/23/2014	600	8,340	Donated	100.00%	8,340	-	Transmission & Distribution	167	3	4.23%	-	
2015048	2015 Donated 6" Water Line - Lake Hills	3/3/2015	600	5,746	donated	100.00%	5,746	-	Transmission & Distribution	115	2	3.66%	-	
2015049	2015 Donated 8" Water Line - Lake Hills	3/3/2015	600	70,960	donated	100.00%	70,960	-	Transmission & Distribution	1,419	2	3.66%	-	
2015080	2105 Donated 8" Gate Valve - Lake Hills	3/3/2015	600	6,950	donated	100.00%	6,950	-	Transmission & Distribution	139	2	3.66%	-	
2015071	2015 Donated 6" Water Line - 7th Ave Townhomes	3/18/2015	600	6,460	donated	100.00%	6,460	-	Transmission & Distribution	129	2	3.66%	-	
2015072	2015 Donated 4" Water Line - 7th Ave Townhomes	3/18/2015	600	7,412	donated	100.00%	7,412	-	Transmission & Distribution	148	2	3.66%	-	
2015050	2015 Donated 6" Water Line - Hadley's Glen	6/1/2015	600	15,505	donated	100.00%	15,505	-	Transmission & Distribution	310	2	3.66%	-	
2015067	2015 Donated 8" Water Line - Hadley's Glen	6/1/2015	600	48,240	donated	100.00%	48,240	-	Transmission & Distribution	965	2	3.66%	-	
2015068	2015 Donated 8" Water Line - HARL Ph 4	6/1/2015	600	29,000	donated	100.00%	29,000	-	Transmission & Distribution	580	2	3.66%	-	
2015069	2015 Donated 6" Water Line - HARL Ph 4	6/1/2015	600	24,310	donated	100.00%	24,310	-	Transmission & Distribution	486	2	3.66%	-	
2015081	2015 Donated 8" Gate Valve - HARL Ph 4	6/1/2015	600	8,340	donated	100.00%	8,340	-	Transmission & Distribution	167	2	3.66%	-	
2015070	2015 Donated 8" Water Line - HARL Ph 6/7	7/17/2015	600	118,360	donated	100.00%	118,360	-	Transmission & Distribution	2,367	2	3.66%	-	
2015082	2015 Donated 8" Gate Valve - HARL Ph 6/7	7/17/2015	600	16,680	donated	100.00%	16,680	-	Transmission & Distribution	334	2	3.66%	-	
2015073	2015 Donated 8" Water Line - Dwyer Crk Ph 1	12/3/2015	600	24,234	donated	100.00%	24,234	-	Transmission & Distribution	485	2	3.66%	-	
2016070	2016 Donated 8" Water Line - Marshall Short Plat	5/6/2016	600	6,795	Donated	100.00%	6,795	-	Transmission & Distribution	136	1	3.25%	-	
2016071	2016 Donated 8" Water Line - Parker Village	5/19/2016	600	67,360	Donated	100.00%	67,360	-	Transmission & Distribution	1,347	1	3.25%	-	
2016072	2016 Donated 6" Water Line - Parker Village	5/19/2016	600	21,622	Donated	100.00%	21,622	-	Transmission & Distribution	432	1	3.25%	-	
2016073	2016 Donated 8" Water Line - Kate's Close	5/19/2016	600	39,591	Donated	100.00%	39,591	-	Transmission & Distribution	792	1	3.25%	-	



**City of Camas
Water Rate Study
Plant**

Year of Cost 2016										2017			
Asset	Description	Date	Life	Original Cost	Make	Water Share	Donated	Net Allocable	Function	Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest
E353	Ford F-250 45004D	3/23/2007	120.0322	19,599	Ford	50.00%		9,799	General	1,959	10	4.40%	4,308
E354	Ford F-350 45005D	3/23/2007	120.0323	20,745	Ford	50.00%		10,372	General	2,074	10	4.40%	4,560
E373	2009 Ford Escape 47012D	8/31/2008	96.0322	16,143	Ford	50.00%		8,071	General	2,017	9	4.86%	3,531
E375	2008 Ford F250 XL HD 3/4 Ton 47023D	8/31/2008	120	24,760	Ford	50.00%		12,380	General	2,476	9	4.86%	5,416
E371	2006 Chev Chassis w/15' Hydraulic Crane 47024D	10/20/2008	180	83,969	Chev	50.00%		41,984	General	5,598	9	4.86%	18,367
E393	2012 Ford F250 RC 4x2 50779D	9/3/2012	120.742	21,611	Ford	50.00%		10,805	General	2,148	5	3.73%	2,015
E436	2015 Husler Z Diesel 60" Mower	9/30/2014	60	14,401	Shibaura	50.00%		7,201	General	2,880	3	4.23%	914
E417	2014 Ford F250 3/4T 4WD w/crane 55280D	10/23/2014	120	33,836	Ford	50.00%		16,918	General	3,384	3	4.23%	2,148
E418	2015 Ford F250 3/4T 4x4 55284D	1/7/2015	120	40,225	Ford	50.00%		20,112	General	4,022	2	3.66%	1,471
E422	2015 Ford F250 3/4 T 50751D	3/20/2015	120	32,989	Ford	50.00%		16,494	General	3,299	2	3.66%	1,207
E452	2017 Ford Fusion 62246D	6/6/2016	96	18,597	Ford	50.00%		9,298	General	2,325	1	3.25%	302
E454	2016 Ford F250 4x4 62250D	8/2/2016	120	36,858	Ford	50.00%		18,429	General	3,686	1	3.25%	599
Total				\$ 63,281,670		\$ 61,723,356	\$ 20,692,006	\$ 41,031,350		\$ 1,738,141			\$ 15,847,760

Function	Original Cost	Allocable	CIAC	Net Allocable	Interest
Supply/ Treatment	\$ 13,673,398	\$ 13,673,398	\$ -	\$ 13,673,398	\$ 3,753,844
Pumping	6,269,530	6,269,530	-	6,269,530	2,967,039
Storage	6,235,442	6,235,442	-	6,235,442	2,898,515
Transmission & Distribution	25,241,221	25,241,221	13,303,196	11,938,025	4,563,325
Meters & Services	7,276,989	7,276,989	6,119,682	1,157,307	861,961
Hydrants	1,468,462	1,468,462	1,269,129	199,333	90,135
General	3,116,628	1,558,314	-	1,558,314	712,941
Total	\$ 63,281,670	\$ 61,723,356	\$ 20,692,006	\$ 41,031,350	\$ 15,847,760

Construction Work in Progress	Date	Life	Original Cost	Make	Water Share	Donated	Net Allocable	Function
Meter Replacement Project	2016		\$ 372,311		100.00%		372,311	Meters & Services
S-607 Franklin North	2016		43,633		100.00%		43,633	Transmission & Distribution
WS-681C Nuga Sewer	2016		2,370,521		0.00%		-	General
Steigerwald Wtr Rights	2016		-		100.00%		-	Supply/ Treatment
WS-681C Nuga Water Line	2016		102,846		100.00%		102,846	Transmission & Distribution
WS-751 Well 6 Easement	2016		9,950		100.00%		9,950	Supply/ Treatment
W-1000 2017 Timber Reforest	2016		6,816		100.00%		6,816	General
WS-709 Press Zone Surf Wtr Spl	2016		4,563		100.00%		4,563	Supply/ Treatment
WS-709C Slow Sand Filter	2016		15,467		100.00%		15,467	Supply/ Treatment
WS-709F 2015 Water Transmissn	2016		1,698,446		100.00%		1,698,446	Transmission & Distribution
WS-709H 2017 Wtr Trans	2016		3,023		100.00%		3,023	Transmission & Distribution
WS-709E-2015 Jones Timber Sale	2016		111,815		100.00%		111,815	General
WS-715 2.0 MG Gregg Reservoir	2016		69,556		100.00%		69,556	Storage
Total			\$ 4,808,949		\$ 2,438,428	\$ -	\$ 2,438,428	

Function	Original Cost	Allocable	CIAC	Net Allocable
Supply/ Treatment	\$ 29,980	\$ 29,980	\$ -	\$ 29,980
Pumping	-	-	-	-
Storage	69,556	69,556	-	69,556
Transmission & Distribution	1,847,949	1,847,949	-	1,847,949
Meters & Services	372,311	372,311	-	372,311
Hydrants	-	-	-	-
General	2,489,152	118,631	-	118,631
Total	\$ 4,808,949	\$ 2,438,428	\$ -	\$ 2,438,428



**City of Camas
Water Rate Study
Functional Allocation**

Transfers												
Transfer to GMA	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Transfer to 6th and Nonwood	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Transfer to WS Capital Fund	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Transfer to Retiree Medical	10,727	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
FTE Additions												
Entry Level FTE - 2020	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Entry Level FTE - 2019 (Entry Level W)	68,959	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
GIS (Partial)	23,870	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Asset Management	53,045	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Total Operating Expenses	\$ 3,915,583	\$ 225,383	\$ 401,440	\$ 1,282,342	\$ 1,354,343	\$ 241,120	\$ -	\$ 254,355	\$ 156,601	\$ 3,915,583		
% Sewer Functions		6.43%	11.45%	36.59%	38.64%	6.88%				100.00%		
Allocation of "As All Others"		\$ 10,071	\$ 17,938	\$ 57,300	\$ 60,518	\$ 10,774			\$ (156,601)	\$ -		
TOTAL	\$ 3,915,583	\$ 235,454	\$ 419,378	\$ 1,339,642	\$ 1,414,861	\$ 251,894	\$ -	\$ 254,355	\$ -	\$ 3,915,583		
Allocation Percentages		6.01%	10.71%	34.21%	36.13%	6.43%	0.00%	6.50%	0.00%	100.00%		

Allocation of Revenue Requirement												
Design Rates For =>		2019										
REVENUE REQUIREMENT	Total Costs	FUNCTIONS OF SEWER SERVICE									TOTAL	ALLOCATION BASIS
		CUSTOMER	METERS & SERVICES	BASE	PEAK	FIRE	DIRECT ASSIGNMENT	TAXES	AS ALL OTHERS			
OPERATING AND CAPITAL EXPENSES												
Cash Operating Expenses	\$ 3,915,583	6.01%	10.71%	34.21%	36.13%	6.43%	0.00%	6.50%	0.00%	100.00%	As O&M Expenses	
Existing Debt Service	887,798	0.00%	12.24%	39.10%	41.30%	7.35%	0.00%	0.00%	0.00%	100.00%	As Plant in Service	
New Debt Service	522,383	0.00%	12.24%	39.10%	41.30%	7.35%	0.00%	0.00%	0.00%	100.00%	As Plant in Service	
Rate Funded System Reinvestment	-	0.00%	12.24%	39.10%	41.30%	7.35%	0.00%	0.00%	0.00%	100.00%	As Plant in Service	
Total Expenses	\$ 5,325,763	4.42%	11.12%	35.51%	37.50%	6.68%	0.00%	4.78%	0.00%	100.00%		
OTHER REVENUES AND ADJUSTMENTS												
Less:												
Public Author/Hydrants	\$ (11,039)	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	As Fire	
Water Hook-up Fees	(105,971)	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Meters & Services	
Sewer Sales and Service	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Turn off Fees by Owner	(25,123)	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Meters & Services	
Penalties	(154,610)	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	As Direct Assignment	
Inspection Fees-Step System	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Investment Earnings	(84,840)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Space & Facilities Lease	(19,450)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Other Rent and Charges	(58,386)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Insurance Prem. & Recovery	-	0.00%	12.24%	39.10%	41.30%	7.35%	0.00%	0.00%	0.00%	100.00%	As Plant in Service	
Sale of Junk or Salvage	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Cashier Coverage & Shortage	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Other Misc. Revenue	(2,544)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Timber Sales	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Plus:												
Additional State Taxes Due to Rate Incr	\$ 24,275	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	As Taxes	
Net Cash Flow After Rate Increase	9,819	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Adjustment for Partial Year Increase	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Rate Revenue Requirement	\$ 4,897,895	\$ 235,454	\$ 460,916	\$ 1,891,090	\$ 1,997,271	\$ 344,544	\$ (154,610)	\$ 278,629	\$ (155,400)	\$ 4,897,895		
Water Service Functions		4.78%	9.35%	38.36%	40.52%	6.99%				100.00%		
Allocation of "As All Other" & "Taxes"		\$ 5,886	\$ 11,523	\$ 47,276	\$ 49,931	\$ 8,613		\$ (278,629)	\$ 155,400	\$ -		
Rate Revenue Requirement	\$ 4,897,895	\$ 241,340	\$ 472,439	\$ 1,938,366	\$ 2,047,202	\$ 353,158	\$ (154,610)	\$ -	\$ -	\$ 4,897,895		
Allocation Percentages		4.93%	9.65%	39.58%	41.80%	7.21%	-3.16%	0.00%	0.00%	100.00%		



City of Camas
Water Rate Study
Customer Allocation

CUSTOMER					\$ 241,340
Class	Allocation		% Share	\$ Allocation	\$/Month
	Accounts				
Residential	8,286		93.56%	\$ 225,810	\$ 2.27
Commercial	271		3.06%	7,375	2.27
Industrial	47		0.54%	1,292	2.27
Irrigation	209		2.36%	5,704	2.27
City	39		0.44%	1,060	2.27
Cemetery	4		0.04%	99	2.27
Private Fire	-		0.00%	-	-
Total	8,856		100.00%	\$ 241,340	\$ 2.27

METERS & SERVICES					\$ 472,439
Class	Allocation		% Share	\$ Allocation	\$/Month
	MSEs				
Residential	8,860		87.86%	\$ 415,090	\$ 3.90
Commercial	518		5.14%	24,280	3.90
Industrial	197		1.96%	9,237	3.90
Irrigation	433		4.30%	20,295	3.90
City	70		0.69%	3,262	3.90
Cemetery	6		0.06%	276	3.90
Private Fire	-		0.00%	-	-
Total	10,084		100.00%	\$ 472,439	\$ 3.90

BASE					\$ 1,938,366
Class	Allocation		% Share	\$ Allocation	\$/ccf
	ccf				
Residential	971,459		53.05%	\$ 1,028,289	\$ 1.06
Commercial	77,157		4.21%	81,671	1.06
Industrial	643,300		35.13%	680,932	1.06
Irrigation	124,590		6.80%	131,878	1.06
City	13,844		0.76%	14,654	1.06
Cemetery	891		0.05%	943	1.06
Private Fire	-		0.00%	-	-
Total	1,831,240		100.00%	\$ 1,938,366	\$ 1.06

PEAK					\$ 2,047,202
Class	Allocation		Peak	% Share	\$ Allocation
	Peak System	N/A			
Residential	131,771		1.00	59.67%	\$ 1,221,653
Commercial	8,099		1.00	3.67%	75,083
Industrial	53,804		1.00	24.37%	498,817
Irrigation	25,163		1.00	11.40%	233,282
City	1,957		1.00	0.89%	18,140
Cemetery	24		1.00	0.01%	227
Private Fire	-		1.00	0.00%	-
Total	220,817		1.00	100.00%	\$ 2,047,202



City of Camas Water Rate Study Customer Allocation

FIRE							\$	353,158
Class	Allocation		Flow (gpm)	Duration (min)	% Share	\$ Allocation	\$ /Month	
	Accounts							
Residential	8,286	1,000	120	73.74%	\$ 260,428	\$ 2.62		
Commercial	271	4,000	240	19.27%	68,043	20.95		
Industrial	47	5,000	240	4.22%	14,904	26.19		
Irrigation	209	0	0	0.00%	-	-		
City	39	4,000	240	2.77%	9,783	20.95		
Cemetery	4	0	0	0.00%	-	-		
Private Fire					-	-		
Total	8,856	1,102	122	100.00%	\$ 353,158	\$ 39.88		

DIRECT ASSIGNMENT					\$	(154,610)
Class	Allocation		% Share	\$ Allocation	\$ /Month	
	cf					
Residential	971,459	100.00%	\$ (154,610)	\$ (0.16)		
Commercial	-	0.00%	-	-		
Industrial	-	0.00%	-	-		
Irrigation	-	0.00%	-	-		
City	-	0.00%	-	-		
Cemetery	-	0.00%	-	-		
Private Fire	-	0.00%	-	-		
Total	971,459	100.00%	\$ (154,610)	\$ (0.16)		

SUMMARY								
Class	CUSTOMER	METERS & SERVICES	BASE	PEAK	FIRE	DIRECT ASSIGNMENT	% Share	
Residential	\$ 225,810	\$ 415,090	\$ 1,028,289	\$ 1,221,653	\$ 260,428	\$ (154,610)	\$ 2,996,659	
Commercial	7,375	24,280	81,671	75,083	68,043	-	256,451	
Industrial	1,292	9,237	680,932	498,817	14,904	-	1,205,182	
Irrigation	5,704	20,295	131,878	233,282	-	-	391,160	
City	1,060	3,262	14,654	18,140	9,783	-	46,898	
Cemetery	99	276	943	227	-	-	1,545	
Private Fire	-	-	-	-	-	-	-	
Total	\$ 241,340	\$ 472,439	\$ 1,938,366	\$ 2,047,202	\$ 353,158	\$ (154,610)	\$ 4,897,895	

COST OF SERVICE					
Class	Existing 2019	COSA 2019	Difference		
			\$	%	
Residential	\$ 2,826,202	\$ 2,996,659	\$ 170,457	6.03%	
Commercial	230,788	256,451	25,663	11.12%	
Industrial	1,229,352	1,205,182	(24,170)	-1.97%	
Irrigation	309,286	391,160	81,874	26.47%	
City	38,941	46,898	7,956	20.43%	
Cemetery	1,392	1,545	152	10.93%	
Private Fire	-	-	-	0.00%	
Total	\$ 4,635,963	\$ 4,897,895	\$ 261,932	5.65%	

SEWER UTILITY TECHNICAL EXHIBITS



City of Camas Sewer Rate Study Summary

Revenue Requirement	2019	2020	2021	2022	2023
Revenues					
Rate Revenues Under Existing Rates	\$ 7,787,938	\$ 7,912,304	\$ 8,016,770	\$ 8,083,928	\$ 8,205,186
Non-Rate Revenues	312,149	334,861	368,416	467,902	484,077
Total Revenues	\$ 8,100,088	\$ 8,247,164	\$ 8,385,187	\$ 8,551,830	\$ 8,689,264
Expenses					
Cash Operating Expenses	\$ 4,587,016	\$ 4,836,777	\$ 4,950,788	\$ 5,064,030	\$ 5,131,265
Existing Debt Service	3,537,745	3,358,786	2,701,704	2,695,128	2,695,053
New Debt Service	-	-	1,483,912	1,483,912	1,748,519
Rate Funded System Reinvestment	43,796	184,276	200,915	243,078	247,380
Total Expenses	\$ 8,168,557	\$ 8,379,838	\$ 9,337,318	\$ 9,486,148	\$ 9,822,216
Net Surplus (Deficiency)	\$ (68,469)	\$ (132,674)	\$ (952,132)	\$ (934,319)	\$ (1,132,952)
Additions to Meet Coverage	-	-	-	-	-
Total Surplus (Deficiency)	\$ (68,469)	\$ (132,674)	\$ (952,132)	\$ (934,319)	\$ (1,132,952)
% of Rate Revenue	0.88%	1.68%	11.88%	11.56%	13.81%
Annual Rate Adjustment	3.30%	3.30%	3.30%	3.30%	3.30%
Cumulative Annual Rate Adjustment	6.40%	9.91%	13.54%	17.28%	21.15%
Rate Revenues After Rate Increase	\$ 8,286,289	\$ 8,696,426	\$ 9,102,017	\$ 9,481,148	\$ 9,940,936
Additional In-Lieu of Taxes from Rate Increase	\$ 12,047	\$ 18,954	\$ 26,233	\$ 33,775	\$ 41,958
Net Cash Flow After Rate Increase	\$ 417,834	\$ 632,494	\$ 106,881	\$ 429,127	\$ 560,839
Coverage After Rate Increases	3.62	3.66	1.80	2.03	1.90
Sample Residential Bi-Monthly Bill (13 ccf)	\$ 101.72	\$ 105.08	\$ 108.54	\$ 112.13	\$ 115.83
Monthly Average Increase (\$)	\$ 3.25	\$ 3.36	\$ 3.47	\$ 3.58	\$ 3.70



City of Camas Sewer Rate Study Summary

Fund Balance	2019	2020	2021	2022	2023
OPERATING FUND					
Beginning Balance	\$ 771,679	\$ 1,189,513	\$ 1,822,007	\$ 1,928,889	\$ 2,358,015
plus: Net Cash Flow after Rate Increase	417,834	632,494	106,881	429,127	560,839
less: Transfer of Surplus to Capital Fund	-	-	-	-	-
Ending Balance	\$ 1,189,513	\$ 1,822,007	\$ 1,928,889	\$ 2,358,015	\$ 2,918,855
<i>O&M Target Balance</i>	\$ 754,030	\$ 795,087	\$ 813,828	\$ 832,443	\$ 843,496
<i>Days</i>	95	138	142	170	208
CAPITAL					
Beginning Balance	\$ 8,503,826	\$ 4,254,572	\$ 881,863	\$ 20,580,797	\$ 851,932
plus: Rate Funded System Reinvestment/ Equipment Transfers	43,796	184,276	200,915	243,078	247,380
plus: Transfers from Operating Fund	-	-	-	-	-
plus: Grants/ Donations/ CIAC	-	-	-	-	-
plus: Additional Proceeds (Costs)	-	-	-	-	-
plus: Connection Charge Revenue	967,820	893,030	793,310	440,613	795,570
less: Connection Charge Revenue Towards Debt	-	-	-	-	-
plus: Net Debt Proceeds Available for Projects	-	-	27,000,000	-	3,000,000
plus: Interest Earnings	148,817	95,728	24,251	668,876	27,688
Total Funding Sources	\$ 9,664,259	\$ 5,427,606	\$ 28,900,339	\$ 21,933,364	\$ 4,922,570
less: Capital Expenditures	(5,409,686)	(4,545,743)	(8,319,542)	(21,081,432)	(2,151,197)
Ending Working Capital Balance	\$ 4,254,572	\$ 881,863	\$ 20,580,797	\$ 851,932	\$ 2,771,374
<i>Minimum Target Balance</i>	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000
COMBINED BEGINNING FUND BALANCE	\$ 9,275,505	\$ 5,444,086	\$ 2,703,870	\$ 22,509,686	\$ 3,209,947
COMBINED ENDING FUND BALANCE	\$ 5,444,086	\$ 2,703,870	\$ 22,509,686	\$ 3,209,947	\$ 5,690,228
<i>Combined Days</i>	433	205	1,660	231	405
<i>Total Combined Ending Fund Balance Target</i>	\$ 1,504,030	\$ 1,545,087	\$ 1,563,828	\$ 1,582,443	\$ 1,593,496



