City of Sherwood Oregon

Home of the Tualatin River National Wildlife Refuge

RESOLUTION 2022-064

UPDATING THE CITY OF SHERWOOD WATER SYSTEM DEVELOPMENT CHARGES METHODOLOGY AND AMENDING THE FEE SCHEDULE

WHEREAS, City of Sherwood Ordinance 1991-927 and Resolution 91-498 provides that the City may amend or adopt a new Water System Development Charge (SDC) Methodology Report by resolution; and

WHEREAS, the last Water System Development Charges and Methodology update was completed in 2015; and

WHEREAS, on May 5, 2015, the City of Sherwood adopted an updated Water System Master Plan (Ordinance 2015-004); and

WHEREAS, the Methodology Report includes updated SDC rates which reflect currently identified needs;

NOW, THEREFORE, THE CITY OF SHERWOOD RESOLVES AS FOLLOWS:

Section 1. The City of Sherwood City Council hereby adopts the Water System Development Charges Methodology Report and Amending the Fee Schedule, attached hereto as Exhibit A.

Section 2. This Resolution shall be effective upon its approval and adoption.

Duly passed by the City Council this 2nd day of August 2022.

Keith Mays, Mayor

Attest:

Sylvia Murphy, MMC, City Recorder

Methodology Report

Water System Development Charges

Prepared For

City of Sherwood

April 22, 2022

GALARDI ROTHSTEIN GROUP

SECTION 1

Introduction

Oregon legislation establishes guidelines for the calculation of system development charges (SDCs). Within these guidelines, local governments have latitude in selecting technical approaches and establishing policies related to the development and administration of SDCs. A discussion of this legislation follows, along with the methodology for calculating updated water SDCs for the City of Sherwood ("City").

SDC Legislation in Oregon

In the 1989 Oregon state legislative session, a bill was passed that created a uniform framework for the imposition of SDCs statewide. This legislation (Oregon Revised Statute [ORS] 223.297-223.314), which became effective on July 1, 1991, (with subsequent amendments), authorizes local governments to assess SDCs for the following types of capital improvements:

- Drainage and flood control
- Water supply, treatment, and distribution
- Wastewater collection, transmission, treatment, and disposal
- Transportation
- Parks and recreation

The legislation provides guidelines on the calculation and modification of SDCs, accounting requirements to track SDC revenues, and the adoption of administrative review procedures.

SDC Structure

SDCs can be developed around two concepts: (1) a reimbursement fee, and (2) an improvement fee, or a combination of the two. The **reimbursement fee** is based on the costs of capital improvements *already constructed or under construction*. The legislation requires the reimbursement fee to be established or modified by an ordinance or resolution setting forth the methodology used to calculate the charge. This methodology must consider the cost of existing facilities, prior contributions by existing users, gifts or grants from federal or state government or private persons, the value of unused capacity available for future system users, rate-making principles employed to finance the capital improvements, and other relevant factors. The objective of the methodology must be that future system users contribute no more than an equitable share of the capital costs of *existing* facilities. Reimbursement fee revenues are restricted only to capital expenditures for the specific system with which they are assessed, including debt service.

The methodology for establishing or modifying an **improvement fee** must be specified in an ordinance or resolution that demonstrates consideration of the *projected costs of capital improvements identified in an adopted plan and list*, that are needed to increase capacity in the system to meet the demands of new development. Revenues generated through improvement fees are dedicated to capacity-increasing capital improvements or the repayment of debt on such improvements. An increase in capacity is established if an improvement increases the level of service provided by existing facilities or provides new facilities.

In many systems, growth needs will be met through a combination of existing available capacity and future capacity-enhancing improvements. Therefore, the law provides for a **combined fee** (reimbursement plus improvement component). However, when such a fee is developed, the methodology must demonstrate that the charge is not based on providing the same system capacity.

Credits

The legislation requires that a credit be provided against the improvement fee for the construction of "qualified public improvements." Qualified public improvements are improvements that are required as a condition of development approval, identified in the system's capital improvement program, and either (1) not located on or contiguous to the property being developed, or (2) located in whole or in part, on or contiguous to, property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.

Update and Review

The methodology for establishing or modifying improvement or reimbursement fees shall be available for public inspection. The local government must maintain a list of persons who have made a written request for notification prior to the adoption or amendment of such fees. The legislation includes provisions regarding notification of hearings and filing for reviews. The notification requirements for changes to the fees that represent a modification to the methodology are 90-day written notice prior to first public hearing, with the SDC methodology available for review 60 days prior to public hearing.

