

**To:** Eric Christensen, City of Olympia

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**From:** Chris Gonzalez, Project Manager  
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**RE:** Stormwater Management Plan Financial Analysis

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## INTRODUCTION

The primary goal of the financial analysis is to develop a multi-year rate strategy that will provide stable revenue to meet the total operating and capital costs of providing stormwater management service in the City of Olympia (City). The financial analysis focuses on the amount of revenue needed to meet the system's total financial obligations which include:

- Operating and maintenance costs
- Administration and overhead costs
- Capital costs
- Existing and new debt service obligations
- Fiscal policy requirements (e.g. reserve funding)

This analysis evaluates the financial impact of completing the 20-year Capital Facilities Plan (CFP), and develops a strategy of rate adjustments to meet the stormwater utility's financial obligations.

## FINANCIAL STRUCTURE

The City's stormwater utility is responsible for funding all of its related costs through user fees – it does not depend on tax revenues or General Fund resources. The primary source of funding for the stormwater utility is stormwater rate revenue; miscellaneous operating revenues and investment earnings provide additional resources to fund the utility's revenue needs.

The City maintains a fund structure and implements financial policies targeting management of a financially viable utility enterprise. The following funds are relevant to this analysis.

- Stormwater Operating Fund (Fund 404): Includes unrestricted resources that are used to fund operation and maintenance (O&M) expenses and all other costs that are not covered by other funds. Stormwater rate revenue and other operating revenues go into this fund.
- Stormwater Debt Service Fund (Fund 418): Includes resources set aside to repay the stormwater utility's outstanding debt service, primarily funded by transfers from the Operating Fund.

- Stormwater Capital Fund (Fund 434): Includes resources that are restricted or otherwise set aside for capital purposes, such as general facility charges (GFCs) and debt proceeds. The City funds its capital facilities plan (CFP) projects through this fund.

## FISCAL POLICIES

This analysis is based on a framework of fiscal policies that promote the financial integrity and stability of the stormwater utility, discussed in further detail below.

### Utility Reserves

Like any business, a municipal utility requires certain minimum levels of cash reserves to operate – these reserves address variability and timing of expenditures and receipts, as well as occasional disruptions in activities, costs or revenues. Given the stormwater utility’s responsibility to provide an essential service at a certain standard, protection against financial disruptions is even more important than it would be for a private-sector or non-essential counterpart.

In addition to protecting against financial disruptions, a defined reserve structure serves to maintain appropriate segregations of funds and to promote the use of resources for their intended purposes. This analysis assumes the following policy requirements for the stormwater utility’s reserves:

- The Operating Fund is assumed to maintain a minimum reserve balance equal to 10% of annual operating expenses. This policy intends to provide liquid “working capital” to accommodate cash balance fluctuations associated with differences in revenue and expense cycles along with other unforeseen variations in revenues or costs.
- The Capital Fund is assumed to maintain a minimum reserve balance equal to 5% of active capital appropriations as a capital contingency reserve. This policy intends to provide a source of funding for unanticipated capital needs, such as project cost overruns.

### Capital Funding

The City has established two major policies related to capital investment.

- **Existing ratepayers should bear a cost commensurate with the full cost of providing service.** This “full cost” includes both cash outlays and the decline in useful life of existing infrastructure (which is not a direct cash expense until asset replacement is required). Existing customers benefit from a system of infrastructure that has been funded through a combination of sources; this infrastructure deteriorates over its useful life and will eventually fail, requiring replacement.
- **New development should make an equitable financial contribution to the stormwater utility.** The general facility charge (GFC) is a mechanism that promotes equity between existing and future customers, representing a pro rata share of system capital costs attributable to new development. As provided for in Section 35.92.025 of the Revised Code of Washington (RCW), new customers pay the GFC as a condition of receiving utility service.

There are numerous approaches to defining a benchmark for appropriate reinvestment. The City has been maintaining depreciation funding at \$687,690 per year, which represents roughly 90% of the utility's annual depreciation expense. Based on the City's policy direction to avoid issuing debt to fund the CFP, this analysis increases the level of capital funding generated through rates to reach \$1.7 million per year by 2022. While this approach does not ensure full cash funding of system replacements, it provides a reasonable basis for equitably charging current customers for the use and decline in value of the system.