City of Camas Sewer Rate Study Assumptions

Economic & Financial Factors	2019	2020	2021	2022	2023
General Cost Inflation	1.77%	1.77%	1.77%	1.77%	1.77%
Construction Cost Inflation	3.50%	3.50%	3.50%	3.50%	3.50%
Labor Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%
Benefit Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%
General Inflation plus Composite Growth	3.62%	3.39%	3.11%	2.62%	3.29%
Customer Growth	1.82%	1.60%	1.32%	0.84%	1.50%
Demand Growth	1.82%	1.60%	1.32%	0.84%	1.50%
No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%
[Extra]	0.00%	0.00%	0.00%	0.00%	0.00%
[Extra]	0.00%	0.00%	0.00%	0.00%	0.00%
Investment Interest	1.75%	2.25%	2.75%	3.25%	3.25%
Excise Taxes	3.85%	3.85%	3.85%	3.85%	3.85%
B&O Taxes	1.50%	1.50%	1.50%	1.50%	1.50%
Treatment Share	61.00%	61.00%	61.00%	61.00%	61.00%
Effective Tax Rate	2.42%	2.42%	2.42%	2.42%	2.42%
City Tax (General Fund) - Rate Revenue Only	0.00%	0.00%	0.00%	0.00%	0.00%

Accounting Assumptions	2019	2020	2021	2022	2023
FISCAL POLICY RESTRICTIONS					
Min. Op. Fund Balance Target (days of O&M expense)	60	60	60	60	60
Max. Op. Fund Balance (days of O&M expense)	60	60	60	60	60
Minimum Capital Fund Balance Target					
Select Minimum Capital Fund Balance Target	2				
1 - Defined as % of Plant	Estimated Net Assets				
Plant-in-Service in 2016	\$ 76,531,892	\$ 1,539,271	\$ 1,541,090	\$ 1,544,418	\$ 1,552,850
Minimum Capital Fund Balance - % of plant assets		2.00%	2.00%	2.00%	2.00%
2 - Amount at Right ==>	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000
RATE FUNDED SYSTEM REINVESTMENT					
Select Reinvestment Funding Strategy	3				
Amount of Annual Cash Funding from Rates	\$ 417,834	\$ 632,494	\$ 106,881	\$ 429,127	\$ 560,839
1 - Equal to Annual Depreciation Expense	\$ 1,751,844	\$ 1,842,759	\$ 2,009,149	\$ 2,430,778	\$ 2,473,802
2 - Equal to Annual Depreciation Expense less Annual Debt Principal Payments	(794,728)	(576,890)	194,072	588,456	489,303
3 - Equal to Amount at Right ==>	\$ 43,796	\$ 184,276	\$ 200,915	\$ 243,078	\$ 247,380
4 - Do Not Fund System Reinvestment	2.50%	10.00%	10.00%	10.00%	10.00%



City of Camas Sewer Rate Study Assumptions

Capital Financing Assumptions		2019	2020	2021	2022	2023
Connection Fees						
South Area SDC	\$ 2,493	\$ 2,493	\$ 2,493	\$ 2,493	\$ 2,493	\$ 2,493
Total Meter Customer Accounts		15,447	15,557	15,627	15,708	15,854
Additional Accounts Per Year		140	110	70	81	146
Subtotal South Area SDCs		\$ 349,020	\$ 274,230	\$ 174,510	\$ 201,933	\$ 364,610
North Shore Area SDC	\$ 4,420	\$ 4,420	\$ 4,420	\$ 4,420	\$ 4,420	\$ 4,420
Total Meter Customer Accounts		208	348	488	542	640
Additional Accounts Per Year		140	140	140	54	98
Subtotal North Shore Area SDCs		\$ 618,800	\$ 618,800	\$ 618,800	\$ 238,680	\$ 430,960
Connection Fee Revenues		\$ 967,820	\$ 893,030	\$ 793,310	\$ 440,613	\$ 795,570
		280	250	210	135	244
FUNDING SOURCES		1.82%	1.60%	1.32%	0.84%	1.50%
Grants		\$ -	\$ -	\$ -	\$ -	\$ -
Additional Proceeds (Costs)						
North Shore (North Shore) Sanitary - CIAC Share (75%)	75.00%	\$ -	\$ -	\$ -	\$ -	\$ -
North Shore (North Shore) Sewer Trans System - CIAC Share (0%)						
Lacamas Creek Pump Station - CIAC Share (0%)	0.00%	-	-	-	-	-
WWTP Upgrade - CIAC Share (0%)	0.00%	-	-	-	-	-
North Shore Sewer Trans System Phase 2 - CIAC Share (75%)	75.00%	-	-	-	-	-
North Shore Sewer Trans System Phase 3 - CIAC Share (75%)	75.00%	-	-	-	-	-
Goodwin Road Pump Station						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
Total Additional Proceeds		\$ -	\$ -	\$ -	\$ -	\$ -



City of Camas Sewer Rate Study Assumptions

REVENUE BONDS					
Term (years)		20	20	20	20
Interest Only Payments		3	0	3	0
Interest Rate		5.00%	5.00%	5.00%	5.00%
Issuance Cost		1.00%	1.00%	1.00%	1.00%
Revenue Bond Coverage Requirement	1.25				
Use Reserves to Pay for Last Payment	No				
PWTF LOANS					
Term		20	20	20	20
Interest Rate		2.55%	2.55%	2.55%	2.55%
OTHER LOANS					
Term (years)		20	20	20	20
Interest Rate		1.50%	1.50%	1.50%	1.50%
Issuance Cost		1.00%	1.00%	1.00%	1.00%



City of Camas
Sewer Rate Study
 Operating Revenue and Expenditure Forecast

Revenues/Expenses		FORECAST BASIS	Forecast 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023
Acct. #	Rate Revenue							
424.00.343.520.10	Flat Sewer - Residential	Customer Growth	\$ 4,435,411	\$ 4,516,184	\$ 4,588,303	\$ 4,648,883	\$ 4,687,827	\$ 4,758,144
424.00.343.520.20	Measured Sewer Comm/Industrial	Customer Growth	1,529,636	1,557,492	1,582,364	1,603,256	1,616,686	1,640,937
424.00.343.520.20	Measured Sewer Ind/Wafertech	Customer Growth	1,683,602	1,714,262	1,741,637	1,764,632	1,779,414	1,806,106
	Total Actual	Customer Growth	-	-	-	-	-	-
	[Extra]	Customer Growth	-	-	-	-	-	-
	Total Rate Revenue		\$ 7,648,650	\$ 7,787,938	\$ 7,912,304	\$ 8,016,770	\$ 8,083,928	\$ 8,205,186
	Non Rate Revenue							
424.00.343.440.90	Public Author/Hydrants	Customer Growth	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
424.00.343.450.00	Water Hook-up Fees	Customer Growth	-	-	-	-	-	-
424.00.343.560.00	Sewer Sales and Service	Customer Growth	4,162	4,238	4,305	4,362	4,399	4,465
424.00.343.810.00	Turn off Fees by Owner	Customer Growth	-	-	-	-	-	-
424.00.343.818.00	Penalties	Customer Growth	-	-	-	-	-	-
424.00.346.200.00	Inspection Fees-Step System	Customer Growth	18,743	19,084	19,389	19,645	19,810	20,107
424.00.361.110.00	Investment Earnings	Calculated	11,676	42,094	63,523	95,032	193,182	207,129
424.00.362.500.00	Space & Facilities Lease	General Cost Inflation	19,112	19,450	19,793	20,143	20,499	20,861
424.00.362.900.00	Other Rent and Charges	General Cost Inflation	57,372	58,386	59,418	60,468	61,536	62,624
424.00.363.000.00	Insurance Prem. & Recovery	General Cost Inflation	-	-	-	-	-	-
424.00.369.100.00	Sale of Junk or Salvage	General Cost Inflation	-	-	-	-	-	-
424.00.369.810.00	Cashier Overage & Shortage	General Cost Inflation	-	-	-	-	-	-
424.00.369.900.00	Other Misc. Revenue	General Cost Inflation	2,500	2,544	2,589	2,635	2,681	2,729
	Developer Share of 2015 Revenue Bonds	General Cost Inflation	166,288	166,353	165,843	166,131	165,795	166,163
	[Extra]	General Cost Inflation	-	-	-	-	-	-
	Total Non Rate Revenue		\$ 279,852	\$ 312,149	\$ 334,861	\$ 368,416	\$ 467,902	\$ 484,077
TOTAL REVENUES			\$ 7,928,502	\$ 8,100,088	\$ 8,247,164	\$ 8,385,187	\$ 8,551,830	\$ 8,689,264

Revenues/Expenses		FORECAST BASIS	2018	2019	2020	2021	2022	2023
S. Taxes	State Taxes	<i>Calculated</i>	\$ 189,608	\$ 207,456	\$ 209,681	\$ 211,214	\$ 209,039	\$ 217,537
SEWER	Sewer Collection Supplies							
424-00-535-810-31	Office And Operating Supplies	General Cost Inflation	\$ 3,541	\$ 3,604	\$ 3,667	\$ 3,732	\$ 3,798	\$ 3,865
424-00-535-860-31	Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-535-810-35	Small Tools And Minor Equip	General Cost Inflation	17,325	17,631	17,943	18,260	18,582	18,911
	Sewer Collection Services							
424-00-535-810-41	Professional Ser	Labor Cost Inflation	\$ 25,510	\$ 26,275	\$ 27,064	\$ 27,875	\$ 28,712	\$ 29,573
424-00-535-810-42	Communication	General Cost Inflation	-	-	-	-	-	-
424-00-535-810-43	Travel	General Cost Inflation	-	-	-	-	-	-
424-00-535-810-45	Intfund Oper. Rentals & Lease	General Cost Inflation	-	-	-	-	-	-
424-00-535-810-48	Repairs & Maintenance	Construction Cost Inflation	175,526	181,669	188,028	194,609	201,420	208,470
424-00-535-860-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-535-810-49	Miscellaneous	General Cost Inflation	693	705	718	730	743	756
424-00-535-860-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
	Sewer Collection Misc.							
424-00-535-810-51	Intgovt Profess Services	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



City of Camas
Sewer Rate Study
 Operating Revenue and Expenditure Forecast

Revenues/Expenses		FORECAST BASIS	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
			2018	2019	2020	2021	2022	2023
Sewer Pressure Collection Salaries								
424-00-535-811-11	SWR PRESSURE COLL - Reg Salar	Labor Cost Inflation	\$ 157,050	\$ 161,762	\$ 166,614	\$ 171,613	\$ 176,761	\$ 182,064
424-00-535-811-12	Overtime	Labor Cost Inflation	8,000	8,240	8,487	8,742	9,004	9,274
424-00-535-811-21	Personnel Benefits	Benefit Cost Inflation	88,096	90,739	93,461	96,265	99,153	102,127
Sewer Pressure Collection Supplies								
424-00-535-811-31	Office And Operating Supplies	Labor Cost Inflation	\$ 39,786	\$ 40,980	\$ 42,209	\$ 43,475	\$ 44,779	\$ 46,123
424-00-535-811-35	Small Tools And Minor Equip	General Cost Inflation	5,102	5,192	5,284	5,377	5,472	5,569
424-00-535-811-36	Chemicals	General Cost Inflation	53,819	54,770	55,738	56,723	57,725	58,745
Sewer Pressure Collection Services								
424-00-535-811-41	Professional Ser	Labor Cost Inflation	\$ 75,369	\$ 77,630	\$ 79,959	\$ 82,358	\$ 84,828	\$ 87,373
424-00-535-811-42	Communication	General Cost Inflation	2,639	2,686	2,733	2,781	2,831	2,881
424-00-535-811-45	Intfund Oper. Rentals & Lease	General Cost Inflation	4,836	4,922	5,009	5,097	5,188	5,279
424-00-535-811-46	Insurance	General Cost Inflation	4,521	4,601	4,682	4,765	4,849	4,935
424-00-535-811-48	Intfund Repairs & Maint.	General Cost Inflation	86,734	88,267	89,826	91,414	93,029	94,673
424-00-535-811-49	Miscellaneous	General Cost Inflation	1,063	1,082	1,101	1,120	1,140	1,160
Sewer Pumping Salaries								
424-00-535-830-11	SWR PUMPING - Reg Salaries	Labor Cost Inflation	\$ 150,512	\$ 155,027	\$ 159,678	\$ 164,469	\$ 169,403	\$ 174,485
424-00-535-830-12	Overtime	Labor Cost Inflation	5,000	5,150	5,305	5,464	5,628	5,796
424-00-535-830-21	Personnel Benefits	Benefit Cost Inflation	61,951	63,810	65,724	67,696	69,727	71,819
Sewer Pumping Supplies								
424-00-535-830-31	Office And Operating Supplies	General Cost Inflation	\$ 1,179	\$ 1,200	\$ 1,221	\$ 1,243	\$ 1,265	\$ 1,287
424-00-535-830-32	Fuel Consumed	General Cost Inflation	3,767	3,834	3,901	3,970	4,040	4,112
424-00-535-830-35	Small Tools And Minor Equip	General Cost Inflation	-	-	-	-	-	-
Sewer Pumping Services								
424-00-535-830-41	Professional Ser	Labor Cost Inflation	\$ 40,816	\$ 42,040	\$ 43,302	\$ 44,601	\$ 45,939	\$ 47,317
Step Pumping	Step Pumping	General Cost Inflation	127,500	129,753	132,046	134,379	136,754	139,171
424-00-535-830-42	Communication	General Cost Inflation	2,567	2,613	2,659	2,706	2,754	2,802
424-00-535-830-45	Intfund Oper. Rentals & Lease	General Cost Inflation	-	-	-	-	-	-
424-00-535-830-47	Public Utility	General Cost Inflation	61,224	62,306	63,407	64,527	65,668	66,828
424-00-535-830-48	Repairs & Maintenance	General Cost Inflation	166,783	169,731	172,730	175,782	178,889	182,050
424-00-535-830-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
Sewer Treatment Salaries								
424-00-535-850-11	SWR TREATMENT - Reg Salaries	Labor Cost Inflation	\$ 307,165	\$ 316,380	\$ 325,871	\$ 335,647	\$ 345,717	\$ 356,088
424-00-535-850-12	Overtime	Labor Cost Inflation	31,000	31,930	32,888	33,875	34,891	35,937
424-00-535-850-21	Personnel Benefits	Benefit Cost Inflation	142,995	147,285	151,704	156,255	160,943	165,771
Sewer Treatment Supplies								
424-00-535-850-31	Office And Operating Supplies	General Cost Inflation	\$ 51,020	\$ 51,922	\$ 52,839	\$ 53,773	\$ 54,723	\$ 55,690
424-00-535-850-32	Fuel Consumed	General Cost Inflation	-	-	-	-	-	-
424-00-535-850-35	Small Tools And Minor Equip	General Cost Inflation	4,727	4,811	4,896	4,982	5,070	5,160
424-00-535-850-36	Supplies - Chemicals	General Cost Inflation	357,140	363,451	369,874	376,410	383,062	389,831
Sewer Treatment Services								
424-00-535-850-41	Professional Ser	Labor Cost Inflation	\$ 102,040	\$ 105,101	\$ 108,254	\$ 111,502	\$ 114,847	\$ 118,292
424-00-535-850-42	Communication	General Cost Inflation	4,458	4,537	4,617	4,699	4,782	4,866
424-00-535-850-43	Travel	General Cost Inflation	-	-	-	-	-	-
424-00-535-850-45	Intfund Oper. Rentals & Lease	General Cost Inflation	52,786	53,719	54,669	55,635	56,618	57,618
424-00-535-850-46	Insurance	General Cost Inflation	105,110	106,967	108,858	110,781	112,739	114,731
424-00-535-850-47	Public Utility	General Cost Inflation	224,488	228,455	232,492	236,601	240,782	245,037
424-00-535-850-48	Repairs & Maintenance	Construction Cost Inflation	153,060	158,417	163,962	169,700	175,640	181,787
424-00-535-850-49	Miscellaneous	General Cost Inflation	39,681	40,382	41,096	41,822	42,561	43,313



City of Camas
Sewer Rate Study
 Operating Revenue and Expenditure Forecast

Revenues/Expenses		FORECAST BASIS	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
			2018	2019	2020	2021	2022	2023
	Sewer Misc							
Intergovt. Prof. Services	Intergovt. Prof. Services	Labor Cost Inflation	\$ 18,114	\$ 18,657	\$ 19,217	\$ 19,794	\$ 20,387	\$ 20,999
Intgovt Profess Services	Intgovt Profess Services	General Cost Inflation	-	-	-	-	-	-
	W/S Administration							
	Salries							
424-00-538-100-11	ADMIN/GEN - Reg Salaries	Labor Cost Inflation	\$ 165,549	\$ 170,516	\$ 175,631	\$ 180,900	\$ 186,327	\$ 191,917
424-00-538-170-11	CUSTOMER SERVICE - Reg Salarie	Labor Cost Inflation	-	-	-	-	-	-
424-00-594-340-11	Regular Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-594-350-11	Regular Salaries	Labor Cost Inflation	-	-	-	-	-	-
424-00-538-100-12	Overtime	Labor Cost Inflation	100	103	106	109	113	116
	Benefits							
424-00-538-100-21	Personnel Benefits	Benefit Cost Inflation	\$ 68,682	\$ 70,742	\$ 72,864	\$ 75,050	\$ 77,302	\$ 79,621
424-00-538-170-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-594-340-21	Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-594-350-21	Benefits	Benefit Cost Inflation	-	-	-	-	-	-
424-00-538-100-28	OPEB Expense	Benefit Cost Inflation	-	-	-	-	-	-
	Supplies							
424-00-538-100-31	Office And Operating Supplies	General Cost Inflation	\$ 778	\$ 791	\$ 805	\$ 819	\$ 834	\$ 849
424-00-538-170-31	Office And Operating Supplies	General Cost Inflation	-	-	-	-	-	-
424-00-538-100-35	Small Tools And Minor Equip	General Cost Inflation	-	-	-	-	-	-
	Services							
424-00-538-100-41	Interfund Profess. Serv.	General Cost Inflation	\$ 692,092	\$ 704,322	\$ 716,768	\$ 729,435	\$ 742,325	\$ 755,443
424-00-538-170-41	Interfund Profess. Serv.	General Cost Inflation	11,150	11,347	11,548	11,752	11,960	12,171
424-00-594-350-41	Professional Services	General Cost Inflation	14,338	14,591	14,849	15,112	15,379	15,650
424-00-538-100-42	Communication	General Cost Inflation	8,989	9,148	9,310	9,474	9,641	9,812
424-00-538-170-42	Communication	General Cost Inflation	224	227	231	236	240	244
424-00-538-100-43	Travel	General Cost Inflation	182	185	188	191	195	198
424-00-538-100-45	Intfund Oper. Rentals & Lease	General Cost Inflation	50,162	51,048	51,951	52,869	53,803	54,754
424-00-594-350-45	Interfund Oper Rentals	General Cost Inflation	-	-	-	-	-	-
424-00-538-100-48	Repairs & Maintenance	General Cost Inflation	-	-	-	-	-	-
424-00-538-100-49	Miscellaneous	General Cost Inflation	12,846	13,072	13,304	13,539	13,778	14,021
424-00-538-170-49	Miscellaneous	General Cost Inflation	16,342	16,630	16,924	17,223	17,528	17,837
Intgovt Profess Services	Intgovt Profess Services	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Transfers							
Transfer to GMA	Transfer to GMA	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer to 6th and Norwood	Transfer to 6th and Norwood	General Cost Inflation	-	-	-	-	-	-
Transfer to WS Capital Fund	Transfer to WS Capital Fund	General Cost Inflation	-	-	-	-	-	-
Transfer to Retiree Medical	Transfer to Retiree Medical	General Cost Inflation	10,541	10,727	10,917	11,110	11,306	11,506



City of Camas
Sewer Rate Study
 Operating Revenue and Expenditure Forecast

Revenues/Expenses		FORECAST BASIS	Forecast 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023
FTE Additions								
FTE1	Entry Level Operator at WWTP - 2019	Labor Cost Inflation	\$ -	\$ 68,959	\$ 71,027	\$ 73,158	\$ 75,353	\$ 77,613
FTE2	Entry Level Maint. Worker Collection - 2019	Labor Cost Inflation	-	68,959	71,027	73,158	75,353	77,613
FTE3	GIP (Partial)	Labor Cost Inflation	-	23,870	24,586	25,324	26,084	26,866
FTE4	Asset Management	Labor Cost Inflation	-	53,045	54,636	56,275	57,964	59,703
Extra	Pump Station Telemetry/SCADA Upgrades	Labor Cost Inflation	-	53,045	54,636	56,275	57,964	-
FTE5	Entry Level Operator at WWTP - 2020	Labor Cost Inflation	-	-	71,027	73,158	75,353	77,613
FTE6	Entry Level Maint. Worker Collection - 2020	Labor Cost Inflation	-	-	71,027	73,158	75,353	77,613
Total Cash O&M Expenditures			\$ 4,206,276	\$ 4,587,016	\$ 4,836,777	\$ 4,950,788	\$ 5,064,030	\$ 5,131,265
Depreciation Expense								
Depreciation				\$ 1,320,162				
Depreciation Expense			\$ 1,643,650	\$ 1,751,844	\$ 1,842,759	\$ 2,009,149	\$ 2,430,778	\$ 2,473,802
			(2,500,597)	(2,546,571)	(2,419,648)	(1,815,078)	(1,842,322)	(1,984,499)
System Reinvestment Funding			\$ -	\$ -	\$ -	\$ 194,072	\$ 588,456	\$ 489,303
TOTAL EXPENSES			\$ 5,849,926	\$ 6,338,860	\$ 6,679,535	\$ 6,959,937	\$ 7,494,809	\$ 7,605,067



City of Camas
Sewer Rate Study
Existing Debt Input

Existing Debt Service - Revenue Bonds	2019	2020	2021	2022	2023
2015 W/S Revenue Bond (Refunding) North Shore Sewer					
Annual Interest Payment	\$ 799,775	\$ 785,075	\$ 762,725	\$ 739,625	\$ 708,025
Annual Principal Payment	<u>735,000</u>	<u>745,000</u>	<u>770,000</u>	<u>790,000</u>	<u>825,000</u>
Total Annual Payment	\$ 1,534,775	\$ 1,530,075	\$ 1,532,725	\$ 1,529,625	\$ 1,533,025
Use of Debt reserve for Debt Service	-	-	-	-	-
TOTAL REVENUE BONDS					
Annual Interest Payment	\$ 799,775	\$ 785,075	\$ 762,725	\$ 739,625	\$ 708,025
Annual Principal Payment	<u>735,000</u>	<u>745,000</u>	<u>770,000</u>	<u>790,000</u>	<u>825,000</u>
Total Annual Payment	\$ 1,534,775	\$ 1,530,075	\$ 1,532,725	\$ 1,529,625	\$ 1,533,025
Use of Debt reserve for Debt Service	-	-	-	-	-
Annual Debt Reserve Target on Existing Revenue Bonds	1,534,775	1,534,000	1,534,000	1,534,000	1,534,000

