City of Oregon City

WATER SYSTEM DEVELOPMENT CHARGE METHODOLOGY REPORT

DRAFT REPORT
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Section I. INTRODUCTION

This section describes the policy context and project scope upon which this report is based.

I.A. THE ENGAGEMENT

In February 2019, the City of Oregon City (City) updated the capital improvement plan for its water utility. Two months later, the City contracted with FCS GROUP to develop an SDC methodology. We conducted the study using the following general approach:

- **Policy Framework for Charges**. In this step, we worked with City staff to identify and agree on the approach to be used and the components to be included in the analysis.
- **Technical Analysis**. In this step, we worked with City staff to isolate the recoverable portion of facility costs and calculate the SDC.
- **Methodology Report Preparation**. In this step, we documented the calculations and recommendations in this report.

I.B. SYSTEM DEVELOPMENT CHARGE BACKGROUND

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish system development charges (SDCs), one-time fees on new development paid at the time of development. SDCs are intended to recover a fair share of the cost of existing and planned facilities that provide capacity to serve future growth.

ORS 223.299 defines two types of SDCs:

- A reimbursement fee designed to recover "costs associated with capital improvements already constructed, or under construction when the fee is established, for which the local government determines that capacity exists"
- An improvement fee designed to recover "costs associated with capital improvements to be constructed"

ORS 223.304(1) states, in part, that a reimbursement fee must be based on "the value of unused capacity available to future system users or the cost of existing facilities" and must account for prior contributions by existing users and any gifted or grant-funded facilities. The calculation must "promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities." A reimbursement fee may be spent on any capital improvement related to the system for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

ORS 223.304(2) states, in part, that an improvement fee must be calculated to include only the cost of projected capital improvements needed to increase system capacity for future users. In other words, the cost of planned projects that correct existing deficiencies or do not otherwise increase capacity for future users may not be included in the improvement fee calculation. An improvement fee may be spent only on capital improvements (or portions thereof) that increase the capacity of the

system for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

Section II. SDC CALCULATION

This section provides our detailed calculations of the maximum defensible water SDC.

II.A. CALCULATION OVERVIEW

In general, SDCs are calculated by adding a reimbursement fee component and an improvement fee component—both with potential adjustments. Each component is calculated by dividing the eligible cost by growth in units of demand. The unit of demand becomes the basis of the charge. **Table 1** shows this calculation in equation format:

Table 1. SDC Equation

Eligible costs of available capacity in existing facilities		**Eligible costs of capacity-increasing capital improvements**		**SDC per unit of growth in demand**
Units of growth in demand	**+**	**Units of growth in demand**	**=**	

II.A.1. Reimbursement Fee

The reimbursement fee is the cost of available capacity per unit of growth that such available capacity will serve. In order for a reimbursement fee to be calculated, unused capacity must be available to serve future growth. For facility types that do not have available capacity, no reimbursement fee may be calculated.

II.A.2. Improvement Fee

The improvement fee is the cost of planned capacity-increasing capital projects per unit of growth that those projects will serve. In reality, the capacity added by many projects serves a dual purpose of both meeting existing demand and serving future growth. To compute a compliant improvement fee, growth-related costs must be isolated, and costs related to meeting current demand must be excluded.

We have used the capacity approach to allocate costs to the improvement fee basis.[1] Under this approach, the cost of a given project is allocated to growth by the portion of total project capacity that represents capacity for future users. That portion, referred to as the improvement fee eligibility percentage, is multiplied by the total project cost for inclusion in the improvement fee cost basis.

[1] Two alternatives to the capacity approach are the incremental approach and the causation approach. The incremental approach requires the computation of hypothetical project costs to serve existing users. Only the incremental cost of the actual project is included in the improvement fee cost basis. The causation approach, which allocates 100 percent of all growth-related projects to growth, is vulnerable to legal challenge.

II.A.3. Fund Balance Adjustments

All accumulated SDC revenue currently available in fund balance is also deducted from its corresponding cost basis. This practice prevents a jurisdiction from double-charging for projects that were in the previous methodology's improvement fee cost basis but have not yet been constructed.

