

System Development Charge Update

Methodology Report (DRAFT)

November 2017



Introduction

The rules governing system development charges (SDCs) are prescribed under Oregon Revised Statute Chapter 223 Sections 297 through 314. 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

The basic premise of an SDC is to provide a structured means for collecting the cost of service created by new customers. Service to those new customers is generally provided through a “buy-in” to the existing system and/or the creation of new facilities to serve that growth. The “buy-in” portion is more commonly referred to a **reimbursement fee** and is based on the costs of capital improvements *already constructed or under construction*. The methodology used to establish a reimbursement fee must consider the value of the unused capacity available to provide service to new users, subject to proper credit being given for prior contributions of assets or facilities already being used by existing users, gifts or grants from federal or state government used to in creating the available capacity, and other relevant factors that would affect the fair equity of the established “buy-in” fee. 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. Moreover, by law, reimbursement fee revenues are restricted only to capital expenditures for the specific system with which they are assessed, including debt service.

By contrast, the **improvement fee** portion is associated with the cost of service related to new capital (or facilities) that must be built in order to serve new users. The methodology used in establishing an improvement fee must be based on the cost of *added capacity*. Prior to establishing an SDC, the agency must create an approved or adopted capital improvement plan (CIP) that includes a *list* of projects or improvements that are needed 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. Note, some improvements provide both a renewal of existing capacity and the addition of new capacity. Only that portion of any given project that “adds capacity” shall be assigned to the improvement fee portion of an SDC.

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 law also requires that credit be provided 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. Any such credit shall only apply to the improvement fee portion of the SDC.

Sunrise adopted a formal SDC credit policy in 2016. Copies of that policy are available upon request.

Update and Review

By policy, the agency shall review and update its SDC (at least) every five years, with modification being made as needed. Notwithstanding, the SDC may be changed without formal modification based on a change in the cost of material, labor or real property associated with the approved list of projects within the CIP or a periodic change in an approved or recognized cost index (e.g. the ENR Construction Cost Index).

Other Provisions

Other provisions of the law include:

- Preparation of a capital improvement program (CIP) or comparable plan (prior to the establishment of a 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 law are invalidated if they are construed to impair the agency’s bond obligations or the ability of Sunrise to issue new bonds or other financing.

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 they will be met through existing system available capacity and capacity expansion. Then, the capacity to serve growth is valued to determine the "cost basis" for the SDCs, which is then divided by the total growth capacity units to determine the system wide unit costs of capacity. The final step is to determine the SDC schedule, which identifies how different developments will be charged, based on their estimated capacity requirements.