Debt provides another potential source of funding for capital investment, though it comes with pros and cons. It can help the City achieve the desirable objective of smoothing the financial impacts of capital investment, but at the cost of interest payments and possibly other requirements (e.g. bond reserves, debt service coverage). This analysis reflects the City's preference to consider debt funding only for large, discrete capital projects.

## OPERATING REVENUE & EXPENSE FORECAST

The forecast of operating costs is initially based on the 2017 Budget, and generally projected for future years based on assumed inflation rates.

- Most operating costs are increased with anticipated inflation in the Seattle Consumer Price Index (CPI), which for 2018 – 2021 is assumed to vary between 2.1% and 2.3% per year based on the March 2017 forecast published by the State Economic and Revenue Forecast Council. Beyond 2021, this analysis assumes an annual CPI inflation rate of 3.0%.
- Labor costs are increased with anticipated annual growth in non-farm wages, which is assumed to vary between 3.3% and 3.6% per year through 2021 according to the State Economic and Revenue Forecast Council.
- Taxes are calculated based on projected revenues and applicable tax rates. The stormwater utility is subject to the State of Washington's business and occupation (B&O) tax and the City's utility tax (currently 1.5% and 10.0%, respectively) on its revenue.
- Rate revenue projections are based on projected customer data and assumed to increase with growth in the customer base. Growth projections from the Thurston Regional Planning Council suggest long-term average annual growth rates of 1.33% in population and 1.17% in employment – however, it is important to note that not all of this growth will result in increased impervious area due to redevelopment. Based on discussions with City staff, this analysis assumes that the City will receive \$210,000 per year in GFC revenue from new development increasing impervious area – at the current GFC of \$1,190 per impervious unit, this corresponds to annual growth of 176 impervious units (approximately 0.5% annual growth in impervious units). The remaining growth does not equate to GFCs, but is considered in future projections of rate revenue. Because the existing rate structure imposes a higher rate on older development, redevelopment will actually lead to a net decrease in rate revenue.
- Investment earnings are calculated from projected fund balances, assuming a near-term earnings rate of 0.5% per year.

## CAPITAL EXPENSE FORECAST

Capital Facilities Plan (CFP) project costs are typically funded through a mix of existing cash balances, GFC revenues, grants, and new debt proceeds. Given the timing and magnitude of these costs, utility rates are more commonly used to pay for annual debt service associated with these projects (though certain projects or portions of project costs can be funded through rates).

**Exhibit 1** summarizes the 6-year CFP, as defined by City staff:

### **Exhibit 1: 2017 – 2022 CFP (\$000s)**

Six-Year CFP	2017	2018	2019	2020	2021	2022	Total
Asphalt Overlay Adjustments	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 900
Aquatic Habitat Improvements	360	360	360	360	360	1,360	3,160
Water Quality Improvements	684	600	800	640	550	800	4,074
Flood Mitigation & Collection	1,244	720	5,094	394	804	1,018	9,275
Infra. Predesign & Planning	178	175	75	75	235	75	813
<b>Total</b>	<b>\$2,616</b>	<b>\$2,005</b>	<b>\$6,479</b>	<b>\$1,619</b>	<b>\$2,099</b>	<b>\$3,404</b>	<b>\$18,222</b>

Twenty-Year CFP	2017-2022	2023-2036	Total
Asphalt Overlay Adjustments	\$ 900	\$ 2,100	\$ 3,000
Aquatic Habitat Improvements	3,160	10,415	13,575
Water Quality Improvements	4,074	13,251	17,325
Flood Mitigation & Collection	9,275	4,096	13,370
Infra. Predesign & Planning	813	1,860	2,673
Sea Level Rise	-	7,742	7,742
<b>Total</b>	<b>\$18,222</b>	<b>\$39,464</b>	<b>\$57,686</b>

The financial forecast includes the development of a funding strategy for the costs shown in **Exhibit 1**, based on the following principles:

- Any grants or contributions would be applied first to cover eligible project costs. This analysis assumes 50 – 75% grant funding for several aquatic habitat improvement projects and all water quality improvement projects. In addition, City staff identified money in Fund 407 that is dedicated to specific projects in the stormwater CFP including the Cooper Point and Black Lake, Ken Lake, and Woodland Trail Culvert Beaver Control projects.
- Low-cost loans, such as Clean Water State Revolving Fund (CWSRF) loan proceeds, would then be applied to eligible project costs. This analysis assumes the availability of a new loan for the Cooper Point and Black Lake Conveyance project.
- The utility’s cash resources are then applied as available to cover costs in excess of any grants or loans. Sources of cash for this purpose include the existing Capital Fund balance, GFC revenues, unspent bond or loan proceeds, rate-funded transfers for system reinvestment (depreciation funding), and other transfers from the Operating Fund.

- Revenue bonds are issued to fund costs that exceed the utility’s available cash resources. This analysis does not assume any new bond issuance to fund the CFP.

As indicated above, GFC revenues provide a source of cash funding for the CFP. Because the assumed GFC can materially impact the capital funding strategy, this analysis includes an update of the GFC based on the projects in the CFP and other available information. This update is discussed in further detail below.

## GENERAL FACILITY CHARGE (GFC) UPDATE

GFCs are a form of connection charge authorized in Section 35.92.025 of the Revised Code of Washington (RCW). GFCs are imposed on new customers connecting to the system as a condition of service and are in addition to inspection fees, permit fees, and other applicable charges. The GFC is typically based on a blend of historical and planned future capital investment 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 capacity to serve new customers.

The stormwater GFC consists of two components: a “water quality” charge that is imposed based on estimated trip generation, and an “impervious area” charge that is imposed based on impervious units. The key elements of the GFC calculation are described below.

- **Existing Cost Basis:** The GFC recovers a proportionate share of the cost of existing assets from growth. The total cost of the existing stormwater system is established from the City’s fixed asset records, which indicate a total original cost of \$31.7 million for assets booked as of December 31, 2015. This initial cost basis is adjusted as follows:
  - Donated or grant-funded assets are excluded from the cost basis on the premise that the GFC should only recover costs actually incurred by the utility.
  - A provision for future asset retirements is also deducted from the existing cost basis. This provision intends to recognize that repair and replacement projects in the CFP will replace existing assets. This adjustment is an alternative to excluding replacement project costs from the GFC cost basis, recognizing that the resulting new assets will generally cost more than the original construction costs included in the fixed asset schedule.
  - RCW 35.92.025 allows up to 10 years of interest to be added to the cost basis. Note that the GFC cost basis only includes interest accrued on assets that are included in the cost basis.
  - Construction work in progress is added to acknowledge investments that the utility has made in capital projects that are currently underway, but that have not been booked as assets or included in future CFP cost projections.
- **Future System Costs:** The GFC recovers a proportionate share of costs associated with future capital projects from growth to recognize that growth either directly drives or otherwise benefits from these projects. Capital projects identified in the 20-year CFP are separated between expansion projects (which provide increased capacity for growth and are allocated only to growth), and upgrade and replacement projects (which benefit existing and future customers).

- **Customer Base:** The customer base for the “water quality” charge is expressed in terms of trips generated (as defined by the Institute of Traffic Engineers’ Trip Generation Manual), while the customer base for the “impervious area” charge is expressed in terms of impervious units (defined as 2,528 square feet of impervious area).