Existing Debt Service - PWTF Loans	2019	2020	2021	2022	2023
WWTP Improvements II					
Annual Interest Payment	\$ 2,031	\$ 1,806	\$ 1,580	\$ 1,354	\$ 1,128
Annual Principal Payment	<u>45,139</u>	<u>45,139</u>	<u>45,139</u>	<u>45,139</u>	<u>45,139</u>
Total Annual Payment	\$ 47,170	\$ 46,945	\$ 46,719	\$ 46,493	\$ 46,267
WWTP Phase II					
Annual Interest Payment	\$ 27,763	\$ 24,987	\$ 22,211	\$ 19,434	\$ 16,658
Annual Principal Payment	<u>555,263</u>	<u>555,263</u>	<u>555,263</u>	<u>555,263</u>	<u>555,263</u>
Total Annual Payment	\$ 583,026	\$ 580,250	\$ 577,474	\$ 574,697	\$ 571,921
2012 PWTL Sanitary Sewer Main					
Annual Interest Payment	\$ 6,624	\$ 6,151	\$ 5,678	\$ 5,205	\$ 4,732
Annual Principal Payment	<u>189,261</u>	<u>189,261</u>	<u>189,261</u>	<u>189,261</u>	<u>189,261</u>
Total Annual Payment	\$ 195,885	\$ 195,412	\$ 194,939	\$ 194,466	\$ 193,993
1999 PWTL Wastewater TP Upgrade					
Annual Interest Payment	\$ 1,691	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	<u>169,092</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total Annual Payment	\$ 170,783	\$ -	\$ -	\$ -	\$ -
TOTAL PWTF LOANS					
Annual Interest Payment	\$ 38,109	\$ 32,944	\$ 29,468	\$ 25,993	\$ 22,517
Annual Principal Payment	<u>958,755</u>	<u>789,663</u>	<u>789,663</u>	<u>789,663</u>	<u>789,663</u>
Total Annual Payment	\$ 996,865	\$ 822,607	\$ 819,132	\$ 815,656	\$ 812,181



City of Camas
Sewer Rate Study
Existing Debt Input

Existing Debt Service - Other Loans	2019	2020	2021	2022	2023
2001 DOE Loan (1998)					
Annual Interest Payment	\$ 44,962	\$ 19,642	\$ -	\$ -	\$ -
Annual Principal Payment	<u>611,296</u>	<u>636,615</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total Annual Payment	\$ 656,258	\$ 656,257	\$ -	\$ -	\$ -
2011 DOE Loan WWTP Improvements					
Annual Interest Payment	\$ 108,327	\$ 101,477	\$ 94,433	\$ 87,189	\$ 79,739
Annual Principal Payment	<u>241,520</u>	<u>248,370</u>	<u>255,414</u>	<u>262,658</u>	<u>270,108</u>
Total Annual Payment	\$ 349,847	\$ 349,847	\$ 349,847	\$ 349,847	\$ 349,847
TOTAL OTHER LOANS					
Annual Interest Payment	\$ 153,289	\$ 121,119	\$ 94,433	\$ 87,189	\$ 79,739
Annual Principal Payment	<u>852,816</u>	<u>884,985</u>	<u>255,414</u>	<u>262,658</u>	<u>270,108</u>
Total Annual Payment	\$ 1,006,105	\$ 1,006,104	\$ 349,847	\$ 349,847	\$ 349,847

Total Existing Debt Service	2019	2020	2021	2022	2023
TOTAL SEWER LOANS					
Total Annual Interest Payment	\$ 991,173	\$ 939,138	\$ 886,626	\$ 852,806	\$ 810,281
Total Principal Payment	<u>2,546,571</u>	<u>2,419,648</u>	<u>1,815,078</u>	<u>1,842,322</u>	<u>1,884,771</u>
Total Annual Payment	\$ 3,537,745	\$ 3,358,786	\$ 2,701,704	\$ 2,695,128	\$ 2,695,053



City of Camas Sewer Rate Study Capital Improvement Program

Project Costs and O&M Impacts in Year: **2017**

No	Description	2019	2020	2021	2022	2023	Useful Life (Years)
1	Draft CIP To FCS 8/21/17						
2	Basin 6 Step Bypass Line to Plant						50
3	Sewer Pump Station Rehab	1,250,000	550,000	550,000	550,000	550,000	50
4	In-City Sewer Main Rehab	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	50
5	North Shore (NUGA) Sanitary						50
6	North Shore (NUGA) Sewer Trans System						50
7	Lacamas Creek Pump Station	1,350,000	1,350,000				50
8							50
9	STEP Tank Pump Truck	150,000					50
10							50
11	Bioxide Station Installation						50
12	Local Limits Development	50,000					50
13	Mill Ditch Replacement Project						50
14	Gravity Thickener						50
15	I/I Elimination Projects	150,000					50
16	WWTF Plan Update	400,000					50
17	WWTP Upgrade (Phase 3)		-	5,000,000	16,000,000		50
18	West Camas Forcemain/South Prune Hill			500,000			50
19	WWTP R&R	500,000	1,000,000				50
20	North Shore Sewer Trans System Phase 2						50
21	North Shore Sewer Trans System Phase 3						50
22	Goodwin Road Pump Station						25
Total Capital Projects		\$ 5,050,000	\$ 4,100,000	\$ 7,250,000	\$ 17,750,000	\$ 1,750,000	
Total Upgrade/Expansion Projects		4,565,000	3,600,000	1,750,000	1,750,000	1,750,000	
Total R&R Projects		485,000	500,000	5,500,000	16,000,000	-	
Projects by Grants / Developer Donations							
Projects by Enterprise Fund							



City of Camas
Sewer Rate Study
Revenue Requirements Analysis

Test 1: Cash Flow Sufficiency Test	2019	2020	2021	2022	2023
EXPENSES					
Cash Operating Expenses	\$ 4,587,016	\$ 4,836,777	\$ 4,950,788	\$ 5,064,030	\$ 5,131,265
Existing Debt Service	3,537,745	3,358,786	2,701,704	2,695,128	2,695,053
New Debt Service	-	-	1,483,912	1,483,912	1,748,519
Rate Funded System Reinvestment	43,796	184,276	200,915	243,078	247,380
Total Expenses	\$ 8,168,557	\$ 8,379,838	\$ 9,337,318	\$ 9,486,148	\$ 9,822,216
REVENUES					
Rate Revenue	\$ 7,787,938	\$ 7,912,304	\$ 8,016,770	\$ 8,083,928	\$ 8,205,186
Other Non Rate Revenue	270,055	271,338	273,384	274,720	276,949
Connection Fee Revenue Towards Debt	-	-	-	-	-
Operating Fund & Debt Reserve Fund Interest Earnings	42,094	63,523	95,032	193,182	207,129
Total Revenue	\$ 8,100,088	\$ 8,247,164	\$ 8,385,187	\$ 8,551,830	\$ 8,689,264
NET CASH FLOW (DEFICIENCY)	\$ (68,469)	\$ (132,674)	\$ (952,132)	\$ (934,319)	\$ (1,132,952)
% of Rate Revenue	0.88%	1.68%	11.88%	11.56%	13.81%

Test 2: Coverage Sufficiency Test	2019	2020	2021	2022	2023
EXPENSES					
Cash Operating Expenses	\$ 4,587,016	\$ 4,836,777	\$ 4,950,788	\$ 5,064,030	\$ 5,131,265
Revenue Bond Debt Service (less: dev Share of NSA 2015)	1,368,422	1,364,232	2,850,506	2,847,742	3,115,380
Revenue Bond Coverage Requirement at 1.25	342,106	341,058	712,627	711,936	778,845
Total Expenses	\$ 6,297,544	\$ 6,542,066	\$ 8,513,921	\$ 8,623,709	\$ 9,025,490
ALLOWABLE REVENUES					
Rate Revenue	\$ 7,787,938	\$ 7,912,304	\$ 8,016,770	\$ 8,083,928	\$ 8,205,186
Other Revenue (less: dev share of NSA 2015)	103,702	105,495	107,253	108,925	110,785
Connection Fee Revenue	967,820	893,030	793,310	440,613	795,570
Interest Earnings	190,911	159,251	119,284	862,058	234,817
Total Revenue	\$ 9,050,372	\$ 9,070,079	\$ 9,036,617	\$ 9,495,524	\$ 9,346,359
Coverage Realized (Existing Rates)	3.26	3.10	1.43	1.56	1.35
COVERAGE SURPLUS (DEFICIENCY)	\$ 2,752,828	\$ 2,528,013	\$ 522,697	\$ 871,815	\$ 320,868



City of Camas
Sewer Rate Study
Revenue Requirements Analysis

Maximum Revenue Deficiency	2019	2020	2021	2022	2023
Sufficiency Test Driving the Deficiency	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>
Maximum Revenue Deficiency (Surplus)	\$ 68,469	\$ 132,674	\$ 952,132	\$ 934,319	\$ 1,132,952
plus: Additional (Reduction) Excise Tax	1,696	3,287	23,586	23,145	28,065
less: Net Revenue From Prior Rate Adjustments	(233,638)	(506,308)	(794,475)	(1,094,338)	(1,418,179)
Net Revenue Deficiency (Surplus)	\$ (163,473)	\$ (370,348)	\$ 181,242	\$ (136,874)	\$ (257,161)
<i>Required Adjustment (Full Year)</i>	-2.04%	-4.40%	2.06%	-1.49%	-2.67%

Rate Increases	2019	2020	2021	2022	2023
Rate Revenue with no Increase	\$ 7,787,938	\$ 7,912,304	\$ 8,016,770	\$ 8,083,928	\$ 8,205,186
Revenues from Prior Rate Increases	233,638	506,308	794,475	1,094,338	1,418,179
Rate Revenue Before Rate Increase (Incl. previous increases)	8,021,577	8,418,612	8,811,246	9,178,265	9,623,365
Required Annual Rate Increase (Full Year)	-2.04%	-4.40%	2.06%	-1.49%	-2.67%
Number of Months New Rates Will Be In Effect	12	12	12	12	12
<i>Info: Percentage Increase to Generate Required Revenue</i>	-2.04%	-4.40%	2.06%	-1.49%	-2.67%
Policy Induced Rate Increases	3.30%	3.30%	3.30%	3.30%	3.30%
ANNUAL RATE INCREASE	3.30%	3.30%	3.30%	3.30%	3.30%
CUMULATIVE RATE INCREASE	6.40%	9.91%	13.54%	17.28%	21.15%



City of Camas
Sewer Rate Study
Revenue Requirements Analysis

Impacts of Rate Increases	2019	2020	2021	2022	2023
Rate Revenues After Rate Increase	\$ 8,286,289	\$ 8,696,426	\$ 9,102,017	\$ 9,481,148	\$ 9,940,936
Full Year Rate Revenues After Rate Increase	8,286,289	8,696,426	9,102,017	9,481,148	9,940,936
<i>Partial Year Adjustment</i>	-	-	-	-	-
Additional (Reduction of) Taxes Due to Rate Increases	12,047	18,954	26,233	33,775	41,958
Net Cash Flow After Rate Increase	\$ 417,834	\$ 632,494	\$ 106,881	\$ 429,127	\$ 560,839
Coverage After Rate Increase	3.62	3.66	1.80	2.03	1.90
Coverage After Rate Increase (Total Debt)	1.40	1.49	1.23	1.39	1.33

New Dept. Assumptions	2019	2020	2021	2022	2023
Revenue Bond Proceeds	\$ -	\$ -	\$ 27,000,000	\$ -	\$ 3,000,000
PWTF Loans	-	-	-	-	-
Other Loan Proceeds	-	-	-	-	-

Fund Balance Impacts	2019	2020	2021	2022	2023
Ending Fund Balance - Operating Fund	\$ 1,189,513	\$ 1,822,007	\$ 1,928,889	\$ 2,358,015	\$ 2,918,855
Minimum Target - Operating Fund	754,030	795,087	813,828	832,443	843,496
Ending Fund Balance - Capital Fund	\$ 4,254,572	\$ 881,863	\$ 20,580,797	\$ 851,932	\$ 2,771,374
Minimum Target - Capital Fund	750,000	750,000	750,000	750,000	750,000
Annual CIP (Inflated)	\$ 5,409,686	\$ 4,545,743	\$ 8,319,542	\$ 21,081,432	\$ 2,151,197



City of Camas
Sewer Rate Study
 Fund Activity

Funds	2019	2020	2021	2022	2023
OPERATING					
Beginning Balance	\$ 771,679	\$ 1,189,513	\$ 1,822,007	\$ 1,928,889	\$ 2,358,015
plus: Net Cash Flow after Rate Increase	417,834	632,494	106,881	429,127	560,839
less: Transfer of Surplus to Capital Fund (If No Manual Entry)	-	-	-	-	-
Ending Balance	\$ 1,189,513	\$ 1,822,007	\$ 1,928,889	\$ 2,358,015	\$ 2,918,855
<i>Maximum Funds to be Kept as Operating Reserves</i>	\$ 754,030	\$ 795,087	\$ 813,828	\$ 832,443	\$ 843,496
<i>Info: No of Days of Cash Operating Expenses</i>	95	138	142	170	208
<i>Info: No of Days of Cash Operating Expenses Target</i>	60	60	60	60	60
Difference over or (under) target funds	\$ 435,483	\$ 1,026,921	\$ 1,115,060	\$ 1,525,572	\$ 2,075,359
Manual Entry for Transfer to Capital Fund	-	-	-	-	-
CAPITAL					
Beginning Balance	\$ 8,503,826	\$ 4,254,572	\$ 881,863	\$ 20,580,797	\$ 851,932
plus: Rate Funded System Reinvestment	43,796	184,276	200,915	243,078	247,380
plus: Transfers from Operating Fund	-	-	-	-	-
plus: Grants/ Donations/ CIAC	-	-	-	-	-
plus: Additional Proceeds (Costs)	-	-	-	-	-
plus: Connection Fee Revenue	967,820	893,030	793,310	440,613	795,570
less: Connection Fees Towards Debt	-	-	-	-	-
plus: Revenue Bond Proceeds	-	-	27,000,000	-	3,000,000
plus: PWTF Loans	-	-	-	-	-
plus: Other Loan Proceeds	-	-	-	-	-
plus: Interest Earnings	148,817	95,728	24,251	668,876	27,688
Total Funding Sources	\$ 9,664,259	\$ 5,427,606	\$ 28,900,339	\$ 21,933,364	\$ 4,922,570
less: Capital Expenditures	(5,409,686)	(4,545,743)	(8,319,542)	(21,081,432)	(2,151,197)
Ending Capital Fund Balance	\$ 4,254,572	\$ 881,863	\$ 20,580,797	\$ 851,932	\$ 2,771,374
<i>Minimum Target Balance</i>	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000
COMBINED BEGINNING FUND BALANCE	\$ 9,275,505	\$ 5,444,086	\$ 2,703,870	\$ 22,509,686	\$ 3,209,947
COMBINED ENDING FUND BALANCE	\$ 5,444,086	\$ 2,703,870	\$ 22,509,686	\$ 3,209,947	\$ 5,690,228
<i>Info: No of Days of Cash Operating Expenses</i>	433	205	1,660	231	405
DEBT RESERVE					
Beginning Balance	\$ 1,633,720	\$ 1,633,720	\$ 1,633,720	\$ 4,015,179	\$ 4,015,179
plus: Reserve Funding from New Debt	-	-	2,381,459	-	264,607
less: Use of Reserves for Debt Service	-	-	-	-	-
Ending Balance	\$ 1,633,720	\$ 1,633,720	\$ 4,015,179	\$ 4,015,179	\$ 4,279,785
<i>Minimum Target Balance</i>	\$ 1,534,775	\$ 1,534,000	\$ 3,017,912	\$ 3,017,912	\$ 3,282,519



City of Camas Sewer Rate Study Sewer Assets

Table with columns: Year of Cost 2016, Asset, Description, Date, Life, Original Cost, Make, Sewer Share, Donated, Net Allocable, Function, Annual Depreciation, Interest 2017, Applicable Asset Age, Applicable Interest, Allocable Interest. Rows include various sewer pump stations and treatment plants.



City of Camas
Sewer Rate Study
 Sewer Assets

Year of Cost 2016	Asset	Description	Date	Life	Original Cost	Make	Sewer Share	Donated	Net Allocable	Function	Annual Depreciation	Interest 2017	2017 Applicable Asset Age	Applicable Interest	Allocable Interest
	E436	2015 Hustler Z Diesel 60" Mower	9/30/2014	60	14,401	Shibaura	50.00%		7,201	General	2,880	234	3	4.23%	914
	E417	2014 Ford F250 3/4T 4WD w/crane 55280D	10/23/2014	120	33,836	Ford	50.00%		16,918	General	3,384	550	3	4.23%	2,148
	E418	2015 Ford F250 3/4T 4x4 55284D	1/7/2015	120	40,225	Ford	50.00%		20,112	General	4,022	653	2	3.66%	1,471
	E422	2015 Ford F250 3/4 T 50751D	3/20/2015	120	32,969	Ford	50.00%		16,484	General	3,299	536	2	3.66%	1,207
	E452	2017 Ford Fusion 62246D	6/6/2016	96	18,597	Ford	50.00%		9,298	General	2,325	302	1	3.25%	302
	E454	2016 Ford F250 4x4 62250D	8/2/2016	120	36,858	Ford	50.00%		18,429	General	3,686	599	1	3.25%	599
Total					\$ 78,090,206		\$ 76,531,892	\$ 15,669,155	\$ 60,862,737		\$ 2,276,546	\$ 1,977,025			\$ 23,398,807

Function	Original Cost	Allocable	CIAC	Net Interest	Net Allocable
Treatment	\$ 44,008,869	\$ 44,008,869	\$ 5,050,216	\$ 14,388,571	\$ 38,958,653
Collection	23,917,408	23,917,408	8,526,670	6,823,884	15,390,737
Pumping	3,913,890	3,913,890	-	1,123,246	3,913,890
Services	2,734,800	2,734,800	2,092,269	319,413	642,531
General	3,515,239	1,956,925	-	743,693	1,956,925
Total	\$ 78,090,206	\$ 76,531,892	\$ 15,669,155	\$ 23,398,807	\$ 60,862,737

Construction Work in Progress	Date	Life	Original Cost	Make	Sewer	Donated	Net Allocable	Function
Meter Replacement Project	2016		\$ 372,311		0.00%		-	General
S-607 Franklin North	2016		43,633		0.00%		-	General
WS-681C North Shore Sewer	2016		2,370,521		100.00%		2,370,521	Collection
Steigenwald Wtr Rights	2016		-		0.00%		-	General
WS-681C North Shore Water Line	2016		102,846		0.00%		-	General
WS-751 Well 6 Easement	2016		9,950		0.00%		-	General
W-1000 2017 Timber Reforest	2016		6,816		0.00%		-	General
WS-709 Press Zone Surf Wtr Spl	2016		4,563		0.00%		-	General
WS-709C Slow Sand Filter	2016		15,467		0.00%		-	General
WS-709F 2015 Water Transmissn	2016		1,698,446		0.00%		-	General
WS-709H 2017 Wtr Trans	2016		3,023		0.00%		-	General
WS-709E-2015 Jones Timber Sale	2016		111,815		0.00%		-	General
WS-715 2.0 MG Gregg Reservoir	2016		69,556		0.00%		-	General
Total			\$ 4,808,949		\$ 2,370,521	\$ -	\$ 2,370,521	

Function	Original Cost	Allocable	CIAC	Net Allocable
Treatment	\$ -	\$ -	\$ -	\$ -
Collection	2,370,521	2,370,521	-	2,370,521
Pumping	-	-	-	-
Services	-	-	-	-
General	2,438,428	-	-	-
Total	\$ 4,808,949	\$ 2,370,521	\$ -	\$ 2,370,521



**City of Camas
Sewer Rate Study
Functional Allocation**

Allocation of Plant in Service									
Plant in Service	Total Costs	FUNCTIONS OF SEWER SERVICE						TOTAL	ALLOCATION BASIS
		CUSTOMER	FLOW	BOD	TSS	TAXES	AS ALL OTHERS		
Treatment	\$ 44,008,869	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment
Collection	26,287,928	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Flow
Pumping	3,913,890	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Flow
Services	2,734,800	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Customer
General Plant	4,395,353	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Total Utility Plant	\$ 81,340,840	\$ 2,734,800	\$ 48,299,588	\$ 12,188,294	\$ 13,722,804	\$ -	\$ 4,395,353	\$ 81,340,840	
% Share		3.55%	62.77%	15.84%	17.83%			100.00%	
Allocation of "As All Others"		\$ 156,220	\$ 2,759,015	\$ 696,231	\$ 783,887	\$ -	\$ (4,395,353)	\$ -	
TOTAL	\$ 81,340,840	\$ 2,891,020	\$ 51,058,603	\$ 12,884,526	\$ 14,506,691	\$ -	\$ -	\$ 81,340,840	
Allocation Percentages		3.55%	62.77%	15.84%	17.83%		0.00%	100.00%	

Allocation of Operating Expenses									
OPERATING EXPENSE	Total Costs	FUNCTIONS OF SEWER SERVICE						TOTAL	ALLOCATION BASIS
		CUSTOMER	FLOW	BOD	TSS	TAXES	AS ALL OTHERS		
State Taxes	\$ 207,456	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	As Taxes
Sewer Collection Supplies									
Office And Operating Supplies	\$ 3,604	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Operating Supplies	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Small Tools And Minor Equip	17,631	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Sewer Collection Services									
Professional Ser	\$ 26,275	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Communication	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Travel	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Intfund Oper. Rentals & Lease	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Repairs & Maintenance	181,669	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Repairs & Maintenance	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Miscellaneous	705	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Miscellaneous	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Sewer Collection Misc.									
Intgovt Profess Services	\$ -	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Sewer Pressure Collection Salaries									
SWR PRESSURE COLL - Reg Salar	\$ 161,762	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Overtime	8,240	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Personnel Benefits	90,739	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Sewer Pressure Collection Supplies									
Office And Operating Supplies	\$ 40,980	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Small Tools And Minor Equip	5,192	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection
Chemicals	54,770	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection



**City of Camas
Sewer Rate Study
Functional Allocation**

Sewer Pressure Collection Services										
Professional Ser	\$ 77,630	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection	
Communication	2,686	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection	
Intfund Oper. Rentals & Lease	4,922	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection	
Insurance	4,601	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection	
Intfund Repairs & Maint.	88,267	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection	
Miscellaneous	1,082	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Collection	
Sewer Pumping Salaries										
SWR PUMPING - Reg Salaries	\$ 155,027	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Overtime	5,150	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Personnel Benefits	63,810	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Sewer Pumping Supplies										
Office And Operating Supplies	\$ 1,200	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Fuel Consumed	3,834	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Small Tools And Minor Equip	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Sewer Pumping Services										
Professional Ser	\$ 42,040	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Step Pumping	129,753	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Communication	2,613	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Intfund Oper. Rentals & Lease	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Public Utility	62,306	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Repairs & Maintenance	169,731	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Miscellaneous	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Pumping	
Sewer Treatment Salaries										
SWR TREATMENT - Reg Salaries	\$ 316,380	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Overtime	31,930	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Personnel Benefits	147,285	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Sewer Treatment Supplies										
Office And Operating Supplies	\$ 51,922	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Fuel Consumed	-	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Small Tools And Minor Equip	4,811	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Supplies - Chemicals	363,451	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Sewer Treatment Services										
Professional Ser	\$ 105,101	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Communication	4,537	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Travel	-	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Intfund Oper. Rentals & Lease	53,719	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Insurance	106,967	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Public Utility	228,455	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Repairs & Maintenance	158,417	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Miscellaneous	40,382	0.00%	41.12%	27.70%	31.18%	0.00%	0.00%	100.00%	As Treatment	
Sewer Misc										
Intergovt. Prof. Services	\$ 18,657	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
Intgovt Profess Services	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others	
W/S Administration										
Salries										
ADMIN/GEN - Reg Salaries	\$ 170,516	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
CUSTOMER SERVICE - Reg Salarie	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Regular Salaries	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	