Determine Capacity Needs

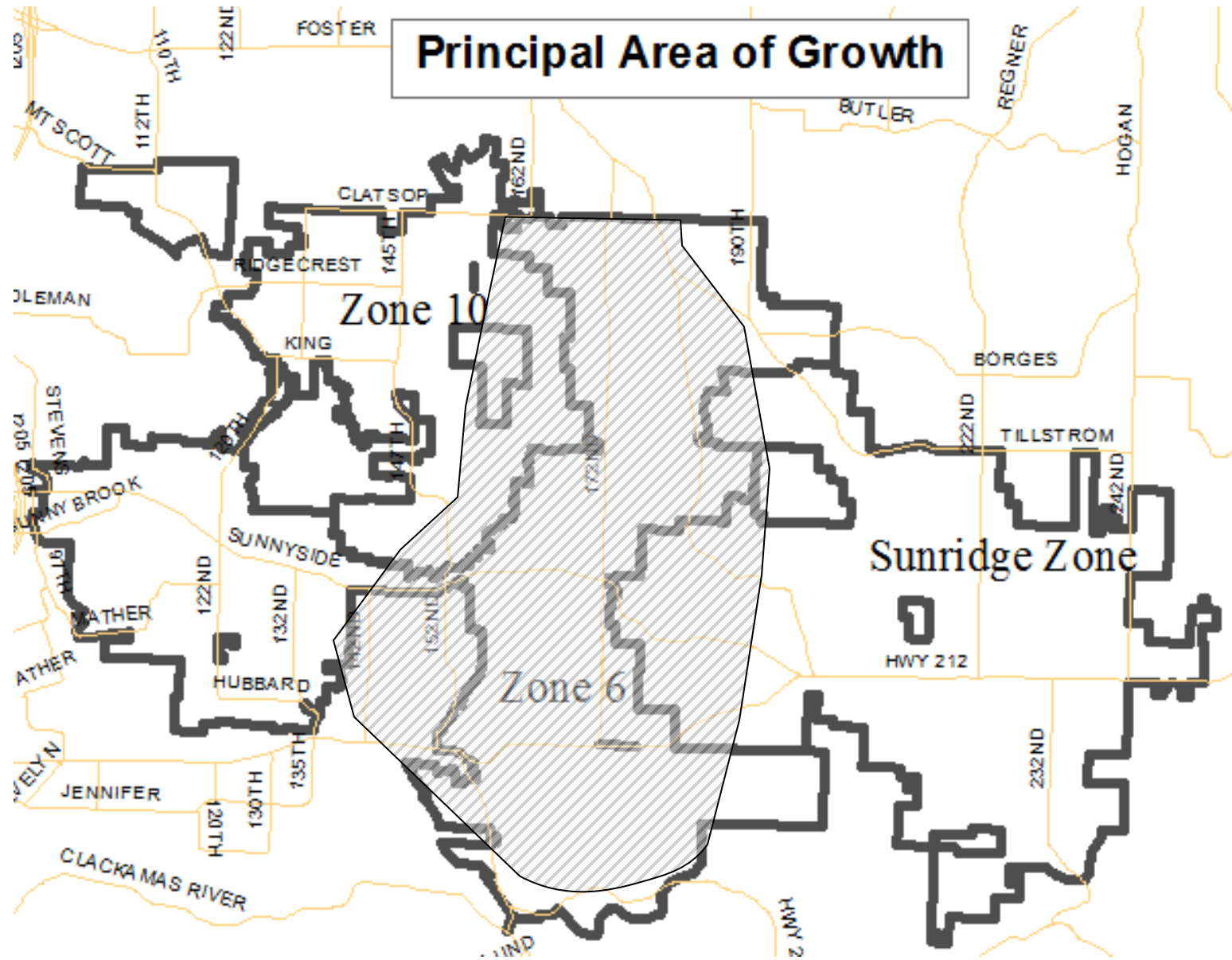
Capacity needs are generally established by the number of customers or connections within the system, as determined by the number of Equivalent Residential Units (ERUs). The use of ERUs is a standard approach approved by the American Water Work Association (AWWA) and allows for "standardization" of use (or capacity) based on related meter size. A standard ERU (or unit) is set by our normal $\frac{3}{4}$ " x $\frac{5}{8}$ " residential meter. The equivalent capacity of any other meter size is then based on the relative capacity of a particular meter in relation to a standard residential unit. **Table 1** shows the approved equivalent capacities for various meter sizes as approved by AWWA.

Table 1

Equivalent Residential Units Based on Meter Size

Meter Size (in.)	ERUs
$\frac{5}{8} \times \frac{3}{4}$	1
$\frac{3}{4}$	1.5
1	2.5
2	8
4	25
6	50
8	80
10	115

Total ERUs is the primary factor in evaluating future capacity needs for source (treatment), storage, pumping and transmission facilities over time. Predicting capacity needs requires forecasting of future water demand based on population projections and land use, along with trends in development application within the community. **Figure 1** shows the principal area of growth over the next 20 years, centered along the SE 172nd Avenue corridor extending south from Highway 212 north to the Clackamas County line (boundary).



The agency is currently experiencing growth at a rate of about 500-600 new ERUs per year. Similar rates of growth are projected forward over the next 20 years, bringing 2,500-3,000 new ERUs every five (5) years or so. With that growth comes specific demands for new infrastructure, especially storage, transmission and pumping. **Table 2** shows a summary of the anticipated growth in ERUs through 2035.