II.B. GROWTH

The growth calculation is the basis by which an SDC is charged. Growth for each system is measured in units that most directly reflect the source of demand. For water SDCs, the most applicable and administratively feasible unit of growth is the meter capacity equivalent (MCE). For the City, one MCE equals the flow capacity of a 5/8" x 3/4" water meter.

II.B.1. Current Demand

According to the City's records, the water utility has 11,142 customer accounts with a combined flow capacity of 15,557 MCEs as of April 2019, as shown in **Table 2**:

Table 2. Customer Data

	Total	Flow Factor	Meter Capacity Equivalents
Single Family (assumed to be 5/8" x 3/4" meters)	10,196	1.00	10,196
1"	239	2.50	598
1 1/4" - 1 1/2"	88	5.00	440
2"	120	8.00	960
3"	18	16.00	288
4"	3	25.00	75
6"	3	50.00	150
8"	3	80.00	240
10"	1	115.00	115
Unknown (Based on Dwelling Units for MF, 1.0 per account for all others)	471	N/A	2,495
Total	11,142		15,557

II.B.2. Future Demand

The City's Water Distribution System Capital Improvement Plan Update (Capital Plan) includes a demand growth forecast for the utility through 2040. Assuming that water demand increases in proportion to population growth, the City will serve 21,320 MCEs in 2040. The growth from 15,557 MCEs in 2019 to 21,320 MCEs in 2040 (i.e., 5,763 MCEs) is the denominator in the SDC equation (**Table 3**).

Table 3. Customer Growth

Growth Unit	2019	2040	Growth (2019-2040)	Growth Share
Meter Capacity Equivalents	15,557	21,320	5,763	27.03%

II.C. REIMBURSEMENT FEE COST BASIS

The reimbursement fee is the eligible cost of available capacity per unit of growth that such available capacity will serve. Calculation of the reimbursement fee begins with the historical cost of assets or recently completed projects that have unused capacity to serve future users. For each asset or project, the eligible cost is the cost portion of the asset or project that is available to serve future users.

To avoid charging future development for facilities provided at no cost to the City or its ratepayers, the reimbursement fee cost basis must be reduced by any grants or contributions used to fund the assets or projects included in the cost basis. Furthermore, unless a reimbursement fee will be specifically used to pay debt service, the reimbursement fee cost basis should be reduced by any outstanding debt related to the assets or projects included in the cost basis to avoid double charging for assets paid for by debt service in the rates.

The City's records list $42,929,158 in water fixed assets net of grants and contributions. These assets were then allocated to eight categories based on the function of the asset – meters & services, supply, treatment, storage, pumping, transmission & distribution, fire, and general plant. Of these eight categories, only storage was determined to have available capacity for future users of the system. Section II.C.1 details how the capacity share for storage was determined. General plant was then allocated a capacity share based on the overall capacity share of all other assets.

II.C.1. Storage

The capacity share for the storage function is 39.03 percent. The detailed calculation of storage capacity is shown in **Table 4**:

Table 4. Storage Capacity Share

Storage Capacity	2019
Total Storage	18.25 MGD
Less Required Storage	(11.13 MGD)
Storage Excess (Need)	7.12 MGD
Available Capacity	39.03%

II.C.2. Reimbursement Fee Cost Calculation

The reimbursement fee cost basis is calculated by multiplying the capacity share of each asset category by the net asset value (original cost less contributions) of that category. General plant is allocated as the total capacity share of all other assets. The detailed calculation is shown in **Table 5**:

Table 5. Reimbursement Fee Cost Basis

Asset Category	Original Cost	Less: Contributions	Net Asset Value	Available Capacity	Eligible Cost
Meters & Services	$ 45,050	$ -	$ 45,050	0.00%	$ -
Supply	-	-	-	0.00%	-
Treatment	8,610	-	8,610	0.00%	-
Storage	10,391,124	-	10,391,124	39.03%	4,055,523
Pumping	132,355	-	132,355	0.00%	-
Distribution	19,572,298	(1,953,681)	17,618,617	0.00%	-
Fire	1,823	-	1,823	0.00%	-
General Plant	14,731,579	-	14,731,579	13.45%	1,981,484
Total	**$ 44,882,839**	**$ (1,953,681)**	**$ 42,929,158**	**13.45%**	**$ 6,037,007**

The reimbursement fee cost basis must be reduced by any reimbursement fee revenue currently held by the City. The City currently has a balance of $1,024,107 in water reimbursement fees. Reducing the gross reimbursement fee cost basis of $6,037,007 by this amount results in a net reimbursement fee cost basis of $5,012,900.