Other Provisions

Other provisions of the legislation require:

- Preparation of a capital improvement program (CIP) or comparable plan (prior to the establishment of an SDC), that includes a list of the improvements that the jurisdiction intends to fund with improvement fee revenues and the estimated timing, cost, and eligible portion of each improvement.
- Deposit of SDC revenues into dedicated accounts and annual accounting of revenues and expenditures, including a list of the amount spent on each project funded, in whole or in part, by SDC revenues.
- Creation of an administrative appeals procedure, in accordance with the legislation, whereby a citizen or other interested party may challenge an expenditure of SDC revenues.

The provisions of the legislation are invalidated if they are construed to impair the local government's bond obligations or the ability of the local government to issue new bonds or other financing.

SECTION 2

Water SDC Methodology

Overview

The general methodology used to calculate water SDCs begins with an analysis of system planning and design criteria to determine growth's capacity needs, and how those needs will be met through existing system available capacity and capacity expansion. The value of capacity needed to serve growth is then divided by the projected total growth capacity units to determine system-wide unit costs of capacity. The final step in the SDC methodology is to determine how different developments will be charged, based on estimated capacity requirements.

Determine Capacity Needs

Table 1 shows the planning assumptions for the water system based on the Water System Master Plan (Master Plan) and current demands. The primary relavent design criterion for the water system is Maximum Day Demand (MDD), which is the highest daily recorded rate of water production in a year. As shown in **Table 1**, the current MDD is 4.19 mgd. Through development saturation, the City's water demand is projected to increase by an additional 5.5 mgd to 9.7 mgd total. Future growth is projected to represent about 57 percent of future MDD.

Table 1
City of Sherwood SDC Analysis
Water System Capacity Analysis

Timer Period		ADD	MDD Total	MDD Growth
Current (mgd)[1]		2.02	4.19	
Future Saturation (mgd)[2]		4.3	9.7	5.5
Equivalent Meters[3]	7,604			
Use per EM (gpd)		266	551	

[1] ADD = 2020, MDD = max between 2016-2020
[2] From Water System Master Plan (Table 2-7)
[3] From 2021 Rate Model
ADD = Average Day Demand MDD = Max Day Demand; gpd = gallons per day

Table 1 also shows the estimated water use per equivalent meters (7,604). Equivalent meters represent the number of meters in the system (about 6,050), stated in terms of the relative hydraulic capacity of each meter size to that of the smallest meter (a 5/8-inch meter). Dividing the current MDD of 4.19 by the current equivalent meters yields a MDD per equivalent meter of 551 gallons.

Develop Cost Basis

The capacity needed to serve new development will be met through a combination of existing available capacity and additional capacity added by planned improvements. The reimbursement fee is intended to recover the costs associated with the growth-related (or available) capacity in the existing system; the improvement fee is based on the costs of capacity-increasing future improvements needed to meet the demands of growth. The value of capacity needed to serve growth in aggregate within the planning period is referred to as the "cost basis".

Reimbursement Fee Cost Basis

Table 2 provides the estimated value and growth share of existing system facilities. The growth share is determined as follows:

- ***Wells and Related Facilities:*** The City's existing wells are used soley for emergency supply purposes. Based on system planning criteria, the existing wells do not have excess capacity for growth.
- ***Willamette River Water Treatment Plant (WRWTP):*** The City currently owns 5 mgd of the WRWTP. Current development capacity requirements are 4.19 mgd (from Table 1); therefore, 0.81 mgd (16 percent) is available to serve future growth.
- ***Storage Reservoirs and Pumping:*** The Master Plan found existing storage capacity to be adequate to meet the needs of existing and future development through build-out. Existing storage facility costs are allocated to growth based on equivalent dwelling units, as estimated from the Master Plan. As shown in Table 2, the growth allocation equals 53 percent (zone 380) and 70 percent (zone 455).
- ***Transmission:*** The City constructed transmission pipes to deliver water from the WRWTP to the City's system. A portion of the piping is sized for 40 mgd, while other segments have a 20-26 mgd capacity. The portion of the capacity that will serve demand beyond the projected Urban Growth Boundary (UGB) is excluded from the analysis. The City may be reimbursed for this oversizing capacity cost by future regional water supply partner(s). The included transmission cost[1] is allocated between current development and future growth based on the projected share of future 10 mgd capacity (42 percent existing and 58 percent growth). The cost basis excludes the $9.6 million 24" Tualatin/Sherwood line that is currently not planned for use within the City's system.