Table 2
Summary of 20-Year Projected Growth (ERUs)

Year	Added ERUs	Total ERUs
Current	-	17,100
2020	1500	18,600
2025	2750	21,400
2030	3000	24,400
2035	2750	27,100

These estimates predict a 58% increase in the total ERUs over the next 20 years. This translates to a normalized annual growth rate of about 2.3% per year.

Projected Growth by Pressure Zone

The projected growth by pressure zone was determined in the preparation of the 20-year capital improvement plan. The projection is based on an approximate current service population of about 17,100 ERUs (equivalent residential units). This number is expected to grow by about 500-600 new ERUs each year. In 20 years, the service population is expected to grow by some 10,000 new ERUs with build-out (peak demand) estimated at a total service population of 32,000 ERUs. The majority of those new customers will come in three primary area: pressure zones 6, 10, and Sunridge, with in-fill by lesser amounts in the remaining areas. A summary of those projections by pressure zone are shown in **Table 3**.

Table 3
Projection of Growth by Pressure Zone

Zone	Present	2020	2025	2030	2035	% Available
1	580	600	630	660	690	16%
Elevated	45	45	50	52	55	18%
3/5	735	755	790	818	860	15%
4	240	260	300	340	370	35%
6*	7450	8300	10,050	11,750	12,950	42%
7	1,210	1,230	1,260	1,280	1,300	7%
8	480	500	540	570	605	21%
9	1,380	1,460	1,580	1,720	1,840	25%
10	2,420	2,695	3,050	3,410	3,810	36%
Sunridge*	2,630	2,850	3,150	3,850	4,610	43%
Totals	17,170	18,695	21,370	24,450	27,090	37%

*Notes: pressure zones 6 and Sunridge will be expanded in the future to replace the planned abandonment of the existing Sunnyside Reservoir. Except for zones 6 and Sunridge, the % available shown for all zones is based on the number of added ERUs as a function of presumed “build-out” at year 2035.

SDC Fee Basis

The capacity needed to serve new customers will be met through a combination of existing facilities (i.e. available system capacity) and planned system improvements (i.e. future capacity). Hence, the SDC will be made up of a combination of improvement and reimbursement fee elements, along with a minor administrative fee.

Improvement Fee

The cost basis for the improvement fee portion includes a series of projects primarily needed to meet the future demands in Zones 6, 10, and Sunridge. A detailed listing of those improvement projects eligible for inclusion in the SDC and planned in the 20-year CIP are shown in **Appendix A**. A summary of those projects include:

Planned Improvements

Storage	\$28,250,000
Aquifer Storage & Recovery	\$2,775,000
Non-Potable System	\$5,500,000
Pumping	\$6,450,000
Transmission	\$24,185,000
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Total Improvement Cost	\$67,160,000
Total Number of New ERUs	10,000
Improvement Fee Cost per ERU	\$6716

Reimbursement Fee

The goal of this component of the SDCs is to “reimburse” existing customers for the “available capacity” in existing assets (paid by prior collected SDCs) that may be used by future customers. This issue arises when future customers come into an area that is already being served by existing assets (with available extra capacity). The basic principle is to “reimburse” those existing customers for the money they may have paid for the construction of assets that will be used by those future customers.

Throughout Sunrise, service is separated by “pressure zones.” These pressure zones are created by a combination of storage (reservoirs), pumping and transmission in order to accommodate customers spread across various hills and valleys. The assets within each pressure zone have been built to serve a “peak capacity” based on planned present and future populations. In some cases, these “pressure zones” are nearly “built-out” while in others there remains available capacity for additional future customers in the existing assets. In areas where the number of future customers will exceed existing capacity, improvements must be made by adding new assets, while in areas where there is available capacity, new customers must “reimburse” the existing base for their use of existing assets.