**Exhibit 2** summarizes the updated stormwater GFC calculation:

**Exhibit 2: Stormwater GFC Calculation**

	Water Quality	Impervious Area
<b>Existing Cost Basis</b>		
Plant-in-Service as of 12/31/15	\$2,436,015	\$29,230,206
Less: Contributed Assets	-	(10,602,700)
Less: Provision for Asset Retirements	(124,019)	(2,721,268)
Plus: Interest Accrued on Assets	830,121	6,913,254
Plus: Construction Work in Progress	-	447,961
Net Existing Cost Basis	\$3,142,117	\$23,267,453
Total Customer Base (Existing Plus Growth)	392,558 Trips	39,460 Units
<b>Existing Facilities Charge per Unit</b>	<b>\$8.00</b>	<b>\$590</b>
<b>Future Cost Basis Allocable to All Customers</b>		
Projected Expenditures per CFP	\$17,325,000	\$38,948,275
Less: Grants/Contributions	(12,993,750)	(3,408,970)
Net Utility-Funded CFP Costs	\$4,331,250	\$35,539,305
Total Customer Base (Existing Plus Growth)	392,558 Trips	39,460 Units
Cost per Unit (Allocable to All Customers)	\$11.03	\$901
<b>Future Cost Basis Allocable to Growth</b>		
Projected Expenditures per CFP		\$3,310,550
Less: Grants/Contributions		(321,350)
Net Utility-Funded CFP Costs		\$2,989,200
Total Customer Base (Existing Plus Growth)		3,353 Units
Cost per Unit (Allocable to All Customers)		\$892
<b>Future Facilities Charge per Unit</b>	<b>\$11.03</b>	<b>\$1,792</b>
<b>Total Stormwater GFC per Unit</b>	<b>\$19.04</b>	<b>\$2,383</b>
<i>Existing Stormwater GFC per Unit</i>	<i>\$4.50</i>	<i>\$1,190</i>

The updated water quality GFC per trip has increased by \$14.54 from the current charge of \$4.50; the impervious area GFC per unit has increased by \$1,193. It is worth noting that the relative increase shown in Exhibit 2 is at least partially attributable to the fact that the current GFC is based on a calculation that is over ten years old (though the City has been adjusting it for inflation in recent years).

**Exhibit 3** summarizes the 6-year capital financing strategy and related funding.

**Exhibit 3: CFP Funding Summary (\$000s)**

	2017	2018	2019	2020	2021	2022	Total
Total Capital Costs	\$2,616	\$2,005	\$6,479	\$1,619	\$2,099	\$3,404	\$18,222
Planned Funding Strategy							
Grants	\$713	\$450	\$600	\$480	\$413	\$600	\$3,656
Fund 407 Reserves	-	50	-	-	161	482	693
Loan Proceeds	-	-	4,230	-	-	-	4,230
Cash	1,903	1,505	1,649	1,139	1,526	2,322	14,274
Total	\$2,616	\$2,005	\$6,479	\$1,619	\$2,099	\$3,404	\$18,222

**Exhibit 3** indicates that the stormwater utility will be able to pay for the projected capital costs using grants, its cash resources, and loan proceeds. This finding relies on the following assumptions:

- Loan proceeds will be used to fund the Cooper Point and Black Lake Conveyance project. The \$4,230,000 in loan proceeds shown in **Exhibit 3** reflects an assumed local funding responsibility of 10% of the project cost. Assuming an interest rate of 2.0%, this loan will increase the utility’s annual debt service by approximately \$303,000. *City staff has indicated that completion of this project relies on the availability of loan funding.*
- GFC revenue collections are projected to remain at \$210,000 per year, based on the conservative assumption that the City retains its existing stormwater GFC. Increasing the GFC (up to the amount shown in **Exhibit 2**) will generate additional cash funding for capital projects, potentially enabling the City to complete additional projects that it has had to defer for financial reasons.
- System reinvestment (depreciation) funding is assumed to increase from the budgeted level of \$687,690 to \$1.7 million by 2022. This increase is necessary to generate adequate cash funding for the planned capital projects – without it, the City may have to defer projects or issue additional debt.

## EVALUATION OF REVENUE REQUIREMENTS

The revenue requirement analysis determines the annual revenue required to fund the projected operating expenses, capital costs, and policy-based requirements (e.g. reserve funding, system reinvestment funding). Because the stormwater utility’s outstanding debt does not have coverage requirements, this evaluation defines “revenue sufficiency” based on cash flow needs.