**City of Camas
Sewer Rate Study
Functional Allocation**

Regular Salaries	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Overtime	103	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Benefits										
Personnel Benefits	\$ 70,742	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Personnel Benefits	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Benefits	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Benefits	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
OPEB Expense	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Supplies										
Office And Operating Supplies	\$ 791	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Office And Operating Supplies	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Small Tools And Minor Equip	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Services										
Interfund Profess. Serv.	\$ 704,322	34.42%	42.68%	10.77%	12.13%	0.00%	0.00%	100.00%	As 32% Cust/ 68% Plant	
Interfund Profess. Serv.	11,347	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Professional Services	14,591	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Communication	9,148	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Communication	227	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Travel	185	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Intfund Oper. Rentals & Lease	51,048	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Interfund Oper Rentals	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Repairs & Maintenance	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Miscellaneous	13,072	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Miscellaneous	16,630	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Intgov Profess Services	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Transfers										
Transfer to GMA	\$ -	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Transfer to 6th and Norwood	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Transfer to WS Capital Fund	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Transfer to Retiree Medical	10,727	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
FTE Additions										
Entry Level Operator at WWTP - 2019	\$ 68,959	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Entry Level Maint. Worker Collection - 2019	68,959	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
GIP (Partial)	23,870	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Asset Management	53,045	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Pump Station Telemetry/SCADA Upgrades	53,045	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Entry Level Operator at WWTP - 2020	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Entry Level Maint. Worker Collection - 2020	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service	
Total Operating Expenses	\$ 4,587,016	\$ 265,046	\$ 2,770,170	\$ 623,588	\$ 702,098	\$ 207,456	\$ 18,657	\$ 4,587,016		
% Sewer Functions		6.08%	63.52%	14.30%	16.10%			100.00%		
Allocation of "As All Others"		1,134	11,852	2,668	3,004		(18,657)	\$ -		
TOTAL	\$ 4,587,016	\$ 266,180	\$ 2,782,022	\$ 626,256	\$ 705,102	\$ 207,456	\$ -	\$ 4,587,016		
Allocation Percentages		5.80%	60.65%	13.65%	15.37%	4.52%	0.00%	100.00%		\$ -



**City of Camas
Sewer Rate Study
Functional Allocation**

Allocation of Revenue Requirement									
Design Rates For =>		2019							
REVENUE REQUIREMENT	Total Costs	FUNCTIONS OF SEWER SERVICE						TOTAL	ALLOCATION BASIS
		CUSTOMER	FLOW	BOD	TSS	TAXES	AS ALL OTHERS		
OPERATING AND CAPITAL EXPENSES									
Cash Operating Expenses	\$ 4,587,016	5.80%	60.65%	13.65%	15.37%	4.52%	0.00%	100.00%	As O&M Expenses
Existing Debt Service	3,537,745	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
New Debt Service	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
Rate Funded System Reinvestment	43,796	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
Total Expenses	\$ 8,168,557	4.82%	61.58%	14.61%	16.45%	2.54%	0.00%	100.00%	
OTHER REVENUES AND ADJUSTMENTS									
Less:									
Public Author/Hydrants	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Water Hook-up Fees	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Sewer Sales and Service	(4,238)	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
Turn off Fees by Owner	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Penalties	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Inspection Fees-Step System	(19,084)	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
Investment Earnings	(42,094)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Space & Facilities Lease	(19,450)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Other Rent and Charges	(58,386)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Insurance Prem. & Recovery	-	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
Sale of Junk or Salvage	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Cashier Coverage & Shortage	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Other Misc. Revenue	(2,544)	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Developer Share of 2015 Revenue Bonds [Extra]	(166,353)	3.55%	62.77%	15.84%	17.83%	0.00%	0.00%	100.00%	As Plant in Service
Plus:									
Additional State Taxes Due to Rate Increases	\$ 12,047	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	As Taxes
Net Cash Flow After Rate Increase	417,834	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Adjustment for Partial Year Increase	-	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	As All Others
Rate Revenue Requirement	\$ 8,286,289	\$ 386,734	\$ 4,911,136	\$ 1,163,533	\$ 1,310,023	\$ 219,502	\$ 295,360	\$ 8,286,289	
Sewer Service Functions		4.98%	63.19%	14.97%	16.86%			100.00%	
Allocation of "As All Other" & "Taxes"		\$ 25,621	\$ 325,366	\$ 77,085	\$ 86,790	\$ (219,502)	\$ (295,360)	\$ -	
Rate Revenue Requirement	\$ 8,286,289	\$ 412,355	\$ 5,236,502	\$ 1,240,618	\$ 1,396,813	\$ -	\$ -	\$ 8,286,289	
Allocation Percentages		4.98%	63.19%	14.97%	16.86%	0.00%	0.00%	100.00%	

\$ -



City of Camas Sewer Rate Study Customer Allocation

CUSTOMER					\$ 412,355
Class	Allocation		%	\$ Allocation	Mo. Unit Cost
	Accounts				
Residential	8,006		96.29%	\$ 397,039	\$ 4.13
Commercial/Industrial	308		3.70%	15,264	4.13
Wafertech	1		0.01%	52	4.13
Total	8,315		100.00%	\$ 412,355	\$ 4.13

FLOW					\$ 5,236,502
Class	Allocation		%	\$ Allocation	Unit Cost / ccf
	ccf				
Residential	587,369		47.02%	\$ 2,462,441	\$ 4.19
Commercial/Industrial	310,447		24.85%	1,301,494	4.19
Wafertech	351,253		28.12%	1,472,567	4.19
Total	1,249,069		100.00%	\$ 5,236,502	\$ 4.19

BOD						\$ 1,240,618
Class	Allocation		Strength	%	\$ Allocation	Unit Cost / ccf
	ccf					
Residential	587,369		300	47.02%	\$ 583,395	\$ 0.99
Commercial/Industrial	310,447		300	24.85%	308,347	0.99
Wafertech	351,253		300	28.12%	348,877	0.99
Total	1,249,069		300	100.00%	\$ 1,240,618	\$ 0.99

TSS						\$ 1,396,813
Class	Allocation		Strength	%	\$ Allocation	Unit Cost / ccf
	ccf					
Residential	587,369		300	47.02%	\$ 656,845	\$ 1.12
Commercial/Industrial	310,447		300	24.85%	347,168	1.12
Wafertech	351,253		300	28.12%	392,800	1.12
Total	1,249,069		300	100.00%	\$ 1,396,813	\$ 1.12

Allocation Summary						
Class	CUSTOMER	FLOW	BOD	TSS	Total	
Residential	\$ 397,039	\$ 2,462,441	\$ 583,395	\$ 656,845	\$ 4,099,719	
Commercial/Industrial	15,264	1,301,494	308,347	347,168	1,972,272	
Wafertech	52	1,472,567	348,877	392,800	2,214,297	
Total	\$ 412,355	\$ 5,236,502	\$ 1,240,618	\$ 1,396,813	\$ 8,286,289	

Cost of Service				
Class	Existing 2019 Revenue	COSA 2019 Revenue	\$ Difference	% Difference
Residential	\$ 4,651,670	\$ 4,099,719	\$ (551,950)	-11.87%
Commercial/Industrial	1,604,217	1,972,272	368,055	22.94%
Wafertech	1,765,690	2,214,297	448,607	25.41%
Total	\$ 8,021,577	\$ 8,286,289	\$ 264,712	3.30%

Unit Costs						
Class	CUSTOMER	FLOW	BOD	TSS	FIXED	VOLUME
Residential	\$ 4.13	\$ 4.19	\$ 0.99	\$ 1.12	\$ 4.13	\$ 6.30
Commercial/Industrial	4.13	4.19	0.99	1.12	4.13	6.30
Wafertech	4.13	4.19	0.99	1.12	4.13	6.30
Total	\$ 4.13	\$ 4.19	\$ 0.99	\$ 1.12	\$ 4.13	\$ 6.30

STORM UTILITY TECHNICAL EXHIBITS



City of Camas Storm Rate Study Summary

Revenue Requirement	2019	2020	2021	2022	2023
Revenues					
Rate Revenues Under Existing Rates	\$ 1,533,578	\$ 1,567,058	\$ 1,595,181	\$ 1,613,260	\$ 1,637,459
Non-Rate Revenues	33,772	32,232	24,254	23,355	14,327
Total Revenues	\$ 1,567,350	\$ 1,599,290	\$ 1,619,435	\$ 1,636,616	\$ 1,651,786
Expenses					
Cash Operating Expenses	\$ 1,476,200	\$ 1,511,440	\$ 1,547,390	\$ 1,584,207	\$ 1,621,929
Existing Debt Service	63,739	63,919	63,776	63,592	63,887
New Debt Service	-	-	-	-	176,404
Rate Funded System Reinvestment	143,945	146,282	148,862	151,009	155,370
Total Expenses	\$ 1,683,884	\$ 1,721,641	\$ 1,760,028	\$ 1,798,808	\$ 2,017,591
Net Surplus (Deficiency)	\$ (116,533)	\$ (122,351)	\$ (140,593)	\$ (162,192)	\$ (365,805)
Additions to Meet Coverage	-	-	-	-	-
Total Surplus (Deficiency)	\$ (116,533)	\$ (122,351)	\$ (140,593)	\$ (162,192)	\$ (365,805)
% of Rate Revenue	7.60%	7.81%	8.81%	10.05%	22.34%
Annual Rate Adjustment	3.00%	3.00%	3.00%	3.00%	3.00%
Cumulative Annual Rate Adjustment	7.89%	11.13%	14.46%	17.90%	21.43%
Rate Revenues After Rate Increase	\$ 1,654,616	\$ 1,741,460	\$ 1,825,895	\$ 1,901,986	\$ 1,988,432
Additional In-Lieu of Taxes from Rate Increase	\$ 1,816	\$ 2,616	\$ 3,461	\$ 4,331	\$ 5,265
Net Cash Flow After Rate Increase	\$ 2,689	\$ 49,435	\$ 86,660	\$ 122,203	\$ (20,097)
Coverage After Rate Increases	n/a	n/a	n/a	n/a	2.18
Sample Residential Bi-Monthly Bill	\$ 24.08	\$ 24.80	\$ 25.55	\$ 26.31	\$ 27.10
Bi-Monthly Average Increase (\$)	\$ 0.70	\$ 0.72	\$ 0.74	\$ 0.77	\$ 0.79



City of Camas Storm Rate Study Summary

Fund Balance	2019	2020	2021	2022	2023
OPERATING FUND					
Beginning Balance	\$ 1,929,843	\$ 1,432,532	\$ 881,967	\$ 718,627	\$ 440,830
plus: Net Cash Flow after Rate Increase	2,689	49,435	86,660	122,203	(20,097)
less: Transfer of Surplus to Capital Fund	(500,000)	(600,000)	(250,000)	(400,000)	-
Ending Balance	\$ 1,432,532	\$ 881,967	\$ 718,627	\$ 440,830	\$ 420,733
<i>O&M Target Balance</i>	\$ 242,663	\$ 248,456	\$ 254,366	\$ 260,418	\$ 266,618
<i>Days</i>	354	214	170	102	95
CAPITAL					
Beginning Balance	\$ 765,688	\$ 419,295	\$ 479,845	\$ 246,995	\$ 269,197
plus: Rate Funded System Reinvestment/ Equipment Transfers	143,945	146,282	148,862	151,009	155,370
plus: Transfers from Operating Fund	500,000	600,000	250,000	400,000	-
plus: Grants/ Donations/ CIAC	-	-	-	-	-
plus: Additional Proceeds (Costs)	-	-	-	-	-
plus: Connection Charge Revenue	-	-	-	-	-
plus: Net Debt Proceeds Available for Projects	-	-	-	-	2,000,000
plus: Interest Earnings	13,400	9,434	13,196	8,027	8,749
Total Funding Sources	\$ 1,423,033	\$ 1,175,011	\$ 891,902	\$ 806,031	\$ 2,433,316
less: Capital Expenditures	(1,003,738)	(695,166)	(644,908)	(536,834)	(1,090,349)
Ending Working Capital Balance	\$ 419,295	\$ 479,845	\$ 246,995	\$ 269,197	\$ 1,342,966
<i>Minimum Target Balance</i>	\$ 220,721	\$ 227,673	\$ 234,122	\$ 239,490	\$ 250,394
COMBINED BEGINNING FUND BALANCE	\$ 2,695,532	\$ 1,851,827	\$ 1,361,812	\$ 965,622	\$ 710,027
COMBINED ENDING FUND BALANCE	\$ 1,851,827	\$ 1,361,812	\$ 965,622	\$ 710,027	\$ 1,763,700
<i>Combined Days</i>	458	330	228	164	397
<i>Total Combined Ending Fund Balance Target</i>	\$ 463,384	\$ 476,129	\$ 488,487	\$ 499,908	\$ 517,012



City of Camas Storm Rate Study Assumptions

Economic & Financial Factors	2019	2020	2021	2022	2023
General Cost Inflation	1.77%	1.77%	1.77%	1.77%	1.77%
Construction Cost Inflation	3.50%	3.50%	3.50%	3.50%	3.50%
Labor Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%
Benefit Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%
General Inflation plus Composite Growth	4.32%	3.99%	3.59%	2.92%	3.29%
Customer Growth	2.51%	2.18%	1.79%	1.13%	1.50%
[Extra]	0.00%	0.00%	0.00%	0.00%	0.00%
No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%
[Extra]	0.00%	0.00%	0.00%	0.00%	0.00%
[Extra]	0.00%	0.00%	0.00%	0.00%	0.00%
Investment Interest	1.75%	2.25%	2.75%	3.25%	3.25%
Excise Taxes	1.500%	1.500%	1.500%	1.500%	1.500%
B&O Taxes	1.50%	1.50%	1.50%	1.50%	1.50%
City Tax (General Fund) - Rate Revenue Only	0.00%	0.00%	0.00%	0.00%	0.00%

Accounting Assumptions	2019	2020	2021	2022	2023
FISCAL POLICY RESTRICTIONS					
Min. Op. Fund Balance Target (days of O&M expense)	60	60	60	60	60
Max. Op. Fund Balance (days of O&M expense)	60	60	60	60	60
Minimum Capital Fund Balance Target					
Select Minimum Capital Fund Balance Target	1				
1 - Defined as % of Plant					
Plant-in-Service in 2016	Estimated Net Assets				
\$ 19,117,693	\$ 191,746	\$ 191,863	\$ 191,992	\$ 192,100	\$ 192,318
Minimum Capital Fund Balance - % of plant assets	1.00%	1.00%	1.00%	1.00%	1.00%
2 - Amount at Right ==>					
	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
RATE FUNDED SYSTEM REINVESTMENT					
Select Reinvestment Funding Strategy	3				
Amount of Annual Cash Funding from Rates	\$ 2,689	\$ 49,435	\$ 86,660	\$ 122,203	\$ (20,097)
1 - Equal to Annual Depreciation Expense	\$ 719,724	\$ 731,410	\$ 744,308	\$ 755,045	\$ 776,852
2 - Equal to Annual Depreciation Expense less Annual Debt Principal Payments	688,073	698,718	710,575	720,271	674,032
3 - Equal to Amount at Right ==>	\$ 143,945	\$ 146,282	\$ 148,862	\$ 151,009	\$ 155,370
4 - Do Not Fund System Reinvestment	20.00%	20.00%	20.00%	20.00%	20.00%



City of Camas Storm Rate Study Assumptions

Capital Financing Assumptions		2019	2020	2021	2022	2023
Connection Fees						
South Area SDC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Equivalent Service Units		11,236	11,346	11,416	11,497	11,606
Additional ESUs Per Year		140	110	70	81	108
Subtotal: South Area SDCs		\$ -	\$ -	\$ -	\$ -	\$ -
North Shore Area SDC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Equivalent Service Units		215	355	495	549	621
Additional ESUs Per Year		140	140	140	54	72
Subtotal: North Shore Area SDCs		\$ -	\$ -	\$ -	\$ -	\$ -
Connection Fee Revenues		\$ -	\$ -	\$ -	\$ -	\$ -
		2.51%	2.18%	1.79%	1.13%	1.50%
FUNDING SOURCES						
Grants		\$ -	\$ -	\$ -	\$ -	\$ -
Additional Proceeds (Costs)						
Fed Grant - Homeland Security						
State - Dept of Military FEMA						
[Extra]						
[Extra]						
[Extra]						
[Extra]						
Total Additional Proceeds		\$ -	\$ -	\$ -	\$ -	\$ -
REVENUE BONDS						
Term (years)		20	20	20	20	20
Interest Only Payments		3	0	3	0	0
Interest Rate		5.00%	5.00%	5.00%	5.00%	5.00%
Issuance Cost		1.00%	1.00%	1.00%	1.00%	1.00%
Revenue Bond Coverage Requirement	1.25					
Use Reserves to Pay for Last Payment	No					
PWTF LOANS						
Term		20	20	20	20	20
Interest Rate		2.55%	2.55%	2.55%	2.55%	2.55%
OTHER LOANS						
Term (years)		20	20	20	20	20
Interest Rate		1.50%	1.50%	1.50%	1.50%	1.50%
Issuance Cost		1.00%	1.00%	1.00%	1.00%	1.00%



City of Camas Storm Rate Study Operating Revenue and Expenditure Forecast

Revenues/Expenses		FORECAST BASIS	Budget 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023
Acct. #	Rate Revenue							
419.00.343.100.00	Residential	Customer Growth	\$ 1,079,402	\$ 1,106,456	\$ 1,130,612	\$ 1,150,902	\$ 1,163,946	\$ 1,181,405
419.00.343.100.00	Commercial/Industrial	Customer Growth	201,348	206,395	210,901	214,686	217,119	220,375
419.00.343.100.00	Irrigation	Customer Growth	106,034	108,692	111,065	113,058	114,339	116,054
419.00.343.100.00	City	Customer Growth	28,630	29,347	29,988	30,526	30,872	31,335
419.00.343.100.00	Cemetery	Customer Growth	1,678	1,720	1,758	1,790	1,810	1,837
419.00.343.100.00	Fire	Customer Growth	705	723	738	752	760	772
419.00.343.100.00	Unmatched	Customer Growth	78,283	80,245	81,996	83,468	84,414	85,680
419.00.343.100.00	Total Actual	Customer Growth	-	-	-	-	-	-
	[Extra]	Customer Growth	-	-	-	-	-	-
	Tota Rate Revenue		\$ 1,496,080	\$ 1,533,578	\$ 1,567,058	\$ 1,595,181	\$ 1,613,260	\$ 1,637,459
	Non Rate Revenue							
419.00.361.110.00	Investment Earnings	Calculated	\$ 21,763	\$ 33,772	\$ 32,232	\$ 24,254	\$ 23,355	\$ 14,327
419.00.369.900.00	Misc. Revenue	General Cost Inflation	-	-	-	-	-	-
	[Extra]	General Cost Inflation	-	-	-	-	-	-
	Total Non Rate Revenue		\$ 21,763	\$ 33,772	\$ 32,232	\$ 24,254	\$ 23,355	\$ 14,327
TOTAL REVENUES			\$ 1,517,843	\$ 1,567,350	\$ 1,599,290	\$ 1,619,435	\$ 1,636,616	\$ 1,651,786

Revenues/Expenses		FORECAST BASIS	2018	2019	2020	2021	2022	2023
Tx	State Taxes	<i>Calculated</i>	\$ 25,510	\$ 23,510	\$ 23,989	\$ 24,292	\$ 24,549	\$ 24,777
STORMWATER	O&M Salaries							
419-00-553-500-11	O & M - Regular Salaries	Labor Cost Inflation	\$ 114,527	\$ 117,963	\$ 121,502	\$ 125,147	\$ 128,902	\$ 132,769
419-00-553-500-12	Overtime	Labor Cost Inflation	3,682	3,792	3,906	4,023	4,144	4,268
419-00-553-500-21	Personnel Benefits	Benefit Cost Inflation	41,578	42,825	44,110	45,433	46,796	48,200
	O&M Supplies							
419-00-553-500-31	Office and Operating Supplies	General Cost Inflation	\$ 11,265	\$ 11,464	\$ 11,667	\$ 11,873	\$ 12,083	\$ 12,296
419-00-553-500-32	Fuel consumed	General Cost Inflation	-	-	-	-	-	-
419-00-553-500-35	Small Tools and Minor Equipmen	General Cost Inflation	6,154	6,263	6,373	6,486	6,601	6,717
	O&M Services							
419-00-553-500-41	Interfund Profess Serv	General Cost Inflation	\$ 272,114	\$ 276,923	\$ 281,816	\$ 286,796	\$ 291,864	\$ 297,022
419-00-553-500-42	Communications	General Cost Inflation	3,175	3,231	3,288	3,346	3,405	3,466
Tr	Travel	General Cost Inflation	-	-	-	-	-	-
419-00-553-500-45	Infund Oper Rentals & Leases	General Cost Inflation	174,357	177,438	180,573	183,764	187,012	190,316
419-00-553-500-46	Insurance	General Cost Inflation	8,093	8,236	8,382	8,530	8,680	8,834
419-00-553-500-47	Utilities	General Cost Inflation	510	519	528	538	547	557
419-00-553-500-48	Repairs and Maintenance	General Cost Inflation	104,880	106,733	108,619	110,539	112,492	114,480
419-00-553-500-49	Miscellaneous	General Cost Inflation	28,644	29,150	29,665	30,190	30,723	31,266
	O&M Misc.							
419-00-553-500-51	Intgovt Profess Services	General Cost Inflation	\$ 35,994	\$ 36,630	\$ 37,277	\$ 37,936	\$ 38,606	\$ 39,289