In order to assign the desired “reimbursement” in each pressure, an evaluation is made of the future “demand” anticipated in each pressure and then allocating that portion of the demand to the relative percentage of capacity for each asset class (i.e. storage, pumping and transmission). Hence, if the number of future customers in a particular pressure zone represents 25% of the

overall capacity, they are assigned that percentage in terms of their “reimbursement” to existing customers. In turn, they are not charged for use of existing assets that may have been built with private (developer) money or assets that may be fully depreciated. Rather, the “fair” reimbursement cost is based on the depreciated replacement cost of the relative portion of the utilized asset. A similar analysis is done across each of the pressure zones, accounting for the proper use of existing assets (based on the future demand outlined in Table 3).

In addition, there are some assets “common” to one or more pressure zones. A good example is the agency’s portion of the North Clackamas County Water Treatment Plant and related assets that are used to serve water throughout the service area. These “common” assets would be “reimbursed” based on the relative portion of all new customers across the shared zones.

A detailed listing of those assets eligible for inclusion in the reimbursement portion of the SDC is shown in **Appendix B**. A summary of those projects include:

Reimbursement Assets (SDC Eligible)	
Storage	\$5,435,000
Pumping	\$3,076,500
Transmission	\$7,456,500
<u>Common Assets</u>	<u>\$5,610,600</u>
Total Reimbursement SDC	\$21,578,600
Total Number of New ERUs	10,000
Improvement Fee Cost per ERU	\$2158

Compliance Fee

The recurring cost of administering the SDCs and related updating are allowed for inclusion in the actual SDC fee. The annual cost is about \$10,000 per year plus the cost of \$25,000 for updating the SDCs every five years. Hence, the overall compliance costs over the 20-year period include:

Compliance Costs (20-year)	
Administrative Costs (\$2,500/yr)	\$50,000
Financial/Engineering (\$7,500/yr)	\$150,000
Accounting (\$2,500/yr)	\$50,000
<u>Updating SDCs (\$40,000 every 5 yrs)</u>	<u>\$160,000</u>
Total Compliance Fee	\$410,000
Total Number of New ERUs	10,000
Improvement Fee Cost per ERU	\$41

Credits for Grants, Loans and SDC Fee Reserves

Sunrise has not received any grants attributable to the SDC calculations. Moreover, the calculations for both the improvement fee and reimbursement fee do not include any prior contributed assets constructed with SDC money. Sunrise did, however, issue a series of revenue bonds in 2003, 2004 and 2005 (and refinanced in 2014) that were used to construct several major capital projects that have remaining capacity today. Those original bonds were obligated to be paid solely by SDC funds as they became available. In the six years from 2008 through 2013, the Board of Commissioners had to authorize a series of “interfund loans” for the purpose of borrowing money from the General Fund to pay a portion of the required annual debt service, in supplement to available SDC reserves. Existing reserves in the Construction (SDC) Fund were used to retire those interfund loans in November 2017.

The remaining balance in the Construction (SDC) Fund is entirely obligated to pay the remaining annual debt service on the 2014 bond issuance, along with all future SDC eligible improvements. In order to avoid any “double counting,” the remaining balance of the 2014 bond issuance was not included in either the improvement or reimbursement portion of the SDC fee calculation; rather, only that portion of the remaining capacity of those projects constructed with the original revenue bonds were included in the reimbursement fee component. Hence, no credit (costs) were assigned for the existing debt service or the outstanding loans.

Updated SDC and Annual Indexing

The combined updated SDC includes:

Improvement Fee	\$6716
Reimbursement Fee	\$2158
<u>Compliance Fee</u>	<u>\$41</u>
Total	\$8,915

The current (2017) SDC charge is \$8,500 (\$7,600 Improvement Fee; \$900 Reimbursement Fee). The proposed change would only increase the SDC charge by 4.9%. These numbers are based on “cash price” and an appropriate “credit card fee” would need to be added to the administrative costs. It is important to note the reimbursement fee portion has a notable increase as a result of significant improvements made back in 2005 that offer available capacity to future users from the treatment plant, reservoir 10 and its pipeline, and pump station 11. There is also significant available transmission capacity in Zone 6 and the recently completed pump station 15.