Rate revenue and other operating revenues must be sufficient to meet the utility’s projected cash needs including O&M, debt service, system reinvestment funding, and any reserve funding needed to meet the minimum balance target for the Operating Fund. The utility may have negative net cash flow when an explicit decision is made to use reserves to phase or “smooth” rate increases – in this analysis, the minimum balance requirement for the Operating Fund limits how far the Operating Fund balance can be drawn down for this purpose.

**Exhibit 4** summarizes the annual revenue requirement forecast through 2022.

**Exhibit 4: Revenue Requirement Forecast (\$000s)**

	2017	2018	2019	2020	2021	2022
<b>Revenues</b>						
Rate Revenue @ Existing Rates	\$5,029	\$5,041	\$5,053	\$5,064	\$5,076	\$5,087
Other Revenues	13	11	10	8	8	8
<b>Total</b>	<b>\$5,042</b>	<b>\$5,052</b>	<b>\$5,063</b>	<b>\$5,072</b>	<b>\$5,084</b>	<b>\$5,095</b>
<b>Expenses</b>						
Operating Expenses	\$4,504	\$4,662	\$4,854	\$5,062	\$5,283	\$5,442
Debt Service	123	123	208	431	426	422
System Reinvestment	688	909	1,200	1,400	1,600	1,700
<b>Total</b>	<b>\$5,315</b>	<b>\$5,694</b>	<b>\$6,262</b>	<b>\$6,893</b>	<b>\$7,309</b>	<b>\$7,564</b>
<b>Net Cash Flow @ Existing Rates</b>	<b>(\$273)</b>	<b>(\$642)</b>	<b>(\$1,199)</b>	<b>(\$1,821)</b>	<b>(\$2,225)</b>	<b>(\$2,469)</b>
<b>Annual Rate Adjustment</b>		<b>13.0%</b>	<b>13.0%</b>	<b>10.0%</b>	<b>7.0%</b>	<b>3.0%</b>
<b>Summary After Rate Adjustments:</b>						
Rate Revenue	\$5,029	\$5,696	\$6,452	\$7,113	\$7,628	\$7,875
Net Cash Flow	(\$273)	(\$62)	\$39	(\$7)	\$34	(\$1)
Ending Operating Fund Balance <sup>1</sup>	\$1,109	\$971	\$554	\$548	\$581	\$580
<i>Minimum Operating Fund Balance</i>	<i>\$450</i>	<i>\$466</i>	<i>\$485</i>	<i>\$506</i>	<i>\$528</i>	<i>\$544</i>

<sup>1</sup>Ending balance reflects transfers in 2018 and 2019 totaling \$531,000 to the Capital Fund to pay for projects.

**Exhibit 4** shows that rate increases will be needed primarily due to the capital program, which impacts rates through additional cash funding requirements as well as debt service on the new loan issued to pay for the Cooper Point and Black Lake Conveyance Project.

## STORMWATER RATE DESIGN

The City of Olympia’s stormwater rates vary by customer class. Residential customers pay a fixed rate that is discounted for plats (approved after 1990) that have signed a maintenance agreement. Other customers pay a fixed administrative fee per account and a charge per billing unit (2,528 square feet of measured impervious area) that has three tiers based on development date (pre-1980, 1980 – 1990, and after January 1990). As an alternative to the existing structure, the City requested development of a commercial stormwater rate structure which considers relative levels of onsite mitigation instead of development date.

**Exhibit 5** shows the current stormwater rates and the forecast rates over the study period.

**Exhibit 5: Stormwater Rate Forecast**

Bimonthly Stormwater Rates	2017	2018	2019	2020	2021	2022
Residential						
With Maintenance Agreement	\$23.92	\$27.03	\$30.54	\$33.60	\$35.95	\$37.03
Without Maintenance Agreement	\$26.74	\$30.22	\$34.14	\$37.56	\$40.19	\$41.39
Commercial						
Administrative Fee	\$26.16	\$29.56	\$33.40	\$36.74	\$39.32	\$40.50
Charge Per Unit (Baseline)						
Category 1 (Dev. After Jan 1990)	\$9.84	\$11.12	\$12.56	\$13.82	\$14.79	\$15.23
Category 2 (Dev. 1980 – 1990)	\$20.56	\$23.23	\$26.25	\$28.88	\$30.90	\$31.83
Category 3 (Dev. Before 1980)	\$25.94	\$29.31	\$33.12	\$36.44	\$38.99	\$40.16
Charge Per Unit (Alternate)						
Category 1 (Full Mitigation)		\$12.21	\$13.80	\$15.18	\$16.24	\$16.73
Category 2 (Partial Mitigation)		\$19.53	\$22.07	\$24.28	\$25.98	\$26.76
Category 3 (No Mitigation)		\$24.41	\$27.58	\$30.34	\$32.46	\$33.43