The total cost of existing facility capacity allocated to growth is almost $24.4 million, as shown in **Table 2.**

[1] The included cost is equal to the estimated cost of a 36" transmission line; the minimum pipe size required to serve customers within the UGB.

Table 2
City of Sherwood SDC Analysis
Reimbursement Fee Cost Basis

Description	Total Cost[1]	Developer Cost	City Cost	Growth Share %	Growth Share $
Wells					
Well pump house #3	$71,019		$71,019	0.0%	-
Well pump house #4	$83,293		$83,293	0.0%	-
Well pump house #5	$130,395		$130,395	0.0%	-
Well pump house #6	$543,904		$543,904	0.0%	-
Booster pump house	$754,830		$754,830	0.0%	-
Water metering vaults	$153,952		$153,952	0.0%	-
Water filtration system	$121,845		$121,845	0.0%	-
Chemical injection systems	$37,953		$37,953	0.0%	-
Booster pumps	$34,568		$34,568	0.0%	-
Well pumps	$87,647		$87,647	0.0%	-
Group piping, etc.	$538,127		$538,127	0.0%	-
Emergency generators	$230,078		$230,078	0.0%	-
Subtotal	$2,787,611	$0	$2,787,611		$0
Supply					
WRWTP (5 mgd)	$10,289,053	$0	$10,289,053	16.3%	$1,673,000
WRWTP Surge Mitigation	$436,663	$0	$436,663	16.3%	$71,001
Subtotal	$10,725,716	$0	$10,725,716		$1,744,001
Pumping					
Wyndham (455)	$693,653	$0	$693,653	70.4%	$488,499
Subtotal	$693,653	$0	$693,653		$488,499
Storage					
380 Ft zone - Sunset #1 (2mg)	$2,328,317	$0	$2,328,317	52.5%	$1,223,301
455 Ft zone - Kruger	$5,845,154	$0	$5,845,154	70.4%	$4,116,395
380 Zone - Sunset #2 (4mg)	$13,011,799	$0	$13,011,799	52.5%	$6,836,418
Subtotal	$21,185,270	$0	$21,185,270		$12,176,114
Transmission					
Finished Water Pipeline to Wilsonville[2]	$22,882,328	$10,068,224	$12,814,104	58.1%	$7,448,838
Meter vault	$2,234,406	$0	$2,234,406	58.1%	$1,298,860
380 Zone Reservoir Line[2]	$3,835,750	$1,687,730	$2,148,020	52.5%	$1,128,573
Tualatin/Sherwood 24"	$20,596,746	$0	$20,596,746	0.0%	$0
Subtotal	$49,549,230	$11,755,954	$37,793,276		$9,876,271
Distribution					
Sr. Center, June Ct, April Ct	$223,594	$0	$223,594	0.0%	$0
10" Waterline on 99W	$15,687	$0	$15,687	0.0%	$0
Sherwood Bvld water line	$87,254	$0	$87,254	0.0%	$0
SW Sherwood water zone	$131,641	$0	$131,641	0.0%	$0
Oversize Bouchers-SS	$68,321	$0	$68,321	100.0%	$68,321
ORSt east waterline relocate	$1,035,870	$0	$1,035,870	0.0%	$0
Private Development lines	$4,487,780	$4,487,780	$0	0.0%	$0
Subtotal	$6,050,147	$4,487,780	$1,562,367		$68,321
Other					
Water Management & Conservation Plan	$45,268	$0	$45,268	0.0%	$0
SCADA	$75,000	$0	$75,000	30.2%	$22,663
Total	**$90,991,627**	**$16,243,734**	**$74,747,893**		**$24,375,869**

[1]Source: City of Sherwood Fixed Asset Records, adjusted for inflation through December 2021 (ENR 2021 Avg = 12,133)

[2] Excludes costs above minimum pipe size required for retail customers

Improvement Fee Cost Basis

The SDC Project List is shown in **Table 3**. System capacity may be expanded through the upgrade of existing facilities or the construction of new facilities. The bases for future growth portion include:

- ***WRWTP and Future Water Purchases***: The City's current share of WRWTP capacity (5 mgd) is sufficient to meet the needs of existing development; therefore, the costs of future intake capacity purchase and WRWTP expansion (5 mgd and 30 mgd) are allocated entirely to future growth. Performance-related uprgrades at the WRWTP are allocated between existing and future development in proportion to the use of the existing 5 mgd City-owned capacity.
- ***Pumping***: The Water System Master Plan Update recommendeds three additional pump stations to meet future demands. The improvements are needed entirely for future growth.
- ***Storage***: Performance upgrades to existing storage facilities are allocated to growth based on equivalent dwelling units, as estimated from the Master Plan.
- ***Transmission and Distribution***: Upgrades to existing water lines are allocated between existing and future development based on share of future MDD (57 percent growth). Immediate distribution improvements address existing fire flow capacity deficiencies, and are therefore, not included in the SDC cost basis. Improvements in future years are needed to extend the system for future development and are thefore 100 percent SDC eligible.
- ***Planning*** costs have been identified only through 2034; therefore, the growth allocation is pro-rated to the 2034 future demand (6 mgd total; which growth represents about 30 percent).

Table 3 indicates that the total costs of the growth-related capital improvements over the planning period are almost $63 million.

Table 3
City of Sherwood SDC Analysis
SDC Project List

PROJECT	Time Period	Project Cost	SDC Portion %	SDC Portion $
Water Supply				
Well No. 3 (flexible connections)	20-year	$61,000	0.0%	$0
Well No. 5	20-year	$34,000	0.0%	$0
Well No. 6 (flexible connections)	10-year	$61,000	0.0%	$0
WRWTP Intake imp. +5 mgd purchase	2019/24	$1,600,000	100.0%	$1,600,000
WRWTP Seismic& Expansion (5 mgd)	2019/24	$9,570,000	100.0%	$9,570,000
AWIA Risk and Resilencey Plan	2022	$50,000	16.3%	$8,130
WRWTP 30 mgd Expansion	10-15 yrs	$12,750,778	100.0%	$12,750,778
Subtotal		**$24,126,778**		$23,928,908
Pumping				
Sunset (flex connections)	2022	$52,000	52.5%	$27,321
Wyndham Ridge (flex connections)	2023	$45,000	70.4%	$31,691
Ladd Hill (535 PRV)[1]	Saturation	$477,000	100.0%	$827,000
Kruger (630 zone)	Saturation	$2,547,000	100.0%	$2,547,000
Edy Road (455 Booster)[1]	Saturation	$1,505,000	100.0%	$1,855,000
Subtotal		**$4,626,000**		$5,288,012
Storage				
Sunset Reservoir No. 1	2024	$156,000	52.5%	$81,963
Sunset Reservoir No. 2	2024	$116,000	52.5%	$60,947
Kruger Road Reservoir	2024	$156,000	70.4%	$109,862
Subtotal		**$428,000**		$252,771
Transmission[2]				
Hospital & Police Station, PW, TVF&R 33	2021, 2023	$3,072,000	56.8%	$1,745,973
Sunset Reservoirs, TVF&R and Public Works	2022, 2023	$444,000	56.8%	$252,348
Sunset Reservoirs to Well No. 3	2021, 2022	$522,000	56.8%	$296,679
WRWTP to Sunset Reservoirs (Sherwood)	10-year	$1,200,000	56.8%	$682,021
WRWTP to Sunset Reservoirs (co-owned)	10-year	$1,200,000	56.8%	$682,021
TVF&R to Well No. 6 & WWSP connection	5,10-year	$840,000	56.8%	$477,414
To proposed WWSP WTP	10-year	$2,640,000	56.8%	$1,500,445
Distribution[1]				
Kruger Reservoir to YMCA	20-Yr +	$1,776,000	56.8%	$1,009,391
Future High School - Wyndham Ridge PS	20-Yr +	$705,600	56.8%	$401,028
Wyndham Ridge PS	20-years	$403,200	56.8%	$229,159
Well No. 4, near Sherwood High	20-Yr +	$2,138,400	56.8%	$1,215,361
Sherwood High & Well No. 3, N Well No. 5	20-years	$794,400	56.8%	$451,498
Well No. 3	20-Yr +	$345,600	56.8%	$196,422
Well No. 6	20-Yr +	$873,600	56.8%	$496,511
Immediate		$234,000	0.0%	$0
Brookman Loop (M7-9); TEA exp (M29-34)	5-year	$1,349,668	100.0%	$1,349,668
M-3 to 6, 10 to 19B, 35 to 37, 40 to 42	10-year	$6,135,000	100.0%	$6,135,000
M-20 to 28, 43 to 45	20-years	$3,954,000	100.0%	$3,954,000
M-38, 39, 46 to 59	Saturation	$8,619,600	100.0%	$8,619,600
Distribution Replacement Program	2034	$1,200,000	56.8%	$682,021
PRVs	Saturation	$600,000	100.0%	$600,000
Water Management & Conservation Plan	2028	$150,000	16.3%	$24,390
Vulnerability Assessment	2031	$60,000	30.2%	$18,130
Subtotal		**$39,257,068**		$31,019,078
Other				
Public Works Facilty	10-year	$4,350,000	56.8%	$2,472,325
Subtotal Other		**$4,350,000**		**$2,472,325**
Total		**$72,787,846**	86%	**$62,961,094**