The SDC fee would be indexed each year by adding the annual percentage change in the Engineering News Record (ENR) Construction Cost Index (CCI) to both the improvement and reimbursement fee components. This is a change from the existing index that applies the ENR CCI to both the improvement and reimbursement fee components and adds one-half (1/2) the 20-year Oregon Bond Index to the improvement fee component. This latter element was added to account for the significant bond debt that was being issued in financing the planned capital improvements. This element no longer applies in the current financing structure for future capital improvements.

Proposed Fee Schedule

The total (proposed) SDC for a 5/8" x 3/4" meter (1 ERU) is \$8,892. For larger meters, the SDC is simply escalated by the equivalent capacity established under industry standards set by the American Water Work Association (AWWA). The current and proposed SDC fee schedule is outlined in **Table 4** below:

Table 4
Sunrise Water Authority
Proposed SDC Fee Schedule

Meter Size	ERU	SDCi	SDCr	Compliance	Total SDC	Current
5/8" x 3/4"	1	\$6,716	\$2,158	\$41	\$8,915	\$8,500
3/4"	1.5	\$10,074	\$3,237	\$61	\$13,372	\$12,750
1"	2.5	\$16,790	\$5,395	\$102	\$22,287	\$21,250
1-1/2"	5	\$33,580	\$10,790	\$205	\$44,575	\$42,500
2"	8	\$53,728	\$17,264	\$328	\$71,320	\$68,000
3"	15	\$100,740	\$32,370	\$615	\$133,725	\$127,500
4"	25	\$167,900	\$53,950	\$1,025	\$222,875	\$212,500
6"	50	\$335,800	\$107,900	\$2,050	\$445,750	\$425,000
8"	80	\$537,280	\$172,640	\$3,280	\$713,200	\$680,000
10"	115	\$772,340	\$248,170	\$4,715	\$1,025,225	\$977,500

*SDCi - Improvement Fee; SDCr - Reimbursement Fee

Appendix A: SDC Eligible Improvement Costs from 20-Year CIP

Table A							
SDC Eligible Improvements from 20-Year CIP							
Improvement Projects							
Storage	Zone	Capacity	Length	Year	Construction	% Eligible	SDC
Reservoir 11	6	3 MG		2017-20	\$7,500,000	100%	\$7,500,000
152nd Reservoir	6/9	2 MG		2017-21	\$5,000,000	100%	\$5,000,000
Reservoir 12 (plus land)	6	4 MG		2025-30	\$12,000,000	100%	\$12,000,000
Sunridge	Sunridge	3 MG		2030-35	\$7,500,000	50%	\$3,750,000
Subtotal							\$28,250,000
Aquifer Storage & Recovery	Zone	Capacity	Length	Year	Construction	% Eligible	SDC
ASR 2	All	1000 gpm		2017-20	\$2,500,000	37%	\$925,000
ASR 3	All	1000 gpm		2020-25	\$2,500,000	37%	\$925,000
ASR 4	All	1000 gpm		2025-30	\$2,500,000	37%	\$925,000
Subtotal							\$2,775,000
Non-Potable (Purple Pipe) System	Zone	Capacity	Length	Year	Construction	% Eligible	SDC
Storage	6	1 MG		2020-25	\$1,500,000	100%	\$1,500,000
Pumping	6	1500 gpm		2020-26	\$1,500,000	100%	\$1,500,000
Transmission	6	12"	10,000	2020-27	\$2,500,000	100%	\$2,500,000
Subtotal							\$5,500,000
Pumping	Zone	Capacity	Length	Year	Construction	% Eligible	SDC
PS 152nd	6	7000 gpm		2020-25	\$3,000,000	100%	\$3,000,000
PS Vogel (w/ Res. 12)	Sunridge	7000 gpm		2025-30	\$3,000,000	100%	\$3,000,000
PS 15 (add power & pump 3)	10	1000 gpm		2025-30	\$450,000	100%	\$450,000
Subtotal							\$6,450,000
Transmission	Zone	Capacity	Length	Year	Construction	% Eligible	SDC
172nd Hemrick to County Line	6	18"	5,000	2017-20	\$1,500,000	100%	\$1,500,000
CRW WTP to 152nd Reservoir	6	30"	17,500	2020-25	\$6,250,000	100%	\$6,250,000
Hwy 212: 152nd to 162nd	6	24"	4,800	2020-25	\$1,680,000	100%	\$1,680,000
Hwy 212: 162nd to 172nd	6	18"	3,000	2020-25	\$900,000	100%	\$900,000
162nd: Hwy 212 to Sunnyside	6	18"	5,800	2020-25	\$1,750,000	100%	\$1,750,000
Sunnyside: 147th to 172nd	6	18"	7,000	2025-30	\$2,000,000	100%	\$2,000,000
172nd: Sunnyside to Vogel	6	18"	900	2025-30	\$275,000	100%	\$275,000
Vogel: 172nd to Reservoir 12	6	24"	4,800	2025-30	\$1,680,000	100%	\$1,680,000
Foster: Vogel PS to Hwy 212	Sunridge	18"	7,500	2030-35	\$2,250,000	100%	\$2,250,000
Hwy 212: Foster to Sunridge	Sunridge	24"	6,100	2030-35	\$2,150,000	100%	\$2,150,000
System Looping	6/9/10	12"	15,000	2017-35	\$3,750,000	100%	\$3,750,000
Subtotal							\$24,185,000
Total							\$67,160,000