City of Camas Storm Rate Study Operating Revenue and Expenditure Forecast

Revenues/Expenses			Budget	Forecast	Forecast	Forecast	Forecast	Forecast
FORECAST BASIS			2018	2019	2020	2021	2022	2023
Street Cleaning Salaries								
419-00-553-515-11	Str Cleaning - Regular Salarie	Labor Cost Inflation	\$ 111,440	\$ 114,783	\$ 118,227	\$ 121,773	\$ 125,427	\$ 129,190
419-00-553-515-12	Overtime	Labor Cost Inflation	2,558	2,635	2,714	2,795	2,879	2,965
419-00-553-515-21	Personnel Benefits	Benefit Cost Inflation	77,831	80,166	82,571	85,048	87,600	90,228
Street Cleaning Misc.								
419-00-553-515-31	Office & Operating Supplies	General Cost Inflation	\$ 6,459	\$ 6,573	\$ 6,689	\$ 6,808	\$ 6,928	\$ 7,050
419-00-553-515-48	Repairs & Maintenance	General Cost Inflation	1,292	1,315	1,338	1,362	1,386	1,410
Admin Salaries								
419-00-553-516-11	Admin - Regular Salaries/Wages	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
419-00-553-516-12	Overtime	Labor Cost Inflation	-	-	-	-	-	-
419-00-553-516-21	Personnel Benefits	Benefit Cost Inflation	-	-	-	-	-	-
Admin Misc.								
419-00-553-516-41	Interfund Profess. Services	General Cost Inflation	\$ 50,000	\$ 50,884	\$ 51,783	\$ 52,698	\$ 53,629	\$ 54,577
419-00-553-516-45	Interfund Oper Rentals & Leases	General Cost Inflation	-	-	-	-	-	-
419-00-553-516-49	Miscellaneous	General Cost Inflation	-	-	-	-	-	-
419-00-553-516-51	Intgovt Profess Services	General Cost Inflation	-	-	-	-	-	-
FTE Additions								
FTE-LW	Lead Worker Operations FTE - 2019	Labor Cost Inflation	\$ -	\$ 89,646	\$ 92,335	\$ 95,105	\$ 97,959	\$ 100,897
FTE-Eng	Engineer FTE	Labor Cost Inflation	-	89,646	92,335	95,105	97,959	100,897
FTE-M	Maintenance Worker I	Labor Cost Inflation	-	68,959	71,027	73,158	75,353	77,613
FTE-GIS	GIP (Partial)	Labor Cost Inflation	-	23,870	24,586	25,324	26,084	26,866
FTE-A	Asset Management	Labor Cost Inflation	-	53,045	54,636	56,275	57,964	59,703
O&M-Dams	Lacamas Lake Dam Operation	Labor Cost Inflation	-	50,000	51,500	53,045	54,636	56,275
Total Cash O&M Expenditures			\$ 1,080,063	\$ 1,476,200	\$ 1,511,440	\$ 1,547,390	\$ 1,584,207	\$ 1,621,929

Depreciation Expense			2018	2019	2020	2021	2022	2023
Depreciation		\$ 662,779						
	Depreciation Expense	<i>Last year's plus annual additions from CIP</i>	\$ 701,792	\$ 719,724	\$ 731,410	\$ 744,308	\$ 755,045	\$ 776,852
		<i>debt principal payments</i>	(53,465)	(31,651)	(32,692)	(33,733)	(34,774)	(102,820)
		<i>System Reinvestment Funding</i>	\$ 648,327	\$ 688,073	\$ 698,718	\$ 710,575	\$ 720,271	\$ 674,032
TOTAL EXPENSES			\$ 1,781,855	\$ 2,195,924	\$ 2,242,850	\$ 2,291,699	\$ 2,339,252	\$ 2,398,781



City of Camas
Storm Rate Study
Existing Debt Input

Existing Debt Service - Revenue Bonds	2019	2020	2021	2022	2023
REVENUE BOND 1					
Annual Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	-	-	-	-	-
Total Annual Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Debt reserve for Debt Service	-	-	-	-	-
TOTAL REVENUE BONDS					
Annual Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	-	-	-	-	-
Total Annual Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Debt reserve for Debt Service	-	-	-	-	-
Annual Debt Reserve Target on Existing Revenue Bonds	-	-	-	-	-

Existing Debt Service - PWTF Loans	2019	2020	2021	2022	2023
2012 PWTL Transp - Wetlands					
Annual Interest Payment	\$ 231	\$ 213	\$ 195	\$ 177	\$ 160
Annual Principal Payment	3,544	3,544	3,544	3,544	3,544
Total Annual Payment	\$ 3,775	\$ 3,757	\$ 3,739	\$ 3,721	\$ 3,704
2013 PWTL Transp - Wetlands					
Annual Interest Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Principal Payment	-	-	-	-	-
Total Annual Payment	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL PWTF LOANS					
Annual Interest Payment	\$ 231	\$ 213	\$ 195	\$ 177	\$ 160
Annual Principal Payment	3,544	3,544	3,544	3,544	3,544
Total Annual Payment	\$ 3,775	\$ 3,757	\$ 3,739	\$ 3,721	\$ 3,704

Existing Debt Service - Other Loans	2019	2020	2021	2022	2023
2015 LTGO Bonds Transp - Wetlands					
Annual Interest Payment	\$ 31,857	\$ 31,014	\$ 29,848	\$ 28,641	\$ 27,391
Annual Principal Payment	28,107	29,148	30,189	31,230	32,792
Total Annual Payment	\$ 59,964	\$ 60,162	\$ 60,037	\$ 59,871	\$ 60,183
TOTAL OTHER LOANS					
Annual Interest Payment	\$ 31,857	\$ 31,014	\$ 29,848	\$ 28,641	\$ 27,391
Annual Principal Payment	28,107	29,148	30,189	31,230	32,792
Total Annual Payment	\$ 59,964	\$ 60,162	\$ 60,037	\$ 59,871	\$ 60,183

Total Existing Debt Service	2019	2020	2021	2022	2023
TOTAL STORMWATER LOANS					
Total Annual Interest Payment	\$ 32,088	\$ 31,227	\$ 30,043	\$ 28,818	\$ 27,551
Total Principal Payment	31,651	32,692	33,733	34,774	36,336
Total Annual Payment	\$ 63,739	\$ 63,919	\$ 63,776	\$ 63,592	\$ 63,887

Project Costs and O&M Impacts in Year: **2017**

No	Description	2019	2020	2021	2022	2023	Useful Life (Years)
1	2017 Budget - Capital						50
2	Professional Services						50
3	Machinery and Equipment						50
4	Construction Projects						50
5	Lacamas Lane Landslide						50
6	Forest Home Landslide						50
7	NW 38th Wetland	20,000	20,000	20,000	20,000	20,000	50
8	NW Friberg Wetland	25,000	25,000	25,000	25,000	25,000	50
9	NW Friberg Wetland SS566D	15,000	15,000	15,000	15,000	15,000	50
10	Grass Valley Wetland						50
11	NW 38th Ave. Wetland Ph 2	27,000	27,000	27,000	27,000	27,000	50
12	NW Leadbetter Drive Wetland	20,000	20,000				50
13	Other Improv Fisher Basin						50
14							50
15	Annual CIP	250,000	250,000	250,000	250,000	250,000	50
16							50
17	Columbia Summit 2A Cascade Detention	480,000					50
18	Columbia Summit 2A - 25th Detention		170,000				50
19	Columbia Summit 2A - 24th Detention			225,000			50
20	Julia Street Pond Retrofit				115,000		50
21	Columbia Summit 2B Detention					550,000	50
22	Columbia Summit 3 Detention						50
23							
24	Lacamas Lake Dam Improvements	100,000	100,000				
Total Capital Projects		\$ 937,000	\$ 627,000	\$ 562,000	\$ 452,000	\$ 887,000	
Total Upgrade/Expansion Projects		937,000	627,000	562,000	452,000	887,000	
Total R&R Projects		-	-	-	-	-	
Projects by Grants / Developer Donations							
Projects by Enterprise Fund							



City of Camas
Storm Rate Study
Revenue Requirements Analysis

Test 1: Cash Flow Sufficiency Test	2019	2020	2021	2022	2023
EXPENSES					
Cash Operating Expenses	\$ 1,476,200	\$ 1,511,440	\$ 1,547,390	\$ 1,584,207	\$ 1,621,929
Existing Debt Service	63,739	63,919	63,776	63,592	63,887
New Debt Service	-	-	-	-	176,404
Rate Funded System Reinvestment	143,945	146,282	148,862	151,009	155,370
Total Expenses	\$ 1,683,884	\$ 1,721,641	\$ 1,760,028	\$ 1,798,808	\$ 2,017,591
REVENUES					
Rate Revenue	\$ 1,533,578	\$ 1,567,058	\$ 1,595,181	\$ 1,613,260	\$ 1,637,459
Other Non Rate Revenue	-	-	-	-	-
Connection Fee Revenue Towards Debt	-	-	-	-	-
Operating Fund & Debt Reserve Fund Interest Earnings	33,772	32,232	24,254	23,355	14,327
Total Revenue	\$ 1,567,350	\$ 1,599,290	\$ 1,619,435	\$ 1,636,616	\$ 1,651,786
NET CASH FLOW (DEFICIENCY)	\$ (116,533)	\$ (122,351)	\$ (140,593)	\$ (162,192)	\$ (365,805)
% of Rate Revenue	7.60%	7.81%	8.81%	10.05%	22.34%

Test 2: Coverage Sufficiency Test	2019	2020	2021	2022	2023
EXPENSES					
Cash Operating Expenses (Less Capital Outlays)	\$ 1,476,200	\$ 1,511,440	\$ 1,547,390	\$ 1,584,207	\$ 1,621,929
Revenue Bond Debt Service	-	-	-	-	176,404
Revenue Bond Coverage Requirement at 1.25	-	-	-	-	44,101
Total Expenses	\$ 1,476,200	\$ 1,511,440	\$ 1,547,390	\$ 1,584,207	\$ 1,842,435
ALLOWABLE REVENUES					
Rate Revenue	\$ 1,533,578	\$ 1,567,058	\$ 1,595,181	\$ 1,613,260	\$ 1,637,459
Other Revenue	-	-	-	-	-
Connection Fee Revenue	-	-	-	-	-
Interest Earnings - All Funds	47,172	41,666	37,450	31,383	23,076
Total Revenue	\$ 1,580,750	\$ 1,608,724	\$ 1,632,631	\$ 1,644,643	\$ 1,660,535
Coverage Realized (Existing Rates)	n/a	n/a	n/a	n/a	0.22
COVERAGE SURPLUS (DEFICIENCY)	\$ 104,550	\$ 97,284	\$ 85,241	\$ 60,436	\$ (181,899)



City of Camas
Storm Rate Study
Revenue Requirements Analysis

Maximum Revenue Deficiency	2019	2020	2021	2022	2023
Sufficiency Test Driving the Deficiency	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>	<i>Cash</i>
Maximum Revenue Deficiency (Surplus)	\$ 116,533	\$ 122,351	\$ 140,593	\$ 162,192	\$ 365,805
plus: Additional (Reduction) Excise Tax & City Tax	1,775	1,863	2,141	2,470	5,571
less: Net Revenue From Prior Rate Adjustments	(72,845)	(123,680)	(177,532)	(233,328)	(293,057)
Net Revenue Deficiency (Surplus)	\$ 45,463	\$ 534	\$ (34,798)	\$ (68,666)	\$ 78,318
Required Adjustment (Full Year)	2.83%	0.03%	-1.96%	-3.72%	4.06%

Rate Increases	2019	2020	2021	2022	2023
Rate Revenue with no Increase	\$ 1,533,578	\$ 1,567,058	\$ 1,595,181	\$ 1,613,260	\$ 1,637,459
Revenues from Prior Rate Increases	72,845	123,680	177,532	233,328	293,057
Rate Revenue Before Rate Increase (Incl. previous increases)	1,606,423	1,690,738	1,772,713	1,846,589	1,930,516
Required Annual Rate Increase (Full Year)	2.83%	0.03%	-1.96%	-3.72%	4.06%
Number of Months New Rates Will Be In Effect	12	12	12	12	12
Info: Percentage Increase to Generate Required Revenue	2.83%	0.03%	-1.96%	-3.72%	4.06%
Policy Induced Rate Increases	3.00%	3.00%	3.00%	3.00%	3.00%
ANNUAL RATE INCREASE	3.00%	3.00%	3.00%	3.00%	3.00%
CUMULATIVE RATE INCREASE	7.89%	11.13%	14.46%	17.90%	21.43%

Impacts of Rate Increases	2019	2020	2021	2022	2023
Rate Revenues After Rate Increase	\$ 1,654,616	\$ 1,741,460	\$ 1,825,895	\$ 1,901,986	\$ 1,988,432
Full Year Rate Revenues After Rate Increase	1,654,616	1,741,460	1,825,895	1,901,986	1,988,432
<i>Partial Year Adjustment</i>	-	-	-	-	-
Additional (Reduction of) Taxes Due to Rate Increases	1,816	2,616	3,461	4,331	5,265
Net Cash Flow After Rate Increase	\$ 2,689	\$ 49,435	\$ 86,660	\$ 122,203	\$ (20,097)
Coverage After Rate Increase	n/a	n/a	n/a	n/a	2.18
Coverage After Rate Increase (Total Debt)	3.51	4.21	4.90	5.42	1.60



City of Camas
Storm Rate Study
 Revenue Requirements Analysis

New Dept Assumptions	2019	2020	2021	2022	2023
Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
PWTF Loans	-	-	-	-	-
Other Loan Proceeds	-	-	-	-	-

Fund Balance Impacts	2019	2020	2021	2022	2023
Ending Fund Balance - Operating Fund	\$ 1,432,532	\$ 881,967	\$ 718,627	\$ 440,830	\$ 420,733
Minimum Target - Operating Fund	242,663	248,456	254,366	260,418	266,618
Ending Fund Balance - Capital Fund	\$ 419,295	\$ 479,845	\$ 246,995	\$ 269,197	\$ 1,342,966
Minimum Target - Capital Fund	220,721	227,673	234,122	239,490	250,394
Annual CIP (Inflated)	\$ 1,003,738	\$ 695,166	\$ 644,908	\$ 536,834	\$ 1,090,349



City of Camas
Storm Rate Study
Fund Activity

Funds	2019	2020	2021	2022	2023
OPERATING					
Beginning Balance	\$ 1,929,843	\$ 1,432,532	\$ 881,967	\$ 718,627	\$ 440,830
plus: Net Cash Flow after Rate Increase	2,689	49,435	86,660	122,203	(20,097)
less: Transfer of Surplus to Capital Fund (If No Manual Entry)	(500,000)	(600,000)	(250,000)	(400,000)	-
Ending Balance	\$ 1,432,532	\$ 881,967	\$ 718,627	\$ 440,830	\$ 420,733
<i>Maximum Funds to be Kept as Operating Reserves</i>	\$ 242,663	\$ 248,456	\$ 254,366	\$ 260,418	\$ 266,618
<i>Info: No of Days of Cash Operating Expenses</i>	354	214	170	102	95
<i>Info: No of Days of Cash Operating Expenses Target</i>	60	60	60	60	60
Difference over or (under) target funds	\$ 1,189,869	\$ 633,511	\$ 464,262	\$ 180,413	\$ 154,115
Manual Entry for Transfer to Capital Fund	(500,000)	(600,000)	(250,000)	(400,000)	-
CAPITAL					
Beginning Balance	\$ 765,688	\$ 419,295	\$ 479,845	\$ 246,995	\$ 269,197
plus: Rate Funded System Reinvestment	143,945	146,282	148,862	151,009	155,370
plus: Transfers from Operating Fund	500,000	600,000	250,000	400,000	-
plus: Grants/ Donations/ CIAC	-	-	-	-	-
plus: Additional Proceeds (Costs)	-	-	-	-	-
plus: Connection Fee Revenue	-	-	-	-	-
less: Connection Fees Towards Debt	-	-	-	-	-
plus: Revenue Bond Proceeds	-	-	-	-	2,000,000
plus: PWTF Loans	-	-	-	-	-
plus: Other Loan Proceeds	-	-	-	-	-
plus: Interest Earnings	13,400	9,434	13,196	8,027	8,749
Total Funding Sources	\$ 1,423,033	\$ 1,175,011	\$ 891,902	\$ 806,031	\$ 2,433,316
less: Capital Expenditures	(1,003,738)	(695,166)	(644,908)	(536,834)	(1,090,349)
Ending Capital Fund Balance	\$ 419,295	\$ 479,845	\$ 246,995	\$ 269,197	\$ 1,342,966
<i>Minimum Target Balance</i>	\$ 220,721	\$ 227,673	\$ 234,122	\$ 239,490	\$ 250,394
COMBINED BEGINNING FUND BALANCE	\$ 2,695,532	\$ 1,851,827	\$ 1,361,812	\$ 965,622	\$ 710,027
COMBINED ENDING FUND BALANCE	\$ 1,851,827	\$ 1,361,812	\$ 965,622	\$ 710,027	\$ 1,763,700
<i>Info: No of Days of Cash Operating Expenses</i>	458	330	228	164	397
DEBT RESERVE					
Beginning Balance	\$ -	\$ -	\$ -	\$ -	\$ -
plus: Reserve Funding from New Debt	-	-	-	-	176,404
less: Use of Reserves for Debt Service	-	-	-	-	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ 176,404
<i>Minimum Target Balance</i>	\$ -	\$ -	\$ -	\$ -	\$ 176,404



City of Camas
Storm Rate Study
Plant

Asset	Description	Date	Life	Original Cost	Make	Model / Funding Source	2017					
							Donated	Net Allocable	Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest
41905	2002 Minor Culverts - Storm Drainage	1/1/2005	456	\$ 511	Donated		\$ 511	\$ -	\$ 13	10	4.40%	\$ -
41907	1998 Major Culverts - Storm Drainage	1/1/2005	288	150	Donated		150	-	6	10	4.40%	-
41908	1994 Major Culverts - Storm Drainage	1/1/2005	360	7,445	Donated		7,445	-	248	10	4.40%	-
41909	1997 Major Culverts - Storm Drainage	1/1/2005	396	8,934	Donated		8,934	-	271	10	4.40%	-
41910	1998 Major Culverts - Storm Drainage	1/1/2005	408	1,293	Donated		1,293	-	38	10	4.40%	-
41911	1993 Minor Culverts - Storm Drainage	1/1/2005	348	2,490	Donated		2,490	-	86	10	4.40%	-
41912	1995 Minor Culverts - Storm Drainage	1/1/2005	372	156	Donated		156	-	5	10	4.40%	-
41913	1997 Minor Culverts - Storm Drainage	1/1/2005	396	3,087	Donated		3,087	-	94	10	4.40%	-
41914	1998 Minor Culverts - Storm Drainage	1/1/2005	408	6,704	Donated		6,704	-	197	10	4.40%	-
41915	1997 Catch Basins & Inlets	1/1/2005	156	845	Donated		845	-	65	10	4.40%	-
41916	1978 Catch Basins & Inlets	1/1/2005	168	1,204	Donated		1,204	-	86	10	4.40%	-
41917	1979 Catch Basins & Inlets	1/1/2005	180	1,395	Donated		1,395	-	93	10	4.40%	-
41918	1981 Catch Basins & Inlets	1/1/2005	204	2,068	Donated		2,068	-	122	10	4.40%	-
41919	1988 Catch Basins & Inlets	1/1/2005	288	8,585	Donated		8,585	-	358	10	4.40%	-
41920	1989 Catch Basins & Inlets	1/1/2005	300	2,382	Donated		2,382	-	95	10	4.40%	-
41921	1990 Catch Basins & Inlets	1/1/2005	312	12,985	Donated		12,985	-	499	10	4.40%	-
41922	1991 Catch Basins & Inlets	1/1/2005	324	20,665	Donated		20,665	-	765	10	4.40%	-
41923	1992 Catch Basins & Inlets	1/1/2005	336	4,003	Donated		4,003	-	143	10	4.40%	-
41924	1993 Catch Basins & Inlets	1/1/2005	348	64,419	Donated		64,419	-	2,221	10	4.40%	-
41925	1994 Catch Basins & Inlets	1/1/2005	360	90,206	Donated		90,206	-	3,007	10	4.40%	-
41926	1995 Catch Basins & Inlets	1/1/2005	372	23,347	Donated		23,347	-	753	10	4.40%	-
41927	1996 Catch Basins & Inlets	1/1/2005	384	48,138	Donated		48,138	-	1,504	10	4.40%	-
41928	1997 Catch Basins & Inlets	1/1/2005	396	124,581	Donated		124,581	-	3,775	10	4.40%	-
41929	1998 Catch Basins & Inlets	1/1/2005	408	128,074	Donated		128,074	-	3,767	10	4.40%	-
41930	1999 Catch Basin & Inlets	1/1/2005	420	126,927	Donated		126,927	-	3,626	10	4.40%	-
41931	2000 Catch Basins & Inlets	1/1/2005	432	43,503	Donated		43,503	-	1,208	10	4.40%	-
41932	2001 Catch Basins & Inlets	1/1/2005	444	29,430	Donated		29,430	-	795	10	4.40%	-
41933	2002 Catch Basins & Inlets	1/1/2005	456	12,635	Donated		12,635	-	332	10	4.40%	-
41934	1997 Storm Drainage Pipe - fully depreciated	1/1/2005	1	0	Donated		0	-	0	10	4.40%	-
41935	1978 Storm Drainage Pipe - fully depreciated	1/1/2005	1	0	Donated		0	-	0	10	4.40%	-
41936	1979 Storm Drainage Pipe - fully depreciated	1/1/2005	1	0	Donated		0	-	0	10	4.40%	-
41937	1981 Storm Drainage Pipe	1/1/2005	24	2,200	Donated		2,200	-	1,100	10	4.40%	-
41938	1988 Storm Drainage Pipe	1/1/2005	108	18,820	Donated		18,820	-	2,091	10	4.40%	-
41939	1989 Storm Drainage Pipe	1/1/2005	120	7,019	Donated		7,019	-	702	10	4.40%	-
41940	1990 Storm Drainage Pipe	1/1/2005	132	14,017	Donated		14,017	-	1,274	10	4.40%	-
41941	1991 Storm Drainage Pipe	1/1/2005	144	97,777	Donated		97,777	-	8,148	10	4.40%	-
41942	1992 Storm Drainage Pipe	1/1/2005	156	5,400	Donated		5,400	-	415	10	4.40%	-
41943	1993 Storm Drainage Pipe	1/1/2005	168	87,871	Donated		87,871	-	6,276	10	4.40%	-
41944	1994 Storm Drainage Pipe	1/1/2005	180	106,417	Donated		106,417	-	7,094	10	4.40%	-
41945	1995 Storm Drainage Pipe	1/1/2005	192	16,556	Donated		16,556	-	1,035	10	4.40%	-
41946	1996 Storm Drainage Pipe	1/1/2005	204	88,751	Donated		88,751	-	5,221	10	4.40%	-
41947	2002 Drainage Manholes	1/1/2005	456	15,010	Donated		15,010	-	395	10	4.40%	-
41948	1997 Storm Drainage Pipe	1/1/2005	216	178,956	Donated		178,956	-	9,942	10	4.40%	-
41949	1998 Storm Drainage Pipe	1/1/2005	228	245,000	Donated		245,000	-	12,895	10	4.40%	-
41950	1999 Storm Drainage Pipe	1/1/2005	240	181,022	Donated		181,022	-	9,051	10	4.40%	-
41951	2000 Storm Drainage Pipe	1/1/2005	252	452,062	Donated		452,062	-	21,527	10	4.40%	-
41952	2001 Storm Drainage Pipe	1/1/2005	264	44,469	Donated		44,469	-	2,021	10	4.40%	-
41953	2002 Storm Drainage Pipe	1/1/2005	276	34,885	Donated		34,885	-	1,517	10	4.40%	-
41954	1997 Drainage Manholes	1/1/2005	156	1,537	Donated		1,537	-	118	10	4.40%	-
41955	1978 Drainage Manholes	1/1/2005	168	1,783	Donated		1,783	-	127	10	4.40%	-
41956	1981 Drainage Manholes	1/1/2005	204	5,975	Donated		5,975	-	351	10	4.40%	-
41957	1988 Drainage Manholes	1/1/2005	288	18,248	Donated		18,248	-	760	10	4.40%	-
41958	1989 Drainage Manholes	1/1/2005	300	12,353	Donated		12,353	-	494	10	4.40%	-
41959	1990 Drainage Manholes	1/1/2005	312	24,464	Donated		24,464	-	941	10	4.40%	-
41960	1991 Drainage Manholes	1/1/2005	324	33,943	Donated		33,943	-	1,257	10	4.40%	-
41961	1992 Drainage Manholes	1/1/2005	336	3,203	Donated		3,203	-	114	10	4.40%	-
41962	1993 Drainage Manholes	1/1/2005	348	74,241	Donated		74,241	-	2,560	10	4.40%	-
41963	1994 Drainage Manholes	1/1/2005	360	87,973	Donated		87,973	-	2,932	10	4.40%	-
41964	1995 Drainage Manholes	1/1/2005	372	27,238	Donated		27,238	-	879	10	4.40%	-
41965	1996 Drainage Manholes	1/1/2005	384	75,989	Donated		75,989	-	2,375	10	4.40%	-
41966	1997 Drainage Manholes	1/1/2005	396	184,851	Donated		184,851	-	5,602	10	4.40%	-
41967	1998 Drainage Manholes	1/1/2005	408	220,897	Donated		220,897	-	6,497	10	4.40%	-
41968	1999 Drainage Manholes	1/1/2005	420	187,025	Donated		187,025	-	5,344	10	4.40%	-
41969	2000 Drainage Manholes	1/1/2005	432	91,715	Donated		91,715	-	2,548	10	4.40%	-
41970	2001 Drainage Manholes	1/1/2005	444	37,505	Donated		37,505	-	1,014	10	4.40%	-