II.D. IMPROVEMENT FEE COST BASIS

An improvement fee is the eligible cost of planned projects per unit of growth that such projects will serve. The improvement fee cost basis is based on a specific list of planned capacity-increasing capital improvements. The portion of each project that can be included in the improvement fee cost basis is determined by the extent to which each new project creates capacity for future users. **Table 6** shows how a total project cost of $82,861,645 reduces to an eligible cost of $51,992,926.

Table 6. Improvement Fee Cost Basis

Description	2019 Project Cost*	SDC Eligible	SDC Eligible Portion of Costs	Estimated Timing
Budget CIP - Water Fund				
Budget CIP - Water Fund	$ 9,003,585	0.00%	$ -	2019-2021
Budget CIP - Water SDC Fund	3,389,060	100.00%	3,389,060	2019-2021
Facility Projects:				
New transmission along Leland Rd	370,000	100.00%	370,000	2-5 years
New distribution along McCord Rd	681,500	100.00%	681,500	2-5 years
Move the Master Meter, MM08, to the UGB and update CRW connection	200,000	0.00%	-	2-5 years
New distribution within development - backbone only	5,394,500	100.00%	5,394,500	15-20 years
Move the Master Meter, MM09, to the UGB and update CRW connection	200,000	0.00%	-	15-20 years
New distribution loop North of Beavercreek and South of Hilltop	624,500	100.00%	624,500	2-5 years
Finish looping along Maplelane Road to increase transmission to existing area	454,500	26.89%	122,218	5-10 years
Upsize existing I-205 crossing to improve fire flow and distribution looping	199,500	26.89%	53,647	0-5 years
Upsize existing piping on Abernethy Road for fire flow supply to Lower Zone	738,000	100.00%	738,000	5-10 years
Joint OC/CRW transmission from SFWB along Redland Rd for replacement of aging pipe and new transmission to P	3,538,000	100.00%	3,538,000	2-5 years
Transmission at the Park Place Intermediate Level (above 310')	370,000	100.00%	370,000	2-5 years
Transmission from the 16" Barlow Crest Transmission to PP Int Concept (above 310') - redundant transmission an	738,000	100.00%	738,000	2-5 years
New PRV from 550' to 430' (supply to area between 200' and 310'). Note: Livesay Pump Station shall be removed	200,000	100.00%	200,000	4-6 years
New 430' distribution piping (supply to area between 200' and 310')	483,500	100.00%	483,500	4-6 years
New PRV from 430' to 320' (alternate emergency supply and fire flow to PP Concept Area)	200,000	100.00%	200,000	5-10 years
New 320' distribution piping (supply to area below 200')	1,760,500	100.00%	1,760,500	5-10 years
Replace existing 320' distribution piping (supply to area below 200')	597,000	100.00%	597,000	5-10 years
New 350' Reservoir (supply to area above 110')	2,000,000	100.00%	2,000,000	15-20 years
New Pump Station from 320' to 350' (supply to area above 110')	1,194,000	100.00%	1,194,000	15-20 years
New PRV from 350' to 320' (emergency fire flow to PP Concept Area for new reservoir	200,000	100.00%	200,000	15-20 years
New 350' transmission and distribution (supply above 350' and transmission to new Holly Lane PS)	2,839,000	100.00%	2,839,000	15-20 years
Parallel transmission line between Mountainview Reservoirs and Beavercreek Rd - Increase transmission to Henri	2,153,500	100.00%	2,153,500	5-10 years
Parallel transmission line between Beavercreek Rd and Glen Oak Rd along Streetscape improvements - Increase	2,963,000	100.00%	2,963,000	0-5 years
New crossing north of Glen Oak Rd from Molalla to OC Public Schools property - distribution for development, incre	738,000	100.00%	738,000	0-5 years
OC HS crossing to Beavercreek Rd - Increase looping and transmission to Henrici	852,000	100.00%	852,000	5-10 years
New parallel transmission between Fairway Downs and Henrici Reservoir	2,051,500	100.00%	2,051,500	0-5 years