Relative to the “Category 3” rate, the existing commercial rate structure reflects stormwater rate credits of 62% for parcels developed after 1990, and 21% for parcels developed during the 1980s. A detailed review of the stormwater utility’s expenses found that about two-thirds of the stormwater utility’s annual costs are fixed and do not vary with onsite mitigation. Recognizing that onsite mitigation only impacts about one-third of the utility’s costs, the alternate structure reflects a modified structure of credits. Parcels with full onsite mitigation are eligible for a 50% rate credit; those with partial mitigation receive a 20% rate credit. It is worth noting that the City does not have to offer credits at all, but can choose to do so as a policy decision to encourage environmentally sustainable development. The allocation of stormwater utility costs can inform, but does not necessarily have to define the credits offered.

For additional context, **Exhibit 6** provides a comparative survey of rates in other jurisdictions.

**Exhibit 6: Bimonthly Stormwater Bill Comparison (Excluding Utility Taxes)**

Residential Stormwater Bill	
City of Sammamish	\$37.50
City of Kirkland	\$34.42
City of Redmond	\$33.12
City of Des Moines	\$32.44
City of Issaquah	\$30.74
City of Edmonds	\$28.40
<i>City of Olympia (2018 Proposed)</i>	<i>\$27.20</i>
City of Bonney Lake	\$24.64
<i>City of Olympia (2017)</i>	<i>\$24.07</i>
City of Puyallup	\$21.92
City of Lacey	\$20.22
City of Tumwater	\$19.66
City of Richland	\$7.05

**Exhibit 6** suggests that the City’s residential stormwater rates are comparable to those of other utilities in the survey group, and are expected to remain that way even with the projected rate increase.

## AFFORDABILITY

The Department of Health and the Public Works Board use an affordability index to prioritize low-cost loan awards depending on whether rates exceed 2.0% of the median household income for the service area. The median household income for the City of Olympia was \$53,617 in 2015 dollars, per the American Community Survey conducted by the U.S. Census Bureau. Based on the residential rates shown in **Exhibit 5**, the residential bill is approximately 0.6 – 0.7% of median household income and is expected to remain below 1.0% for the study period. This suggests an affordable stormwater rate structure, at least in terms of common evaluation criteria.

## CONCLUSION

The City of Olympia’s stormwater utility is in solid financial condition and, through this document, has a financial plan which enables it to meet projected capital and operational requirements outlined in this plan while maintaining reasonably affordable rates. The financial plan includes the following key elements:

- Policies which provide for a stable and predictable level of ongoing capital funding from rates.
- A capital funding strategy which relies on cash resources including reserves, GFC revenues and policy-based rate funding, with debt being considered to augment these sources as needed. In the event that additional debt issuance is required, the City should investigate and pursue low-cost loans and related assistance programs to the degree possible.

- An updated GFC calculation that supports an increase in the City's stormwater GFC to \$19.04 per vehicle trip and \$2,382 per impervious unit to reflect the current pro rata share of system costs. The revenue requirement analysis assumes that the City retains its existing stormwater GFC of \$4.50 per trip and \$1,190 per impervious unit as a conservative assumption, but increasing the GFC would provide additional funding for capital investment.
- A series of moderate rate increases (averaging approximately \$3.00 per year in the bimonthly residential bill) to accommodate projected operating and capital needs (shown in **Exhibit 4**). Note that these projected increases are based on a series of assumptions discussed in this memorandum – though the recommended financial structure is robust enough to accommodate a variety of unforeseen circumstances, the City should regularly review the fiscal health of the stormwater utility.