**City of Camas
Storm Rate Study
Plant**

Asset	Description	Date	Life	Original Cost	Make	Model / Funding Source	2017					
							Donated	Net Allocable	Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest
41971	2003 Major Culverts	1/1/2005	468	5,343	Donated		5,343	-	137	10	4.40%	-
41972	2003 Minor Culverts	1/1/2005	468	361	Donated		361	-	9	10	4.40%	-
41973	2003 Catch Basins & Inlets	1/1/2005	468	80,607	Donated		80,607	-	2,067	10	4.40%	-
41974	2003 Storm Sewer Pipe	1/1/2005	288	126,363	Donated		126,363	-	5,265	10	4.40%	-
41975	2003 Drainage Manholes	1/1/2005	468	115,753	Donated		115,753	-	2,968	10	4.40%	-
41978	2004 Catch Basins & Inlets	1/1/2005	480	18,669	Donated		18,669	-	467	10	4.40%	-
41979	2004 Storm Sewer Pipe	1/1/2005	300	21,457	Donated		21,457	-	858	10	4.40%	-
41980	2004 Drainage Manholes	1/1/2005	480	39,869	Donated		39,869	-	997	10	4.40%	-
41982	1993 Catch Basins & Inlets - Short Plats	1/1/2005	348	653	Donated		653	-	23	10	4.40%	-
41983	1997 Catch Basins & Inlets - Short Plats	1/1/2005	396	9,900	Donated		9,900	-	300	10	4.40%	-
41984	1997 Drainage Pipe - Short Plats	1/1/2005	216	6,451	Donated		6,451	-	358	10	4.40%	-
41985	1997 Drainage Manholes - Short Plats	1/1/2005	396	4,950	Donated		4,950	-	150	10	4.40%	-
2005041	2005 Catch Basins & Inlets	12/31/2005	480	89,551	Donated		89,551	-	2,239	10	4.40%	-
2005042	2005 Storm Drainage Pipe	12/31/2005	300	176,789	Donated		176,789	-	7,072	10	4.40%	-
2005043	2005 Drainage Manholes	12/31/2005	480	147,305	Donated		147,305	-	3,683	10	4.40%	-
2007113	Drainage Pipe - SE 1st/Lake Road	12/31/2005	300	816,205	Donated	Grants	816,205	-	32,648	10	4.40%	-
2007114	Drainage Manholes - SE 1st/Lake Road	12/31/2005	480	183,850	Donated	Grants	183,850	-	4,596	10	4.40%	-
2007115	Catch Basins - SE 1st/Lake Road	12/31/2005	480	115,930	Donated	Grants	115,930	-	2,898	10	4.40%	-
2007116	SE 1st/Lake Road Facility No. 1	12/31/2005	999	22,765	Donated	Grants	22,765	-	-	10	4.40%	-
2007117	SE 1st/Lake Road Facility No. 2	12/31/2005	999	18,100	Donated	Grants	18,100	-	-	10	4.40%	-
2007118	SE 1st/Lake Road Facility No. 3	12/31/2005	999	482,389	Donated	Grants	482,389	-	-	10	4.40%	-
2007119	SE 1st/Lake Road Facility No. 4	12/31/2005	999	48,800	Donated	Grants	48,800	-	-	10	4.40%	-
2007120	SE 1st/Lake Road Wetlands	12/31/2005	999	192,935	Donated	Grants	192,935	-	-	10	4.40%	-
2006048	2006 Minor Culverts	12/31/2006	408	140,079	Donated	186 each	140,079	-	4,120	10	4.40%	-
2006049	2006 Catch Basins & Inlets - Storm Drainage	12/31/2006	480	129,992	Donated	91 each	129,992	-	3,250	10	4.40%	-
2006050	2006 Storm Drainage Pipe	12/31/2006	300	286,321	Donated	17,423 L.F.	286,321	-	11,453	10	4.40%	-
2006051	2006 Storm Drainage Manholes	12/31/2006	480	264,763	Donated	119 each	264,763	-	6,619	10	4.40%	-
2006052	2006 Wtr Quality Manholes - Storm Drainage	12/31/2006	456	22,172	Donated	2	22,172	-	583	10	4.40%	-
2006053	2006 Storm Drainage Pond	12/31/2006	999	147,563	Donated	1	147,563	-	-	10	4.40%	-
2007026	2007 Donated Catch Basins & Inlets	12/31/2007	480	174,210	Donated	103 Each	174,210	-	4,355	10	4.40%	-
2007027	2007 Donated Storm Pipe	12/31/2007	300	340,447	Donated	19201.04 L.F.	340,447	-	13,618	10	4.40%	-
2007028	2007 Donated Storm Drainage Manholes	12/31/2007	480	278,805	Donated	124 each	278,805	-	6,970	10	4.40%	-
2010058	2010 Donated Major Culverts Fisher Creek Campus	12/31/2010	408	8,025	Donated	107 L.F.	8,025	-	236	7	4.29%	-
2010059	2010 Donated 18" Storm Pipe Ilwaco Estates Subdiv	12/31/2010	300	9,118	Donated	97 L.F.	9,118	-	365	7	4.29%	-
2010060	2010 Donated 12" Storm Pipe Ilwaco Estates Subdiv	12/31/2010	300	18,130	Donated	259 L.F.	18,130	-	725	7	4.29%	-
2010061	2010 Donated 12" Storm Pipe Ilwaco Estates Subdiv	12/31/2010	300	21,472	Donated	671 L.F.	21,472	-	859	7	4.29%	-
2010062	2010 Donated 12" Storm Pipe Vista Pointe Subdiv	12/31/2010	300	26,369	Donated	761 L.F.	26,369	-	1,055	7	4.29%	-
2010063	2010 Storm Drainage Manholes Ilwaco Estates Sub	12/31/2010	480	12,166	Donated	7 Each	12,166	-	304	7	4.29%	-
2010064	2010 Donated Storm Drainage Manholes Vista Pointe	12/31/2010	480	8,690	Donated	5 Each	8,690	-	217	7	4.29%	-
2010065	2010 Donated Water Quality Manholes Vista Pointe	12/31/2010	456	12,160	Donated	1 Each	12,160	-	320	7	4.29%	-
2012118	2011 Donated 12" Storm Sewer Pipe Camas Ridge Apts	1/1/2012	300	13,006	Donated	409 L.F.	13,006	-	520	5	3.73%	-
2012119	2011 Donated Storm Manholes Camas Ridge Apts	1/1/2012	480	8,400	Donated	4 each	8,400	-	210	5	3.73%	-
2012093	2012 Donated Catch Basins Village @ Logan Place	12/31/2012	480	11,200	Donated	7 each	11,200	-	280	5	3.73%	-
2012094	2012 Donated 12" Storm Pipe Village @ Logan Place	12/31/2012	288	16,649	Donated	518 L.F.	16,649	-	694	5	3.73%	-
2012095	2012 Donated Manholes Village @ Logan Place	12/31/2012	480	17,578	Donated	7 each	17,578	-	439	5	3.73%	-
2013117	2013 Donated Culverts HARL Sch Site Imp	1/4/2013	480	260,000	Donated	65.8 LF	260,000	-	6,500	4	4.27%	-
2013092	2013 Donated Catch Basin Summit @ Col Vista II	5/13/2013	480	10,500	Donated	5 each	10,500	-	263	4	4.27%	-
2013094	2013 Donated 10" Storm Pipe Summit @ Col Vista II	5/13/2013	301	5,250	Donated	210 LF	5,250	-	209	4	4.27%	-
2013095	2013 Donated 12" Storm Pipe Summit @ Col Vista II	5/13/2013	301	61,880	Donated	1768 LF	61,880	-	2,466	4	4.27%	-
2013096	2013 Donated 15" storm Pipe Summit @ Col Vista II	5/13/2013	301	8,892	Donated	228 LF	8,892	-	354	4	4.27%	-
2013100	2013 Donated Storm Manholes Summit @ Col Vista II	5/13/2013	480	39,496	Donated	16 each	39,496	-	987	4	4.27%	-
2013093	2013 Donated Catch Basin HARL Ph I-III	11/22/2013	480	32,633	Donated	27 each	32,633	-	816	4	4.27%	-
2013097	2013 Donated 12" Storm Pipe HARL Ph I-III	11/22/2013	300	5,250	Donated	2484 LF	5,250	-	210	4	4.27%	-
2013098	2013 Donated 15" Storm Pipe HARL Ph I-III	11/22/2013	300	86,940	Donated	313 LF	86,940	-	3,477	4	4.27%	-
2013099	2013 Donated 24" Storm Pipe HARL Ph I-III	11/22/2013	300	8,892	Donated	635 LF	8,892	-	356	4	4.27%	-
2013101	2013 Donated Storm Manholes HARL Ph I-III	11/22/2013	480	44,425	Donated	18 each	44,425	-	1,111	4	4.27%	-
2014087	2014 Donated Catch Basins - Breckenridge	3/7/2014	480	12,468	Donated	11 each	12,468	-	312	3	4.23%	-
2014091	2014 Donated 6" Storm Pipe - Breckenridge	3/7/2014	300	15,040	Donated	752 LF	15,040	-	601	3	4.23%	-
2014092	2014 Donated 12" Storm Pipe - Breckenridge	3/7/2014	300	45,150	Donated	1075 LF	45,150	-	1,806	3	4.23%	-
2014093	2014 Donated 18" Storm Pipe - Breckenridge	3/7/2014	300	21,900	Donated	438 LF	21,900	-	876	3	4.23%	-
2014101	2014 Donated Manholes - Breckenridge	3/7/2014	480	44,167	Donated	20 each	44,167	-	1,104	3	4.23%	-
2014086	2014 Donated Catch Basins - Sum @ Col Vista 2/3	3/31/2014	480	6,215	Donated	5 each	6,215	-	155	3	4.23%	-
2014090	2014 Donated 12" Storm Pipe - Sum @ Col Vista 2/3	3/31/2014	300	9,534	Donated	227 LF	9,534	-	381	3	4.23%	-
2014100	2014 Donated Manholes - Sum @ Col Vista 2/3	3/31/2014	480	17,667	Donated	8 each	17,667	-	442	3	4.23%	-
2014099	2014 Donated 24" Storm Pipe - Hidden Meadows	10/15/2014	300	30,745	Donated	559 LF	30,745	-	1,230	3	4.23%	-



**City of Camas
Storm Rate Study
Plant**

Asset	Description	Date	Life	Original Cost	Make	Model / Funding Source	2017					
							Donated	Net Allocable	Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest
2014089	2014 Donated Catch Basins - Hidden Meadows	10/22/2014	480	24,935	Donated	22 each	24,935	-	623	3	4.23%	-
2014095	2014 Donated 12" Storm Pipe - Coopers Glen	10/22/2014	300	18,522	Donated	441 LF	18,522	-	741	3	4.23%	-
2014096	2014 Donated 10" Storm Pipe - Hidden Meadows	10/22/2014	300	28,320	Donated	708 LF	28,320	-	1,133	3	4.23%	-
2014097	2014 Donated 12" Storm Pipe - Hidden Meadows	10/22/2014	300	140,280	Donated	3340 LF	140,280	-	5,610	3	4.23%	-
2014098	2014 Donated 18" Storm Pipe - Hidden Meadows	10/22/2014	300	53,900	Donated	1078 LF	53,900	-	2,155	3	4.23%	-
2014103	2014 Donated Manholes - Coopers Glen	10/22/2014	480	6,625	Donated	3 each	6,625	-	166	3	4.23%	-
2014104	2014 Donated Manholes - Hidden Meadows	10/22/2014	480	48,584	Donated		48,584	-	1,215	3	4.23%	-
2014088	2014 Donated Catch Basins - Deerhaven	10/23/2014	480	6,801	Donated	6 each	6,801	-	170	3	4.23%	-
2014094	2014 Donated 12" Storm Pipe - Deerhaven	10/23/2014	300	17,346	Donated	413 LF	17,346	-	694	3	4.23%	-
2014102	2014 Donated Manholes - Deerhaven	10/23/2014	480	8,833	Donated	4 each	8,833	-	221	3	4.23%	-
2015029	2015 Donated Catch Basin - Lake Hills	3/3/2015	480	36,750	Donated	15 each	36,750	-	919	2	3.66%	-
2015033	2015 Donated 12" Storm Pipe - Lake Hills	3/3/2015	300	17,612	Donated	518 L.F.	17,612	-	704	2	3.66%	-
2015034	2015 Donated 18" Storm Pipe - Lake Hills	3/3/2015	300	54,495	Donated	1211 L.F.	54,495	-	2,180	2	3.66%	-
2015042	2015 Donated 48" Concrete Storm Manholes-LakeHills	3/3/2015	480	55,000	Donated	22 each	55,000	-	1,375	2	3.66%	-
2015041	2015 Donated 12" Storm Pipe - 7th Ave Townhomes	3/18/2015	300	14,000	Donated	400 L.F.	14,000	-	560	2	3.66%	-
2015045	2015 Donated 48" Concrete Storm Manholes-7th Ave T	3/18/2015	480	7,500	Donated	3 each	7,500	-	188	2	3.66%	-
2015030	2015 Donated Catch Basin - HARL Ph 4	6/11/2015	480	7,861	Donated	6 each	7,861	-	197	2	3.66%	-
2015035	2015 Donated 12" Storm Pipe - HARL Ph 4	6/11/2015	300	48,864	Donated	1018 L.F.	48,864	-	1,955	2	3.66%	-
2015036	2015 Donated 16" Storm Pipe - HARL Ph 4	6/11/2015	300	12,300	Donated	123 L.F.	12,300	-	492	2	3.66%	-
2015037	2015 Donated 18" Storm Pipe - HARL Ph 4	6/11/2015	300	9,636	Donated	146 L.F.	9,636	-	385	2	3.66%	-
2015043	2015 Donated 48" Concrete Storm Manholes-HARL Ph 4	6/11/2015	480	35,700	Donated	17 each	35,700	-	893	2	3.66%	-
2015046	2015 Donated 24" Storm Pipe - HARL Ph 4	6/11/2015	300	27,342	Donated	434 L.F.	27,342	-	1,094	2	3.66%	-
2015038	2015 Donated 6" Storm Pipe - HARL Ph 6/7	7/17/2015	300	55,407	Donated	2378 L.F.	55,407	-	2,216	2	3.66%	-
2015031	2105 Donated Catch Basin - HARL Ph 6/7	7/17/2015	480	18,400	Donated	16 each	18,400	-	460	2	3.66%	-
2015032	2015 Donated Catch Basin - HARL Ph 6/7	7/17/2015	480	6,000	Donated	4 each	6,000	-	150	2	3.66%	-
2015039	2015 Donated 12" Storm Pipe - HARL Ph 6/7	7/17/2015	300	120,528	Donated	2511 L.F.	120,528	-	4,821	2	3.66%	-
2015044	2015 Donated 48" Concrete Storm Manholes HARL 6/7	7/17/2015	480	56,700	Donated	27 each	56,700	-	1,418	2	3.66%	-
2015040	2015 Donated 12" Storm Pipe - Sirrah Short Plat	12/4/2015	300	7,175	Donated	205 L.F.	7,175	-	287	2	3.66%	-
2009016	Prune Hill Sports Park drainage pipe	8/1/1990	300	36,323				36,323	1,453	10	7.27%	26,422
E289	2001 Dodge Ram Pickup 31322D	6/22/2001	72	28,812	Dodge	Ram	28,812	-	4,802	10	5.15%	14,846
E313	2003 Chevy Silverado 34051D	5/19/2003	72	24,465	Chevy	Silverado	24,465	-	4,078	10	4.75%	11,617
41902	2000 Storm Sewers	1/1/2005	312	20,914			20,914	-	804	10	4.40%	9,197
41903	2001 Master Plan - Fisher Basin	1/1/2005	80	48,017			48,017	-	7,203	10	4.40%	21,115
41904	2001 Storm Sewers	1/1/2005	324	581			581	-	22	10	4.40%	256
41906	2002 Drainage Improvements	1/1/2005	336	56,228			56,228	-	2,008	10	4.40%	24,726
41976	2004 Storm Sewer SE15/SR500/Gardner	1/1/2005	360	53,796			53,796	-	1,793	10	4.40%	23,657
41977	2004 Storm Sewers	1/1/2005	360	4,620			4,620	-	154	10	4.40%	2,032
41981	2004 38th Ave Storm Culvert	1/1/2005	480	33,677			33,677	-	842	10	4.40%	14,810
41986	Recorded thru 1997 Storm Drainage Improvements	1/1/2005	276	905,493			905,493	-	39,369	10	4.40%	398,191
41988	1988 Improvements	1/1/2005	288	21,192			21,192	-	883	10	4.40%	9,319
41989	1988 S340 Parker Street Project	1/1/2005	288	497,384			497,384	-	20,724	10	4.40%	218,724
41990	2002 Drainage Swales Grass Valley Park	1/1/2005	216	8,115	G. Valley Park		8,115	-	451	10	4.40%	3,569
41901	2000 Box Culverts at Station 42	1/1/2005	428	60,703	Station 42		60,703	-	1,702	10	4.40%	26,694
41987	1998 WS434/CDBG Forest Home Project	1/1/2005	288	110,280		CDBG - part	110,280	-	4,595	10	4.40%	48,496
2005021	WS-593 NW Couch/NW 16 Drainage Pipe	8/30/2005	300	29,745		539 I.F.	29,745	-	1,190	10	4.40%	13,080
2005023	WS-593 NW Couch/NW 16 Catch Basin & Inlet	8/30/2005	480	13,338			13,338	-	333	10	4.40%	5,866
2005022	WS-593 NW Couch/NW 16 Drainage Manhole	8/30/2005	480	3,674	2 each		3,674	-	92	10	4.40%	1,616
2005045	2006 McIntosh Rd Storm Drain Improvements	12/31/2005	300	88,945			88,945	-	3,558	10	4.40%	39,114
2005046	2005 Lake Rd Storm Drain Improvements	12/31/2005	480	163,585	Precast	3 sided	163,585	-	4,090	10	4.40%	71,936
2006027	Klickitat Park Catch Basins	7/11/2006	480	23,923		Klickitat Park	23,923	-	598	10	4.40%	10,528
2006028	Klickitat Park Storm Drain Pipe/connection	7/11/2006	360	50,102		Klickitat Park	50,102	-	1,670	10	4.40%	22,049
2006056	SS356D/SS487 Leadbetter/Lake Rd Pond Outfall Modif	12/31/2006	480	96,420			96,420	-	2,411	10	4.40%	42,433
2006057	SS476 NW 21st Couch/Benton Drainage Pipe	12/31/2006	300	32,259			32,259	-	1,290	10	4.40%	14,197
2006058	SS476 NW 21st Couch/Benton Drainage Manhole	12/31/2006	480	7,137			7,137	-	178	10	4.40%	3,141
2006059	S468 NE 38th Ave Drainage Pipe	12/31/2006	300	36,640			36,640	-	1,466	10	4.40%	16,125
2006060	S468 NE 38th Ave Drainage Manhole	12/31/2006	480	57,442			57,442	-	1,436	10	4.40%	25,279
2006061	S468 NE 38th Ave Drainage Catch Basin	12/31/2006	480	4,700			4,700	-	117	10	4.40%	2,068
2006062	SS476 NW 21st Couch/Benton Drainage Catch Basin	12/31/2006	480	2,793			2,793	-	70	10	4.40%	1,229
2007087	Drainage Facility # 4 - East Hill Side Park	8/31/2007	240	62,224	Drews Farm	D.R. Horton	62,224	-	3,111	10	4.40%	-
2007088	Drainage Pipe - East Hillside Park	8/31/2007	300	31,459	Drews Farms	D.R. Horton	31,459	-	1,258	10	4.40%	-
2007089	3 Drainage manholes - East Hillside Park	8/31/2007	480	21,351	Drews Farms	D.R. Horton	21,351	-	534	10	4.40%	-
2007090	Catch Basin/Curb Inlet - East Hillside Park	8/31/2007	480	4,745	Drews Farms	D.R.Horton	4,745	-	119	10	4.40%	-
2006055	SS356D/SS487 Lacamas Meadows PRD Conveyance	12/31/2007	480	135,927				135,927	3,398	10	4.40%	59,751
2008022	S509 Mobility Phase 3 Drainage Pipe	12/31/2008	300	11,218				11,218	449	9	4.86%	4,908
2008023	S509 Mobility Phase 3 Catch Basins	12/31/2008	480	10,392				10,392	260	9	4.86%	4,546