Appendix B: SDC Eligible Reimbursement Costs

Table B									
SDC Reimbursement Eligible Assets									
Storage	Capacity (MG)	Zone	Year Built	Age	% Remain	% Reimburse	\$ Replace	Less Deprec.	SDC Reimburse
Reservoir 1	0.7	1	1992	25	67%	16%	\$1,750,000	\$1,166,667	\$186,667
Reservoir 3/5	1.5	3/5	1972	45	40%	15%	\$3,750,000	\$1,500,000	\$225,000
Reservoir 4	1	4	1971	46	39%	35%	\$2,500,000	\$966,667	\$338,333
Reservoir 8	1	8	1990	27	64%	21%	\$2,500,000	\$1,600,000	\$336,000
Reservoir 9	3	9	1995	22	71%	25%	\$7,500,000	\$5,300,000	\$1,325,000
Reservoir 10	4	10	2005	12	84%	36%	\$10,000,000	\$8,400,000	\$3,024,000
								Subtotal	\$5,435,000
Pumping	Capacity (gpm)	Zone	Year Built	Age	% Remain	% Reimburse	\$ Replace	Less Deprec.	SDC Reimburse
P/S #7	1100	1	1988	29	61%	16%	\$1,000,000	\$613,333	\$98,133
Mather Rd.	3030	3/5	1984	33	56%	15%	\$1,500,000	\$840,000	\$126,000
P/S #11	10000	6	2005	12	84%	42%	\$3,000,000	\$2,520,000	\$1,058,400
P/S #10	4000	9	1997	20	73%	25%	\$2,500,000	\$1,833,333	\$458,333
P/S #8	1250	10	1989	28	63%	36%	\$1,000,000	\$626,667	\$225,600
P/S #15	2100	10	2016	1	99%	75%	\$1,500,000	\$1,480,000	\$1,110,000
								Subtotal	\$3,076,467
Transmission	Capacity (dia)	Zone	Length (ft)	Age	% Remain	% Reimburse	\$ Replace	Less Deprec.	SDC Reimburse
Zone 3/5	12	3/5	1650	0	100%	15%	\$412,500	\$412,500	\$61,875
Zone 4	12	4	1400	0	100%	35%	\$350,000	\$350,000	\$122,500
Zone 6	12	6	20,075	26	74%	42%	\$5,018,750	\$3,713,875	\$1,559,828
Zone 6	18	6	38,100	19	81%	42%	\$11,430,000	\$9,258,300	\$3,888,486
Zone 6	24	6	1,200	11	89%	42%	\$420,000	\$373,800	\$156,996
Zone 9	12	9	3,900	37	63%	25%	\$975,000	\$614,250	\$153,563
Zone 9	18	9	500	20	80%	25%	\$150,000	\$120,000	\$30,000
Zone 10	12	10	16,170	21	79%	36%	\$4,042,500	\$3,193,575	\$1,149,687
Zone 10	18	10	3,550	13	87%	36%	\$1,065,000	\$926,550	\$333,558
								Subtotal	\$7,456,492
Common Assets	Capacity	Zone	Length (ft)	Age	% Remain	% Reimburse	\$ Replace	Less Deprec.	SDC Reimburse
NCCWC WTP	9.8 mgd	All		12	88%	20%	\$24,500,000	\$21,560,000	\$4,312,000
Pipeline C (NCCWC)	24 in	All	9500	16	84%	20%	\$3,325,000	\$2,793,000	\$558,600
ASR Well (No. 2)	1 mgd	All		20	80%	37%	\$2,500,000	\$2,000,000	\$740,000
								Subtotal	\$5,610,600
								Total	\$21,578,559