New Upper Zone distribution - supply new development below 480', improve transmission	3,379,500	100.00%	3,379,500	5-10 years
New Fairway Downs distribution - supply new development below 480'	3,890,500	100.00%	3,890,500	5-10 years
New PRV between Fairway Downs and Upper Zone - emergency fire flow	200,000	100.00%	200,000	5-10 years
New Fairway Downs Reservoir - supply new development	2,500,000	80.00%	2,000,000	0-5 years
New Fairway Downs Pump Station - supply new development	1,194,000	80.00%	955,200	0-5 years
New Fairway Downs Transmission - supply new development	1,654,000	80.00%	1,323,200	0-5 years
Transfer existing Henrici transmission to Fairway Downs transmission - supply new development	200,000	80.00%	160,000	0-5 years
S. Center St from S. 2nd to 1st St	134,000	0.00%	-	0-5 years
Barker Ave from South End Rd to Barker Rd	154,500	0.00%	-	0-5 years
Warner-Parrott Rd from King Rd to Boynton St	313,000	0.00%	-	0-5 years
Belle Ct and Glenwood Ct from Holmes Ln to Linn Ave	288,500	0.00%	-	0-5 years
Valley View Dr from Park Dr to McCarver Ave	192,000	0.00%	-	0-5 years
Canemah Ct from Canemah Rd to Telford Rd	326,000	0.00%	-	0-5 years
Randall St from Canemah Rd to Hartke Lp	134,000	0.00%	-	0-5 years
Hartke Lp and Alderwood Pl	712,000	0.00%	-	0-5 years
Harrison St from 7th St to Division St	115,000	0.00%	-	0-5 years
Division St from Harrison St to 13th/14th St	827,000	0.00%	-	0-5 years
Division St from Anchor Way PRV Station to Davis Rd	250,500	0.00%	-	0-5 years
Repair and Replacement Program	2,996,500	26.89%	805,777	5-10 years
Repair and Replacement Program	8,033,500	26.89%	2,160,257	10-20 years
11th St & Washington St, 15th St & Madison St, 3rd St & Bluff, Apperson Blvd & La Rae Rd, Jennifer Estates, Swan	100,000	26.89%	26,891	0-5 years
16th St & Division St, 18th St & Anchor Way, 4th Ave & Jerome St, 5th Ave & Canemah, Abernethy Rd & Redland	1,300,000	26.89%	349,578	0-5 years
3rd Ave & Ganong St	10,000	26.89%	2,689	5-10 years
11th St & Washington St, Apperson Blvd & La Rae Rd, Jennifer Estates, Swan Ave & Holcomb Blvd, Hunter Ave P	1,000,000	26.89%	268,906	5-10 years
Barlow Crest Reservoir- Exterior Overcoat	291,954	62.86%	183,514	0-5 years
Barlow Crest Reservoir-Safety Upgrades	100,000	62.86%	62,857	0-5 years
Barlow Crest Reservoir-Seismic Analysis/Seismic Upgrades3	975,000	62.86%	612,857	0-5 years
Barlow Crest Reservoir-Steel Interior Removal and Recoat	319,046	62.86%	200,543	0-5 years
Barlow Crest Reservoir-Steel Exterior Removal and Recoat	1,059,000	62.86%	665,657	10-20 years
Boynton Reservoir-Seismic Analysis/Seismic Upgrades (may require new reservoir)	775,000	0.00%	-	0-5 years
Boynton Reservoir-Steel Exterior Removal and Recoat	1,059,000	0.00%	-	10-20 years
Henrici Reservoir- Exterior Overcoat	291,954	0.00%	-	0-5 years
Henrici Reservoir-Safety Upgrades	100,000	0.00%	-	0-5 years
Henrici Reservoir-Seismic Analysis/Seismic Upgrades3	975,000	0.00%	-	0-5 years
Henrici Reservoir-Steel Interior Removal and Recoat	319,046	0.00%	-	0-5 years
Henrici Reservoir-Steel Exterior Removal and Recoat	1,059,000	0.00%	-	10-20 years
Mountainview 2 Reservoir-Safety Upgrades	100,000	53.00%	53,001	0-5 years
Mountainview 1 Reservoir-Concrete Major Repairs	200,000	53.00%	106,002	10-20 years
Mountainview 2 Reservoir-Concrete Major Repairs	200,000	53.00%	106,002	10-20 years
Hunter Ave PS - PLC, Pumps, drives, SCADA/ electrical, transfer	375,000	26.89%	100,840	0-5 years
Mountainview PS - Drives	95,000	26.89%	25,546	0-5 years
Mountainview PS - Pumps, SCADA/electrical	380,000	26.89%	102,184	5-10 years
Decommission	50,000	0.00%	-	5-10 years
Decommission	50,000	0.00%	-	0-5 years
Decommission	50,000	0.00%	-	5-10 years
Total	***$ 82,861,645***		***$ 51,992,926***	