[1]Includes land costs ($350,000).
[2]Pipe projects include additional 20% contingency due to materials price increases since cost estimates developed.

SDC Schedule

The unit costs of capacity are determined by dividing the reimbursement and improvement fee cost bases, by the growth-related capacity defined in Table 1. The unit costs are stated in terms of dollars ($) per gallon of water demand. **Table 4** shows these calculations.

Table 4
City of Sherwood SDC Analysis
Water System SDC Unit Costs

	Total	Reimbursement	Improvement
Growth Cost	$87,336,963	$24,375,869	$62,961,094
Growth Requirements (gallons)	5,513,000	5,513,000	5,513,000
Unit Cost ($/gallon)	$15.84	$4.42	$11.42
MDD per Equivalent Meter (gpd)	551	551	551
SDC per Equivalent Meter	$8,723	$2,435	$6,288
Compliance Costs	$112.74		
Total SDC	**$8,836**		

As indicated in **Table 4**, the cost bases are divided by the 5.5 mgd projected future system capacity, and the resulting unit cost ($/gallon) for reimbursement and improvement are $4.42 and $11.42, respectively.

SDC are then calculated by multiplying the unit cost of capacity by the capacity requirements of an equivalent meter (551 gpd). The resulting reimbursement and improvement SDCs are $2,435 and $6,288, respectively.

Compliance Costs

Local governments are entitled to spend SDC revenue on costs associated with complying with the SDC statutes. Compliance costs include costs related to developing the SDC methodology and project list (i.e., a portion of facility planning costs), and annual accounting and administrative costs. **Table 5** shows the calculation of the compliance charge per equivalent meter, which is estimated to be $112.74.

Table 5
City of Sherwood
Estimated Water SDC Compliance Costs

Item	Cost	SDC %	Frequency (Years)	Annual
SDC Study	$7,500	100%	5	$1,500
Master Plan	$150,000	57%	10	$8,525
Staff Accounting	$597	100%	1	$597
Financial Management	$4,103	100%	1	$4,103
Engineering	$3,171	100%	1	$3,171
Accounting	$663	100%	1	$663
Total Compliance Costs				$18,560
Estimated Annual EDUs				165
Cost per EDU				$112.74

SDC Schedule

The total SDC (including compliance charge) for a 5/8" meter is $8,836. SDCs for other meter sizes are based on the estimated capacity requirements of each meter relative to a a 5/8" meter. The SDC schedule is show in **Table 6**.

Table 6
City of Sherwood SDC Analysis
SDC by Meter Size

Meter Size	EDU	SDCi	SDCr	Compliance	Total SDC
5/8"	1.0	$6,288	$2,435	$113	$8,836
3/4"	1.5	$9,433	$3,652	$169	$13,254
1"	2.5	$15,721	$6,087	$282	$22,090
1.5"	5.0	$31,442	$12,173	$564	$44,179
2"	8.0	$50,308	$19,477	$902	$70,687
3"	17.5	$110,048	$42,606	$1,973	$154,627
4"	30.0	$188,654	$73,039	$3,382	$265,075
6"	62.5	$393,029	$152,164	$7,046	$552,240
8"	90.0	$565,962	$219,117	$10,146	$795,225

Inflationary Adjustments

In accordance with Oregon statutes, the SDCs may be adjusted annually based on a standard inflationary index. Specifically, the uses the Engineering News Record (ENR) construction cost index for Seattle as the basis for adjusting the SDCs.