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Plant**

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										Applicable Asset Age	Applicable Interest	Allocable Interest
2008029	S511 Gravity Block Wall - Lake Heights Detention P	12/31/2008	240	17,709				17,709	885	9	4.86%	7,747
2008030	S511 Access Road - Lake Heights Detention Pond	12/31/2008	240	10,430				10,430	522	9	4.86%	4,563
2008031	S5811 Fence - Lake Heights Detention Pond	12/31/2008	240	11,456				11,456	573	9	4.86%	5,012
2008032	SS517 Manhole - SE Zenith Street	12/31/2008	480	6,576				6,576	164	9	4.86%	2,877
2008033	SS517 Catchbasin - SE Zenith Street	12/31/2008	480	6,115				6,115	153	9	4.86%	2,675
2008034	SS517 Drainage Pipe - SE Zenith Street	12/31/2008	312	24,146				24,146	929	9	4.86%	10,563
2008035	S503 Drainage Pipe - Renaissance Project	12/31/2008	300	11,386				11,386	455	9	4.86%	4,981
2008037	S503 Catchbasins - Renaissance Project	12/31/2008	480	2,458				2,458	61	9	4.86%	1,075
2008036	S503 Detention - Renaissance Project	12/31/2008	999	5,043				5,043	-	9	4.86%	2,206
2009006	Benton Park drainage pipe	8/1/2009	300	5,341				5,341	214	8	4.62%	1,974
2010012	Goot Park Catch Basin Bioretention 4X4 P836	9/30/2010	480	11,321				11,321	283	7	4.29%	3,402
2010017	S512 Lake Rd Bike Lane Storm Sewers	12/31/2010	999	137,023				137,023	-	7	4.29%	41,180
2010031	S536 Evergreen ADA Ramp Catch Basins	12/31/2010	480	10,595	S536			10,595	265	7	4.29%	3,184
E386	2011 Ford F350 RC 4x2	7/8/2011	120	24,004	Ford	F350		24,004	2,393	6	4.51%	6,495
E390	2011 Caterpillar Backhoe 48699D	8/4/2011	240	90,809	Caterpillar	420E Backhoe		90,809	4,540	6	4.51%	24,573
2011016	S-454 NW Leadbetter Ext Storm Pipe	12/31/2011	300	214,801				214,801	8,592	6	4.51%	58,125
2011017	S-454 NW Leadbetter Ext. Pond	12/31/2011	999	184,592				184,592	-	6	4.51%	49,951
2011018	S-454 NW Leadbetter Ext. Wetland	12/31/2011	999	81,678				81,678	-	6	4.51%	22,102
2013016	SS571 Cedar Street Storm Sewer	3/31/2013	240	59,782				59,782	2,989	4	4.27%	10,213
2013012	P874 Louis Bloch Park Storm improvements	4/30/2013	240	1,613				1,613	81	4	4.27%	276
2013056	S545-NW38TH/20TH SEWER CATH/CURB INLETS	12/3/2013	480	84,699				84,699	2,117	4	4.27%	14,469
2013053	S545 - STORM FACILITY	12/3/2013	999	123,123			123,123	-	-	4	4.27%	-
2013054	S545 - NW 38TH ST STORM SEWER PIPE	12/3/2013	300	237,127			237,127	-	9,487	4	4.27%	-
2013055	S545-NW 38TH ST - MANHOLES	12/3/2013	480	139,686			139,686	-	3,492	4	4.27%	-
2013052	S545-NW38TH ST WETLAND	12/3/2013	9,999	66,224			66,224	-	79	4	4.27%	-
2015122	NW 18th Bike/Ped Trail - Storm Sewer Pipe	1/31/2015	300	36,581			36,581	-	1,463	2	3.66%	-
2015123	NW 18th Bike/Ped Trail-Stm Catch Basin/Curb Inlet	1/31/2015	480	16,219			16,219	-	405	2	3.66%	-
2015003	Chain Root Cutter	2/1/2015	180	14,596	Super Cutter Plus	150		14,596	973	2	3.66%	1,068
E431	2015 Ford F250 4x4 w/winch 57285D	4/13/2015	84	28,614	Ford	F250		28,614	4,088	2	3.66%	2,093
E437	2015 Elgin Sweeper 57286D	4/16/2015	84	242,348	Elgin	Crosswind		242,348	34,621	2	3.66%	17,728
E433	2015 Vactor 57290D	4/23/2015	84	474,806				474,806	67,829	2	3.66%	34,732
2015135	NW Friberg/Strunk - Storm Sewer Pipe	4/30/2015	300	473,748			473,748	-	18,950	2	3.66%	-
2015136	NW Friberg/Strunk - Storm Sewer Manholes	4/30/2015	480	103,717			103,717	-	2,593	2	3.66%	-
2015137	NW Friberg/Strunk - Storm Catch Basin/Curb Inlet	4/30/2015	480	249,938			249,938	-	6,248	2	3.66%	-
2015133	NW Friberg/Strunk - Storm Vault 10 cartridge	4/30/2015	999	54,679			54,679	-	-	2	3.66%	-
2015134	NW Friberg/Strunk - Storm Vault 23 cartridge	4/30/2015	999	78,865			78,865	-	-	2	3.66%	-
2015131	NW Friberg/Strunk - Wetland	4/30/2015	999	119,112			119,112	-	-	2	3.66%	-
2015060	NW 38th Ave - Storm Pipe	6/30/2015	300	411,014			411,014	-	16,441	2	3.66%	-
2015061	NW 38th Ave - Storm Manholes	6/30/2015	480	179,220			179,220	-	4,480	2	3.66%	-
2015062	NW 38th Ave - Storm Catch Basin/Curb Inlets	6/30/2015	480	111,712			111,712	-	2,793	2	3.66%	-
2015058	NW 38th Ave - Wetland	6/30/2015	999	977,525			977,525	-	-	2	3.66%	-
2015063	NW 38th Ave - Storm Drainage Swale	6/30/2015	480	20,410			20,410	-	510	2	3.66%	-
2015140	NW Friberg/Strunk - Intangible Easement	4/30/2016	999	22,186			22,186	-	-	1	3.25%	-
2015059	NW 38th Ave - Storm Facility	6/30/2016	999	129,746			129,746	-	-	1	3.25%	-
2015132A	NW Friberg/Strunk - Stm Dentention System Pipe	12/31/2016	900	1,140,198			1,140,198	-	15,203	1	3.25%	-
Total				\$ 19,117,693			\$ 14,676,911	\$ 4,440,782	\$ 662,779			\$ 1,524,800

Construction Work in Progress	Date	Life	Original Cost	Make
SS-621C1 Landslide Forest Home	2016		\$ 119,613	
SS-593 Julia St Pond Retrofit	2016		37,614	
SS-444 NPDES Ph II	2016		269	
WS-756 NW 6th Ave-Storm	2016		-	
SS-545E NW 38th Ph1 Wetland Pe	2016		16,925	
SS-565C NW 38th Ph2 Wetland Mi	2016		15,626	
SS-566C Friberg Wetland Mitig	2016		20,558	
SS-566D Friberg Wetland Maint	2016		6,705	
S-454C Leadbetter Wetland Perm	2016		21,064	
SS-612C2Lacamas Lane Landslide	2016		114,364	
SS-473 G Valley NW 38th Av Wet	2016		2,645	
Total			\$ 355,383	

WATER UTILITY SYSTEM DEVELOPMENT CHARGE EXHIBITS



City of Camas
Water System Development Charge Update
Capital Improvement Program

Project Name	Project Number	SDC Area	Developer Share	Total	Type			check	Function	Area			check	Non Allocable
					Growth	Upgrade	R&R			Common	South	North		
Supply														
Well 17	S-1	Common	0.00%	\$ 1,815,000	100.00%	0.00%	0.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
Parkers Landing Well	S-2	Common	0.00%	4,560,000	100.00%	0.00%	0.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
WWTP Well	S-3	Common	0.00%	3,651,000	100.00%	0.00%	0.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
Washougal Wellfield Improvements	S-4	Common	0.00%	4,446,000	100.00%	0.00%	0.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
Steigerwald Regional Source	S-5	Common	0.00%	10,823,000	100.00%	0.00%	0.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
Watershed Forest Management	S-6	Common	0.00%	1,070,000	0.00%	0.00%	100.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
544 Zone Watershed Source Improvements	S-7	Common	0.00%	2,572,083	0.00%	0.00%	100.00%	100.00%	Supply/ Treatment	100.00%			100.00%	
Distribution System Improvements														
Transmission main from NW 11 Cir to NW Brady Rd	D-1	South	0.00%	\$ 269,000	0.00%	0.00%	100.00%	100.00%	Transmission & Distribution		100.00%		100.00%	
343 Zone Supply Transmission Upsizing	D-2	Common	0.00%	2,595,000	50.00%	0.00%	0.00%	100.00%	Transmission & Distribution	100.00%			100.00%	
NE Birch St upsized transmission main	D-3	South	0.00%	65,000	0.00%	0.00%	100.00%	100.00%	Transmission & Distribution		100.00%		100.00%	
New transmission main along NW 16th Ave	D-4	South	0.00%	519,000	0.00%	0.00%	0.00%	100.00%	Transmission & Distribution		100.00%		100.00%	
New Distribution along NW 6th Ave/ NE Adams St	D-5	South	0.00%	926,000	100.00%	0.00%	0.00%	100.00%	Transmission & Distribution		100.00%		100.00%	
Dead-end Looping Program	D-6	South	0.00%	1,045,000	0.00%	0.00%	100.00%	100.00%	Transmission & Distribution		100.00%		100.00%	
PRV Adjustment Study	D-7	Common	0.00%	180,000	0.00%	0.00%	100.00%	100.00%	Transmission & Distribution	100.00%			100.00%	
Well 6/14 Transmission Line	D-8	Common	0.00%	515,050	0.00%	0.00%	100.00%	100.00%	Transmission & Distribution	100.00%			100.00%	
Parallel Boulder Creek Intake	D-9	Common	0.00%	1,850,000	100.00%	0.00%	0.00%	100.00%	Transmission & Distribution	100.00%			100.00%	
Pump Station														
New Forest Home PS	PS-1	South	0.00%	\$ 3,117,000	0.00%	50.00%	50.00%	100.00%	Pumping		100.00%		100.00%	
New 455 Zone PS Capacity	PS-2	Common	0.00%	1,258,000	0.00%	50.00%	50.00%	100.00%	Pumping	100.00%			100.00%	
Lower Prune Hill PS Expansion	PS-3	Common	0.00%	1,388,000	0.00%	50.00%	50.00%	100.00%	Pumping	100.00%			100.00%	
North Shore PS Capacity Phase I	PS-4	South / 75% North	75.00%	1,184,000	100.00%	0.00%	0.00%	100.00%	Pumping		25.00%	75.00%	100.00%	
North Shore PS Capacity Phase II	PS-5	South / 75% North	75.00%	3,631,000	100.00%	0.00%	0.00%	100.00%	Pumping		25.00%	75.00%	100.00%	
NW Couch St PS	PS-6	South	0.00%	920,000	0.00%	0.00%	100.00%	100.00%	Pumping		100.00%		100.00%	
NW 10th Ave Study	PS-7	South	0.00%	28,000	0.00%	0.00%	100.00%	100.00%	Pumping		100.00%		100.00%	
Storage														
New 544 Zone Reservoir	ST-1	Common	0.00%	\$ 7,236,000	100.00%	0.00%	0.00%	100.00%	Storage	100.00%			100.00%	
New Gregg Tank	ST-2	Common	75.00%	3,984,000	100.00%	0.00%	0.00%	100.00%	Storage	100.00%			100.00%	
343 Zone Reservoir	ST-3	South	0.00%	7,108,000	25.00%	0.00%	75.00%	100.00%	Storage		100.00%		100.00%	
Lower Prune Hill Reservoir Rehabilitation	ST-4	Common	0.00%	2,620,000	0.00%	25.00%	75.00%	100.00%	Storage	100.00%			100.00%	
Upper Prune Hill Pressure Improvements Study	ST-5	Common	0.00%	139,000	0.00%	50.00%	50.00%	100.00%	Storage	100.00%			100.00%	
General														
Water System Plan Update	G-1	Common	0.00%	\$ 550,000	0.00%	0.00%	100.00%	100.00%	General	100.00%			100.00%	100.00%
Repair and Replacement														
Supply R&R Projects	R-1	South	0.00%	\$ 1,256,000	0.00%	0.00%	100.00%	100.00%	Supply/ Treatment		100.00%		100.00%	
Pump R&R Projects	R-2	South	0.00%	1,595,000	0.00%	0.00%	100.00%	100.00%	Pumping		100.00%		100.00%	
Pipeline R&R Projects	R-3	South	0.00%	40,266,000	0.00%	0.00%	100.00%	100.00%	Transmission & Distribution		100.00%		100.00%	
Meter Replacement Program	R-4	South	0.00%	1,390,000	0.00%	0.00%	100.00%	100.00%	Meters & Services		100.00%		100.00%	100.00%
North Shore Expansion														
Annual North Shore Distribution Program	NS-1	North Shore	75.00%	\$ 22,253,000	100.00%	0.00%	0.00%	100.00%	Transmission & Distribution			100.00%	100.00%	
Leadbetter Road Transmission Main	NS-2	North Shore	75.00%	3,100,000	100.00%	0.00%	0.00%	100.00%	Transmission & Distribution			100.00%	100.00%	
Total				\$ 139,654,133	\$ 72,488,500	\$ 4,858,500	\$ 62,307,133			\$ 51,162,133	\$ 59,527,750	\$ 28,964,250	\$ 1,850,000	



City of Camas
Water System Development Charge Update
Reserve Balances

Reserve Balances

Fund	Operating	Capital	Capital Reserve	North Shore	Bond Reserve	Total
Water	\$ 3,039,025	\$ -	\$ 3,681,023	\$ -	\$ -	\$ 6,720,048
Sewer	3,867,851	-	2,454,015	7,963,638	1,633,720	15,919,224
Total	\$ 6,906,876	\$ -	\$ 6,135,038	\$ 7,963,638	\$ 1,633,720	\$ 22,639,272

Water-Sewer Fund Balance Allocation

As of 12/31/2017

	W-S Operating	W-S Capital	W-S Capital Reserve	W-S North Shore Proj	W-S Bond Reserve
Water	\$ 3,039,025	\$ -	\$ 3,681,023	\$ -	\$ -
Sewer	\$ 3,867,851	\$ -	\$ 2,454,015	\$ 7,963,638	\$ 1,633,720
Total	\$ 6,906,876	\$ -	\$ 6,135,039	\$ 7,963,638	\$ 1,633,720



City of Camas Water System Development Charge Update Existing Debt Service

Debt Summary

Year	Water's Share				Water's Share (Interest)				Water's Share (Principal)				
	Rev. Bonds	PWTF	Other	Total	Rev. Bonds	PWTF	Other	Total	Rev. Bonds	PWTF	Other	Total	
2017	\$ 223,440	\$ 4,344	\$ 741,802	\$ 969,585	\$ 10,640	\$ 217	\$ 220,900	\$ 231,757	\$ 212,800	\$ 4,127	\$ 520,901	\$ 737,828	\$ -
2018	-	4,437	585,884	590,320	-	310	104,619	104,929	-	4,127	481,265	485,392	-
2019	-	108,378	779,420	887,798	-	10,159	148,991	159,150	-	98,219	630,429	728,648	-
2020	-	108,357	774,920	883,277	-	9,668	140,017	149,684	-	98,690	634,904	733,593	-
2021	-	108,337	770,421	878,758	-	9,174	130,860	140,034	-	99,162	639,561	738,724	-
2022	-	108,316	765,922	874,237	-	8,678	121,509	130,187	-	99,638	644,413	744,050	-
2023	-	108,295	761,422	869,718	-	8,180	111,954	120,134	-	100,115	649,468	749,583	-
2024	-	108,275	756,923	865,198	-	7,680	102,183	109,863	-	100,595	654,740	755,335	-
2025	-	108,254	752,424	860,678	-	7,177	92,183	99,360	-	101,077	660,241	761,318	-
2026	-	108,233	695,027	803,260	-	6,671	82,801	89,472	-	101,562	612,226	713,788	-
2027	-	108,213	690,527	798,740	-	6,163	75,854	82,017	-	102,049	614,674	716,723	-
2028	-	108,192	686,028	794,220	-	5,653	68,870	74,523	-	102,539	617,158	719,697	-
2029	-	108,171	681,529	789,700	-	5,141	61,849	66,989	-	103,031	619,680	722,711	-
2030	-	108,151	677,029	785,180	-	4,625	54,790	59,415	-	103,525	622,240	725,765	-
2031	-	108,130	672,530	780,660	-	4,108	47,692	51,800	-	104,022	624,838	728,860	-
2032	-	108,110	637,213	745,323	-	3,588	40,556	44,144	-	104,522	596,657	701,179	-
2033	-	103,962	633,022	736,984	-	3,065	33,688	36,753	-	100,897	599,334	700,231	-
2034	-	103,962	628,831	732,793	-	2,561	26,781	29,341	-	101,401	602,050	703,452	-
2035	-	103,962	624,640	728,602	-	2,054	19,832	21,885	-	101,908	604,808	706,716	-
2036	-	103,962	620,449	724,410	-	1,544	12,842	14,386	-	102,418	607,607	710,025	-
2037	-	103,962	255,978	359,940	-	1,032	8,039	9,070	-	102,930	247,940	350,870	-
2038	-	103,445	252,495	355,939	-	517	4,598	5,115	-	102,927	247,897	350,824	-
2039	-	-	56,829	56,829	-	-	1,114	1,114	-	-	55,714	55,714	-
2040	-	-	56,271	56,271	-	-	557	557	-	-	55,714	55,714	-
Total	\$ 223,440	\$ 2,147,445	\$ 14,557,535	\$ 16,928,420	\$ 10,640	\$ 107,963	\$ 1,713,078	\$ 1,831,680	\$ 212,800	\$ 2,039,483	\$ 12,844,457	\$ 15,096,740	\$ -



City of Camas
Water System Development Charge Update
Plant in Service

Table with columns: Year of Cost (2016), Asset, Description, Date, Life, Original Cost, Make, Water Share, Donated, Net Allocable, Function, Annual Depreciation, Applicable Asset Age, Applicable Interest, Allocable Interest. Includes rows for assets like 1997 Water Pipe, 1998 Water Pipe, etc.



City of Camas
Water System Development Charge Update
Plant in Service

Table with columns: Year of Cost, Asset, Description, Date, Life, Original Cost, Make, Water Share, Donated, Net Allocable, Function, Annual Depreciation, Applicable Asset Age, Applicable Interest, Allocable Interest. Includes rows for various hydrants and water services from 1991 to 2016.



City of Camas
Water System Development Charge Update
 Plant in Service

Year of Cost												2017			
2016												Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest
Asset	Description	Date	Life	Original Cost	Make	Water Share	Donated	Net Allocable	Function						
98196	WS-256INSTALLATION OF FLUORIDE,CHLORINE & SURGE VA	2/1/1984	300	7,900	WS-256	100.00%		7,900	Supply/ Treatment		316	10	10.10%	7,900	
2006074	WS565G Fluoride Feed System	5/31/2005	300	27,339		100.00%		27,339	Supply/ Treatment		1,094	10	4.40%	12,022	
2008044	WS636A/B Well 13 Fluoride Feed System	12/31/2008	300	58,046		100.00%		58,046	Supply/ Treatment		2,322	9	4.86%	25,394	
2016193	544 Slow Sand Filter: Fluoride System	9/1/2016	180	218,971		100.00%		218,971	Supply/ Treatment		14,598	1	3.25%	7,113	
2016194	544 Slow Sand Filter: Hypochlorite System	9/1/2016	180	383,260		100.00%		383,260	Supply/ Treatment		25,551	1	3.25%	12,450	
Other	Other										0				
417920500											0				
2014111	SS-568 Vactor Waster Facility Improv	7/17/2014	600	\$ 264,496		50.00%		\$ 132,248	General		\$ 5,290	3	4.23%	\$ 16,792	
517110000											0				
98439(A)	1606 SE 8TH AVE 1.48 ACRES#087070-005ORCHRD HME	12/31/1993	999	\$ 1	1606 SE 8TH AVE 1	50.00%		\$ 1	General		\$ -	10	5.60%	\$ 0	
98439(B)	1620 SE 8TH AVE 3.0 ACRES#087070-000ORCHRD HME W	12/31/1993	999	104,731	1620 SE 8TH AVE 3	50.00%		52,366	General		-	10	5.60%	29,312	
517271000											0				
98423	CITY SHOP/OPERATIONS CENTER1620 SE 8TH AVE	12/31/1994	600	\$ 833,738	CITY SHOP/OPERA	50.00%		\$ 416,869	General		\$ 16,675	10	6.18%	\$ 257,625	
2002414	2002 Re-roof Operations Center	11/25/2002	300	38,986	P-731	50.00%		19,493	General		1,559	10	5.04%	9,820	
2003047	Fire Line for Shop Expansion	2/1/2003	600	3,942	2003	50.00%		1,971	General		79	10	4.75%	936	
2012009	Operations Center Lighting Improvements	5/31/2012	240	40,440		50.00%		20,220	General		2,022	5	3.73%	3,770	
2014002	2005 Blazer Mobile Office Unit @ OPS Center	1/29/2014	180	25,656	Blazer	50.00%		12,828	General		1,710	3	4.23%	1,629	
517274000											0				
98422	STORAGE BUILDING @ OP CENTERINCLUDES ARCHITECTURAL	7/13/1998	600	\$ 82,485	STORAGE BUILDING	50.00%		\$ 41,243	General		\$ 1,650	10	5.09%	\$ 20,996	
98422A	Electrical for Storage Bldg Op Ctr	12/31/2000	600	3,300		50.00%		1,650	General		66	10	5.71%	942	
2002415	2002 Garage Storage Building Expansion	12/23/2002	600	118,293	P-715	50.00%		59,147	General		2,366	10	5.04%	29,795	
517280000											0				
2004036	Wash Rack - Operations Center	12/31/2004	240	\$ 30,822		50.00%		\$ 15,411	General		\$ 1,541	10	4.68%	\$ 7,209	
2004037	Paving - Operations Center	12/31/2004	180	67,418		50.00%		33,709	General		4,495	10	4.68%	15,767	
2005007	Op Center South Gate (Work Crew)	6/30/2005	240	10,620		50.00%		5,310	General		531	10	4.40%	2,335	
2005008	Paving & Site Work (Work Crew location)	6/30/2005	300	10,903		50.00%		5,452	General		436	10	4.40%	2,397	
2008001	Steel Mezzanine System	3/1/2008	180	13,687		50.00%		6,843	General		912	9	4.86%	2,994	
518280000											0				
94009	HOIST/MOHAWK #TP-15	12/20/1993	180	\$ 11,406	HOIST/MOHAWK #T	50.00%		\$ 5,703	General		\$ 760	10	5.60%	\$ 3,192	
1099	Tire Changer	7/23/2001	120	5,429	Hoffman	50.00%		2,715	General		543	10	5.15%	1,399	
1149	Gas Analyzer	7/14/2003	180	7,734		50.00%		3,867	General		516	10	4.75%	1,836	
2005014	2004 Epoke TKEB12 Sand Spreader	12/1/2005	144	19,125	Epoke	50.00%		9,563	General		1,594	10	4.40%	4,205	
2012004	First Alert Security Monitoring System	8/8/2012	84	9,994	First Alert	50.00%		4,997	General		1,428	5	3.73%	932	
518660000											0				
99002	INSTALL CORAL REMOTE FIBERTO OPS CENTER/PD AND PAR	1/10/2000	300	\$ 21,652	INSTALL CORAL RE	50.00%		\$ 10,826	General		\$ 866	10	5.71%	\$ 6,181	
518881000											0				
E277	2000 Case Loader/Backhoe 28864D	8/23/2000	120	\$ 78,585	Case	50.00%		\$ 39,292	General		\$ 7,858	10	5.71%	\$ 22,433	
E342	2006 Chevy Silverado 42840D	4/17/2006	72	27,432	Chevy	50.00%		13,716	General		4,572	10	4.40%	6,036	
E347	2006 John Deere Mower	10/16/2006	48	5,981	John Deere	50.00%		2,991	General		1,495	10	4.40%	1,316	
E353	Ford F-250 45004D	3/23/2007	120.0322	19,599	Ford	50.00%		9,799	General		1,959	10	4.40%	4,308	
E354	Ford F-350 45005D	3/23/2007	120.0323	20,745	Ford	50.00%		10,372	General		2,074	10	4.40%	4,560	
E373	2009 Ford Escape 47012D	8/31/2008	96.0322	16,143	Ford	50.00%		8,071	General		2,017	9	4.86%	3,531	
E375	2008 Ford F250 XL HD 3/4 Ton 47023D	8/31/2008	120	24,760	Ford	50.00%		12,380	General		2,476	9	4.86%	5,416	
E371	2006 Chev Chassis w/15' Hydraulic Crane 47024D	10/20/2008	180	83,969	Chev	50.00%		41,984	General		5,598	9	4.86%	18,367	
E393	2012 Ford F250 RC 4x2 50779D	9/3/2012	120.742	21,611	Ford	50.00%		10,805	General		2,148	5	3.73%	2,015	
E436	2015 Hustler Z Diesel 60" Mower	9/30/2014	60	14,401	Shibaura	50.00%		7,201	General		2,880	3	4.23%	914	
E417	2014 Ford F250 3/4T 4WD w/crane 55280D	10/23/2014	120	33,836	Ford	50.00%		16,918	General		3,384	3	4.23%	2,148	
E418	2015 Ford F250 3/4T 4x4 55284D	1/7/2015	120	40,225	Ford	50.00%		20,112	General		4,022	2	3.66%	1,471	
E422	2015 Ford F250 3/4 T 50751D	3/20/2015	120	32,989	Ford	50.00%		16,494	General		3,299	2	3.66%	1,207	
E452	2017 Ford Fusion 62246D	6/6/2016	96	18,597	Ford	50.00%		9,298	General		2,325	1	3.25%	302	
E454	2016 Ford F250 4x4 62250D	8/2/2016	120	36,858	Ford	50.00%		18,429	General		3,686	1	3.25%	599	
Total				\$ 63,281,670		\$ 61,723,356	\$ 20,692,006	\$ 41,031,350		\$ 1,738,141				\$ 15,847,760	
			\$ 2,002.83												