The improvement fee cost basis must be reduced by any improvement fee revenue currently held by the City. The City currently has a balance of $2,984,258 in water improvement fees. Reducing the gross improvement fee cost basis of $51,992,926 by this amount results in a net improvement fee cost basis of $49,008,668.

II.E. CALCULATED SDC

Dividing the sum of the net cost bases by the projected growth results in the calculated SDC per MCE, as shown in **Table 7**:

Table 7. Water SDC per MCE

SDC	SDC-Eligible		
Reimbursement Fee			
Cost of Unused Capacity	$	6,037,007	
Less: Reimbursement Fee Fund Balance		(1,024,107)	
Reimbursement Fee Cost Basis	$	5,012,900	
Growth to End of Planning Period		5,763	MCEs
Reimbursement Fee	$	870	per MCE
Improvement Fee			
Cost of Capacity Increasing Improvements	$	51,992,926	
Less: Improvement Fee Fund Balance		(2,984,258)	
Improvement Fee Cost Basis	$	49,008,668	
Growth to End of Planning Period		5,763	MCEs
Improvement Fee	$	8,505	per MCE
Total System Development Charge			
Reimbursement Fee	$	870	per MCE
Improvement Fee	$	8,505	per MCE
Total SDC per MCE	**$**	**9,374**	**per MCE**

II.F. SCHEDULE OF SDCS

In order to impose water SDCs on an individual property, the number of MCEs is determined by the size of the property's water meter. The MCE calculation used is based on AWWA flow factors as shown in **Table 8** where one MCE is a 5/8" x 3/4" meter.