Reimbursement Allocation by Pressure Zone

Except for zones 6 and Sunridge, the projected number of customers (ERUs) by year 2035 represents the approximate “build-out capacity” of existing facilities in each of the remaining zones. Hence, it is presumed future customers should “reimburse” the system for using approximately that same percentage of the overall capacity in each zone. Exceptions might include areas for which assets were constructed by developers or where the existing facilities may be in poor condition or fully depreciated.

The appropriate reimbursement is found by simply applying the % available to the replacement cost (less depreciation) of the associated assets (storage, pumping and transmission) in each zone. A description of those assets for each zone is outlined below.

Zone 1: The main elements of Zone 1 include a 700,000 gallon storage tank built in 1992, served by a small 100 HP pump station built in 1988. The reservoir and pump station are eligible for reimbursement based on the % available. Transmission in the zone, however, was largely built by previous development and is not eligible for SDC reimbursement.

Elevated Tank: This zone is marked by an elevated 100,000 gallon tank supported by a small 10 HP pump station, both built in 2007. The zone will experience limited growth in terms of actual new connections and will not support any significant portion of the anticipated growth. Hence, these assets are presumed not eligible for reimbursement.

Zone 2: This zone is being abandoned in the next year or so and its demand will be served by Zone 7. There are no assets eligible for SDC reimbursement.

Zone 3/5: This zone combines the capacity of reservoirs 3 and 5, totaling 1.5 million gallons that is served by the 325 HP Mather Road pump station built in 1984. Reservoir 3 is 0.5 million gallons and was built in 1958, while Reservoir 5 is 1 million gallons and was built in 1979. The volume averaged age of the combined storage is 45 years. Transmission in the zone was largely built by previous development but is scheduled for immediate replacement (upsizing and seismic restraint). The new transmission includes 1,650 of 12-inch restrained ductile iron main.

Zone 4: This zone is comprised of a 1 million gallon reservoir, served by a small 20 HP pump station that is scheduled to be relocated and replaced this year by new development. Transmission in the zone is currently provided by a 1,400 ft 10-inch cast iron main. This main will be replaced (and upsized to 12-inch) as part of the relocation of the pump station.

Zone 6: Zone 6 is the largest pressure zone. Currently comprised of 2.5 million gallon of storage built in 1950 with an additional 3 million gallons to be added in 2018. The current storage is fully utilized by existing customers and the new reservoir is part of planned improvements. The combined storage is served by two pump stations. The first is an 100 HP facility built in 1995 and the second a 1,000 HP facility built in 2005. The first pump station is fully utilized by existing customers and the second was constructed under the existing revenue bonds (refinanced in 2014). Existing storage and pumping capacity are presumed ineligible for SDC reimbursement. There are however significant transmission assets in the zone with available capacity designed to support build-out, including 20,075 feet of 12-inch mains with a

length-average age of 25.8 years; 38,100 feet of 18-inch mains with a length-average age of 19 years; and 1200 feet of 24-inch main with an age of 11 years.