**City of Camas
Water System Development Charge Update
Plant in Service**

Year of Cost 2016							2017						
Asset	Description	Date	Life	Original Cost	Make	Water Share	Donated	Net Allocable	Function	Annual Depreciation	Applicable Asset Age	Applicable Interest	Allocable Interest
	Function	Original Cost	Allocable	CIAC	Net Allocable	Interest							
	Supply/ Treatment	\$ 13,673,398	\$ 13,673,398	\$ -	\$ 13,673,398	\$ 3,753,844							
	Pumping	6,269,530	6,269,530	-	6,269,530	2,967,039							
	Storage	6,235,442	6,235,442	-	6,235,442	2,898,515							
	Transmission & Distribution	25,241,221	25,241,221	13,303,196	11,938,025	4,563,325							
	Meters & Services	7,276,989	7,276,989	6,119,682	1,157,307	861,961							
	Hydrants	1,468,462	1,468,462	1,269,129	199,333	90,135							
	General	3,116,628	1,558,314	-	1,558,314	712,941							
	Total	\$ 63,281,670	\$ 61,723,356	\$ 20,692,006	\$ 41,031,350	\$ 15,847,760							
		\$ -	\$ -	\$ -	\$ -	\$ -							

Construction Work in Progress	Date	Life	Original Cost	Make	Water Share	Donated	Net Allocable	Function
Meter Replacement Project	2016		\$ 372,311		100.00%		372,311	Meters & Services
S-607 Franklin North	2016		43,633		100.00%		43,633	Transmission & Distribution
WS-681C Nuga Sewer	2016		2,370,521		0.00%		-	General
Steigerwald Wtr Rights	2016		-		100.00%		-	Supply/ Treatment
WS-681C Nuga Water Line	2016		102,846		100.00%		102,846	Transmission & Distribution
WS-751 Well 6 Easement	2016		9,950		100.00%		9,950	Supply/ Treatment
W-1000 2017 Timber Reforest	2016		6,816		100.00%		6,816	General
WS-709 Press Zone Surf Wtr Spl	2016		4,563		100.00%		4,563	Supply/ Treatment
WS-709C Slow Sand Filter	2016		15,467		100.00%		15,467	Supply/ Treatment
WS-709F 2015 Water Transmissn	2016		1,698,446		100.00%		1,698,446	Transmission & Distribution
WS-709H 2017 Wtr Trans	2016		3,023		100.00%		3,023	Transmission & Distribution
WS-709E-2015 Jones Timber Sale	2016		111,815		100.00%		111,815	General
WS-715 2.0 MG Gregg Reservoir	2016		69,556		100.00%		69,556	Storage
Total			\$ 4,808,949		\$ 2,438,428	\$ -	\$ 2,438,428	

Function	Original Cost	Allocable	CIAC	Net Allocable
Supply/ Treatment	\$ 29,980	\$ 29,980	\$ -	\$ 29,980
Pumping	-	-	-	-
Storage	69,556	69,556	-	69,556
Transmission & Distribution	1,847,949	1,847,949	-	1,847,949
Meters & Services	372,311	372,311	-	372,311
Hydrants	-	-	-	-
General	2,489,152	118,631	-	118,631
Total	\$ 4,808,949	\$ 2,438,428	\$ -	\$ 2,438,428



**City of Camas
Water System Development Charge Update
Functional Allocation**

Allocation of Plant in Service											
Plant in Service	Total Costs	FUNCTIONS OF WATER SERVICE								TOTAL	ALLOCATION BASIS
		CUSTOMER	METERS & SERVICES	BASE	PEAK	FIRE	DIRECT ASSIGNMENT	TAXES	AS ALL OTHERS		
Supply/ Treatment	\$ 13,703,378	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio As Pumping Plant As Storage Plant As T&D Incremental As Meters & Services As Fire As All Others
Pumping	6,269,530	0.00%	0.00%	41.85%	44.70%	13.45%	0.00%	0.00%	0.00%	100.00%	
Storage	6,304,999	0.00%	0.00%	50.61%	49.39%	0.00%	0.00%	0.00%	0.00%	100.00%	
Transmission & Distribution	27,089,169	0.00%	0.00%	44.28%	47.30%	8.43%	0.00%	0.00%	0.00%	100.00%	
Meters & Services	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Hydrants	1,468,462	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	
General	1,676,945	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	
Total Utility Plant	\$ 56,512,484	\$ -	\$ -	\$ 24,434,564	\$ 25,806,526	\$ 4,594,449	\$ -	\$ -	\$ 1,676,945	\$ 56,512,484	100.00%
% Share		0.00%	0.00%	44.56%	47.06%	8.38%	-	-	-	100.00%	
Allocation of "As All Others"		\$ -	\$ -	\$ 747,242	\$ 789,199	\$ 140,504	\$ -	\$ -	\$ (1,676,945)	\$ -	
TOTAL	\$ 56,512,484	\$ -	\$ -	\$ 25,181,806	\$ 26,595,725	\$ 4,734,953	\$ -	\$ -	\$ -	\$ 56,512,484	100.00%
Allocation Percentages		0.00%	0.00%	44.56%	47.06%	8.38%	0.00%	-	0.00%		

Allocation of Future Plant in Service											
Plant in Service	Total Costs	FUNCTIONS OF WATER SERVICE								TOTAL	ALLOCATION BASIS
		CUSTOMER	METERS & SERVICES	BASE	PEAK	FIRE	DIRECT ASSIGNMENT	TAXES	AS ALL OTHERS		
Supply/ Treatment	\$ 30,193,083	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio As Pumping Plant As Storage Plant As T&D Incremental As Meters & Services As Fire As All Others
Pumping	13,031,000	0.00%	0.00%	41.85%	44.70%	13.45%	0.00%	0.00%	0.00%	100.00%	
Storage	21,087,000	0.00%	0.00%	50.61%	49.39%	0.00%	0.00%	0.00%	0.00%	100.00%	
Transmission & Distribution	73,493,050	0.00%	0.00%	44.28%	47.30%	8.43%	0.00%	0.00%	0.00%	100.00%	
Meters & Services	-	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Hydrants	-	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	
General	550,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	
Total Utility Plant	\$ 138,354,133	\$ -	\$ -	\$ 63,264,212	\$ 66,594,298	\$ 7,945,623	\$ -	\$ -	\$ 550,000	\$ 138,354,133	100.00%
% Share		0.00%	0.00%	45.91%	48.33%	5.77%	-	-	-	100.00%	
Allocation of "As All Others"		\$ -	\$ -	\$ 252,498	\$ 265,789	\$ 31,712	\$ -	\$ -	\$ (550,000)	\$ -	
TOTAL	\$ 138,354,133	\$ -	\$ -	\$ 63,516,710	\$ 66,860,087	\$ 7,977,335	\$ -	\$ -	\$ -	\$ 138,354,133	100.00%
Allocation Percentages		0.00%	0.00%	45.91%	48.33%	5.77%	0.00%	-	0.00%		



City of Camas
Water System Development Charge Update
Functional Allocation

Allocation of Plant in Service - Pumping											
Pumps	Total Costs	FUNCTIONS OF WATER SERVICE								TOTAL	ALLOCATION BASIS
		CUSTOMER	METERS & SERVICES	BASE	PEAK	FIRE	DIRECT ASSIGNMENT	TAXES	AS ALL OTHERS		
Butler											
Pump 1	700	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 2	700	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
New Gregg											
Pump 1	1,500	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	As Fire
Pump 2	1,500	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	As Fire
Pump 3	500	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Forest Home											
Pump 1	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Lower Prune Hill											
Pump 1	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 2	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 3	500	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Lacamas											
Pump 1	500	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 2	500	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 3	1,500	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Angelo											
Pump 1	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 2	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 3	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 4	1,000	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Upper Prune Hill											
Pump 1	750	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 2	750	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 3	750	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 4	750	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 5	1,400	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 6	1,400	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Crown Road											
Pump 1	800	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Pump 2	800	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
[Extra]	-	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
FUTURE PLANT	22,300	-	-	9,332	9,968	3,000	-	-	-	22,300	
% Share	100.00%	0.00%	0.00%	41.85%	44.70%	13.45%					
Allocation of "As All Others"		-	-	-	-	-			-		
FUTURE PLANT	22,300	-	-	9,332	9,968	3,000	-	-	-		
% Share	100.00%	0.00%	0.00%	41.85%	44.70%	13.45%	0.00%	0.00%	0.00%		



City of Camas
Water System Development Charge Update
Functional Allocation

Allocation of Plant in Service - Storage												
Plant in Service	Total Costs	FUNCTIONS OF WATER SERVICE								TOTAL	ALLOCATION BASIS	
		CUSTOMER	METERS & SERVICES	BASE	PEAK	FIRE	DIRECT ASSIGNMENT	TAXES	AS ALL OTHERS			
Operational Storage	1.00	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Base
Equalizing Storage	0.71	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak
Standby Storage [a]	5.99	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Fire Suppression Storage [a]	-	0.00%	0.00%	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
Dead Storage (Deficit)	0.75	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	As All Others
FUTURE PLANT	8.45	-	-	3.90	3.80	-	-	-	-	0.75	8.45	
% Share	100.00%	0.00%	0.00%	50.61%	49.39%	0.00%	-	-	-	-	-	
Allocation of "As All Others"		-	-	0.38	0.37	-	-	-	-	\$ (1)	-	
FUTURE PLANT	8.45	-	-	4.28	4.17	-	-	-	-	-	-	
% Share	100.00%	0.00%	0.00%	50.61%	49.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

[a] 2010 WSP p. 4-22 states "Due to the large emergency storage requirements, the City has elected to nest its standby and fire suppression storage."

Allocation of Plant in Service - Transmission & Distribution (Incremental)												
Main Size	Feet	Replacement Cost	Total Replacement Cost	Fire Increment	FUNCTIONS OF WATER SERVICE						TOTAL	ALLOCATION BASIS
					BASE	PEAK	FIRE	DIRECT ASSIGNMENT	TAXES	AS ALL OTHERS		
Unknown	-	\$ 91.00	\$ -	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
2	-	91.00	-	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
4	2,576	99.00	254,992	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
6	182,842	110.00	20,112,655	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
8	270,263	130.00	35,134,190	5,405,260	40.91%	43.70%	15.38%	0.00%	0.00%	0.00%	100.00%	As Incremental 8"
10	38,855	160.00	6,216,800	1,165,650	39.29%	41.96%	18.75%	0.00%	0.00%	0.00%	100.00%	As Incremental 10"
12	164,746	180.00	29,654,280	3,294,920	42.98%	45.91%	11.11%	0.00%	0.00%	0.00%	100.00%	As Incremental 12"
14	20,658	210.00	4,338,180	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
16	11,105	230.00	2,554,150	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
18	42,488	260.00	11,046,880	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
20	1,859	300.00	557,700	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
24	21,227	340.00	7,217,180	-	48.35%	51.65%	0.00%	0.00%	0.00%	0.00%	100.00%	As Peak Demand Ratio
T&D	756,619		\$ 117,087,008	\$ 9,865,830	\$ 51,843,207	\$ 55,377,971	\$ 9,865,830	\$ -	\$ -	\$ -	\$ 117,087,008	
% Share				100.00%	44.28%	47.30%	8.43%	-	-	-	-	
Allocation of "As All Others"				-	\$ -	\$ -	\$ -	-	-	\$ -	-	
T&D				\$ 9,865,830	\$ 51,843,207	\$ 55,377,971	\$ 9,865,830	\$ -	\$ -	\$ -	\$ -	
% Share					44.28%	47.30%	8.43%	0.00%	0.00%	0.00%	0.00%	



City of Camas Water System Development Charge Update System Development Charges - One Class

EXISTING COST BASIS				
Description	Common	South	North	One System
Plant in Service	\$ 61,723,356			\$ 61,723,356
plus: CWIP	2,438,428			2,438,428
less: M&S	(7,649,300)			(7,649,300)
less: CIAC	(14,572,325)			(14,572,325)
plus: Interest on Net Assets	14,985,800			14,985,800
less: Net Debt Principal Outstanding	(7,638,863)			(7,638,863)
NET EXISTING COST BASIS	\$ 49,287,096	\$ -	\$ -	\$ 49,287,096

FUTURE COST BASIS				
Description	Common	South	North	One System
Total Allocable CIP	\$ 51,162,133	\$ 59,527,750	\$ 28,964,250	\$ 139,654,133
less: Comp. Plans & M&S	(550,000)	(1,300,000)	-	(1,850,000)
less: R&R (Including Upgrade Share)	(9,154,184)	(53,771,938)	-	(62,926,122)
less: CIAC (Capacity Share Only)				-
NET FUTURE COST BASIS	\$ 41,457,949	\$ 4,455,812	\$ 28,964,250	\$ 74,878,011

CUSTOMER BASE				
Description	Common	South	North	One System
Existing (MCEs)	9,686	9,641	45	9,686
Future (MCEs)	12,214	5,244	6,970	12,214
CUSTOMER BASE	21,900	14,885	7,015	21,900

SDC				
Description	Common	South	North	One System
Existing Cost Basis	\$ 49,287,096	\$ -	\$ -	\$ 49,287,096
Allocable Customer Base	21,900	14,885	7,015	21,900
Existing Cost Basis	\$ 2,251	\$ -	\$ -	\$ 2,251
Future Cost Basis	\$ 41,457,949	\$ 4,455,812	\$ 28,964,250	\$ 74,878,011
Allocable Customer Base	12,214	5,244	6,970	12,214
Future Cost Basis	\$ 3,394	\$ 850	\$ 4,156	\$ 6,131
Total SDC	\$ 5,645	\$ 850	\$ 4,156	\$ 8,381

Meter	3/4" Equivalents	South	North	One System
3/4"	1.00	6,495	9,801	8,381
1"	1.67	10,846	16,367	13,996
1.25"	2.50	16,236	24,501	20,953
1.5"	3.33	21,627	32,636	27,909
2"	5.33	34,616	52,237	44,671
3"	10.67	69,297	104,572	89,427
4"	16.67	108,265	163,375	139,713
6"	33.33	216,464	326,653	279,343
8"	53.33	346,356	522,664	446,966
10"	76.67	497,940	751,410	642,582

Existing	
South	South Ind.
4,778.00	28,270.00
7,963.00	45,555.00
15,925.00	88,632.00
25,480.00	140,568.00
50,960.00	281,092.00
79,625.00	436,781.00
159,250.00	868,727.00
254,800.00	1,386,905.00

Existing	
North	North Ind.
7,310.00	44,723.00
12,183.00	72,313.00
24,365.00	141,151.00
38,984.00	223,999.00
77,968.00	446,958.00
121,825.00	695,386.00
243,650.00	1,384,939.00
389,840.00	2,212,246.00



City of Camas Water System Development Charge Update Data

CUSTOMER DATA

Class	2017 Data							MCEs	
	Accounts	MCEs	MSEs	ccf	w. M. Avg.	Peak Bi-Month			
Residential	7,832	8,205	8,377	919,046	50,972	259,665	Residential	Sep/Oct	3/4"
Commercial	259	605	497	74,227	5,517	15,959	Commercial	Sep/Oct	
Industrial	45	238	182	614,966	51,777	118,927	Industrial	Jan/Feb	
Irrigation	200	527	415	119,341	1,113	49,585	Irrigation	Sep/Oct	
City	38	103	67	13,345	848	3,856	Commercial	Sep/Oct	
Cemetery	3	7	5	848	11	699	Cemetery	Jul/Aug	
Private Fire	70	2,525	1,535	-					
Total	8,445	12,211	11,078	1,741,773	110,238	448,691			

Class	Data						
	Accounts	MCEs	MSEs	ccf	w. M. Avg.	Peak Bi-Month	
Residential	7,832	8,205	8,377	919,046	50,972	259,665	
Commercial	296	708	564	87,572	6,365	19,815	
Industrial	45	238	182	614,966	51,777	118,927	
Cemetery	3	7	5	848	11	699	
Irrigation	200	527	415	119,341	1,113	49,585	
Total	8,375	9,686	9,543	1,741,773	110,238	448,691	

Notes:

1. Fire accounts are not charged an SDC
2. Commercial includes City

North Shore Accounts (Based on 10/9/2017 email)

Description	Data				Assumed Meter Size	3/4"	Class
	Accounts	MCEs	MSEs	ccf			
Green Mountain	14	14	14		5/8"		Residential
North Hills	23	23	23		5/8"		Residential
Lacamas Lake Elementary	1	8	3		2"		Commercial
Total	38	45	40				

Notes:

1. Assumes that these accounts are included in the total customer statistics.



City of Camas Water System Development Charge Update Data

Capacity Information from Carollo 11/10/2017

Customer Class	2035 ERUs			North	South	Total
	North Shore	South	Total			
Single Family	4,553	8,904	13,457	64.92%	46.37%	51.33%
Multi-Family	1,716	678	2,394	24.47%	3.53%	9.13%
Commercial	80	385	465	1.14%	2.00%	1.77%
Industrial	664	8,672	9,336	9.47%	45.16%	35.61%
Irrigation	-	565	565	0.00%	2.94%	2.16%
Total	7,013	19,204	26,217	100.00%	100.00%	100.00%

Additional Capacity Beyond 2035	South			North Shore
	343	455	544/542	
Storage	1,263	3,779	-	2,792
Supply ADD			564	
Supply MDD			1,555	
Pumping	-	207	-	196

Limiting

Function	Plant			Max ERUs		Total ERUs
	Existing	Future	Total	North	South	
Storage	\$ 6,304,999	\$ 12,997,000	\$ 19,301,999	7,016	27,038	34,054
Transmission & Distribution	27,089,169	29,381,500	56,470,669	7,016	27,038	34,054
Supply ADD (Base)	6,625,809	12,230,549	18,856,359	7,013	19,768	26,781
Supply MDD (Peak)	7,077,569	13,064,451	20,142,020	7,013	20,759	27,772
Pumping	6,269,530	4,815,000	11,084,530	7,013	19,607	26,620
Total	\$ 53,367,076	\$ 72,488,500	\$ 125,855,576	7,015	24,289	31,304
Note:				1.81	5,085	2

currently using storage

1. Future includes only capacity enhancing costs (does not include upgrade).
2. Supply separate by Base/Peak ration from functional allocation.

Adjusted 2035 ERUs with Additional Limiting Capacity Spread to all Classes by Area

Customer Class	Pumping Limiting Capacity			North Share	South Share
	North Shore	South	Total		
Single Family	4,554.17	11,261.86	15,816	64.92%	46.37%
Multi-Family	1,716.44	857.54	2,574	24.47%	3.53%
Commercial	80.02	486.95	567	1.14%	2.00%
Industrial	664.17	10,968.43	11,633	9.47%	45.16%
Irrigation	-	714.62	715	0.00%	2.94%
Total	7,015	24,289	31,304	100.00%	100.00%



City of Camas Water System Development Charge Update Data

Table modified to Study Classes of Service

Customer Class	Pumping Limiting Capacity			North Share	South Share
	North Shore	South	Total		
Residential	6,271	12,119	18,390	89.39%	49.90%
Commercial	80	487	567	1.14%	2.00%
Industrial	664	10,968	11,633	9.47%	45.16%
Cemetery			-	0.00%	0.00%
Irrigation	-	715	715	0.00%	2.94%
Total	7,015	24,289	31,304	100.00%	100.00%

Table 5.10 Data

Description	2015	Medium Growth		
		2021	2025	2035
ERUs	14,357	19,053	20,995	26,216
Annual Compounding Growth		4.83%	2.46%	2.25%

2035 ERU figure is slightly different due to rounding from the table above.

Estimated 2017 ERUs	15,777	L. Capacity	Growth
Assumed Share from North Shore	45	7,015	15488.46%
Assumed Share from South Area	15,732	24,289	54.39%
2017 MCEs	9,686	L. Capacity	F. Customers
Assumed Share from North Shore	45	7,015	6,970
Assumed Share from South Area	9,641	14,885	5,244
2017 MSEs	9,543	L. Capacity	F. Customers
Assumed Share from North Shore	40	6,220	6,180
Assumed Share from South Area	9,503	14,672	5,169
2017 Accounts	8,375	L. Capacity	F. Customers
Assumed Share from North Shore	38	5,924	5,886
Assumed Share from South Area	8,337	12,872	4,535