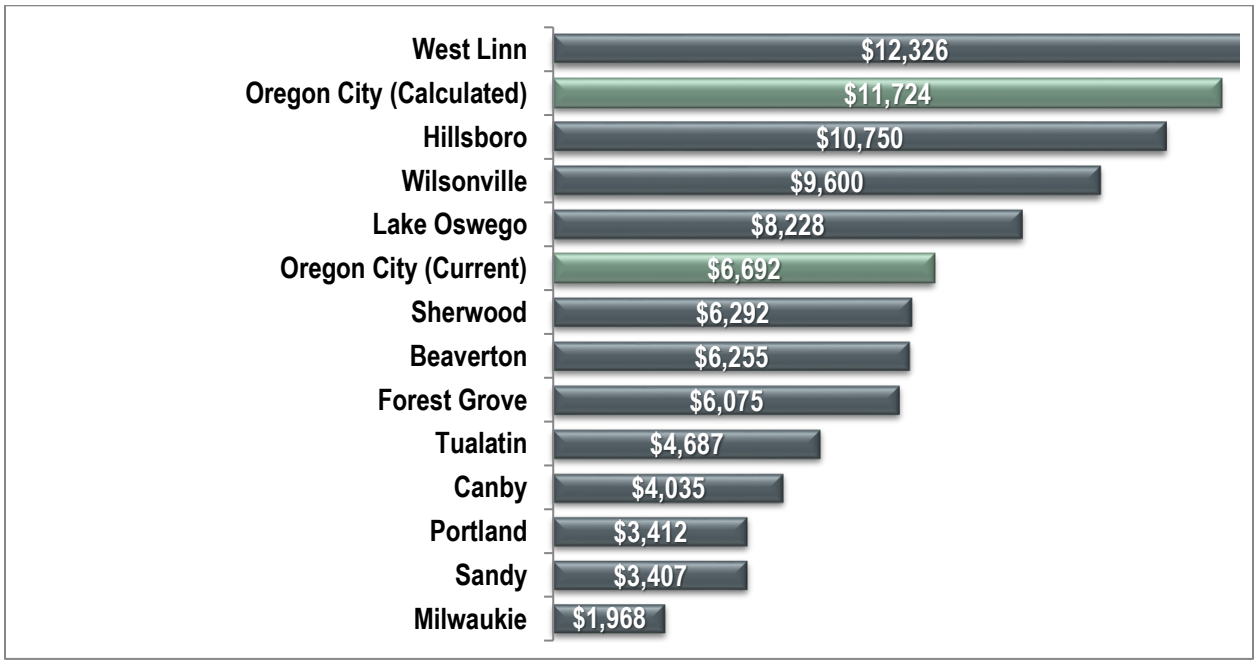
Table 8. Water SDC Schedule

Meter Size	Flow Factor	SDC Fee
5/8" x 3/4"	1.0	$ 9,374
3/4"	1.5	$ 14,062
1"	2.5	$ 23,436
1 1/2"	5.0	$ 46,872
2"	8.0	$ 74,995
3"	16.0	$ 149,990
4"	25.0	$ 234,360
6"	50.0	$ 468,720
8"	80.0	$ 749,952
10"	115.0	$ 1,078,056

II.G. COMPARISONS

Table 9 shows how Oregon City's current and calculated 5/8" x 3/4" water SDCs, including the South Fork Water Board SDC of $2,350, compare with SDCs adopted by other water utilities.

Table 9. Regional Comparison



Section III. SDC IMPLEMENTATION

III.A. FUNDING PLAN

The SDCs calculated in this report represent our opinion of the maximum water SDCs that the City can legally charge. However, even if the City imposes the full, calculated charge, the SDC will generate only 65 percent of the funds needed to complete the full project list, as shown in **Table 10**.

Table 10. Funding Plan

Capital Funding Plan	$	%
Requirements		
Capital Improvement Plan	$ 82,861,645	100%
Resources		
Existing SDC Fund Balance	$ 4,008,365	5%
System Development Charges	54,021,568	65%
Other City Resources	24,831,712	30%
Total Resources	**$ 82,861,645**	**100%**

The City is under no legal obligation to impose the full, calculated SDC. However, the City should be aware that any discounting or phase-in period that reduces SDC revenue will, other things equal, increase the funding requirement from other resources.

III.B. CREDITS

A credit is a reduction in the amount of the SDC for a specific development. ORS 223.304 requires that SDC credits be issued for the construction of a qualified public improvement which is: required as a condition of development approval; identified in the City's adopted SDC project list; and either "not located on or contiguous to property that is the subject of development approval," or located "on or contiguous to such property and is required to be built larger or with greater capacity than is necessary for the particular development project . . ."

Additionally, a credit must be granted "only for the cost of that portion of an improvement which exceeds the minimum standard facility size or capacity needed to serve" the particular project up to the amount of the improvement fee. For multi-phase projects, any "excess credit may be applied against SDCs that accrue in subsequent phases of the original development project."

III.C. INDEXING

Oregon law (ORS 223.304) also allows for the periodic indexing of SDCs for inflation, as long as the index used is:

> (A) A relevant measurement of the average change in prices or costs over an identified time period for materials, labor, real property or a combination of the three;
> (B) Published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology; and
> (C) Incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order.

We recommend that the City index its charges to the *Engineering News Record* Construction Cost Index for the City of Seattle and adjust its charges annually. There is no comparable Oregon-specific index.