Zone 7: The abandonment of Zone 2 and the addition of those existing customers to Zone 7 has for all practical purposes fully utilized the existing asset capacities in the zone (less than 10% available capacity). Hence, there are no reimbursable assets in the zone.

Zone 8: This zone is served by a 2 million gallon reservoir built in 1990 and is supported by pumping that serves Reservoir 10. The available storage and pumping capacity are reimbursable (pumping assigned to Zone 10). Transmission in the zone, however, was largely built by previous development and is presumed not eligible for SDC reimbursement.

Zone 9: This zone is served by a 3 million gallon reservoir built in 1995 and supported by a 300 HP pump station built in 1997. Transmission in the zone also includes 3900 feet of 12-inch mains with a length-average age of 37 years and 500 feet of 18-inch main that is 20 years old. The available storage, pumping and transmission capacity are reimbursable.

Zone 10: This zone is served by a 4 million gallon reservoir built in 2005 and supported by two pump stations totaling 400 HP. The first pump station (150 HP) was built in 1989, while the second (250 HP) was just completed in 2016. The first pump station is reimbursable based on the remaining capacity for the zone and the second replaces some existing capacity but was principally built to serve future customers (75% reimbursable). Transmission in the zone also includes 16,170 feet of 12-inch mains with a length-average age of 21 years.

Sunnyside Zone: This zone will experience limited growth over the next 10 years and by that time the existing reservoir will be abandoned and removed from service. Service to this zone will be transferred to Zones 6 and Sunridge. Similarly the pumping and transmission assets that serve this zone will also be largely abandoned, with no significant assets eligible for future SDC reimbursement.

Sunridge Zone: This zone will experience limited growth over the next 10 years, until it assumes a portion of the area formally served by the Sunnyside zone. After the transition, the existing assets will largely be used by the existing customers and no additional capacity will be available until new storage, pumping and transmission are built after that time. Hence, there are no significant assets eligible for reimbursement in this zone.

Common (Shared) Assets

There are several key assets for which available capacity would be used by one or more of the pressure zones. The reimbursement allocation is based on the relative use by all future customers across the entire service area. These "shared" assets include 20-percent of the treatment capacity in the North Clackamas County Water Commission's water treatment plant (built 2005) and the related 9,500 feet of 24-inch transmission main (built 1989); and a 1 mgd aquifer storage and recovery well (built 1998).

Zone 1 (16% Available)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Storage	Volume	0.7 MG	25	\$1,750,000	\$1,666,667	\$186,667
Pumping	Capacity	500 gpm	29	\$1,000,000	\$613,300	\$98,133
Transmission	N/A	0		\$0	\$0	\$0
					Subtotal Zone 1	\$284,800

Zone 3/5 (15% Available)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Storage	Volume	1.5 MG	45	\$3,750,000	\$150,000	\$225,000
Pumping	Capacity	3050 gpm	33	\$1,500,000	\$840,000	\$126,000
Transmission	12-inch	1650 ft.	0	\$412,500	\$412,500	\$61,875
					Subtotal Zone 3/5	\$412,875

Zone 4 (35% Available – Storage Only)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Storage	Volume	1.0 MG	46	\$2,500,000	\$966,667	\$338,333
Pumping	Capacity	1000 gpm	10	\$1,000,000	\$866,700	\$0
Transmission	12-inch	1400 ft	0	\$350,000	\$350,000	\$122,500
					Subtotal Zone 4	\$460,833

Zone 6 (42% Available)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Pumping	Capacity	10,000 gpm	12	\$3,000,000	\$2,520,000	\$1,058,400
Transmission	12-inch	20,075 ft	26	\$5,019,000	\$3,714,000	\$1,559,800
	18-inch	38,100 ft	19	\$11,430,000	\$9,258,000	\$3,888,500
	24-inch	1200 ft	11	\$420,000	\$373,800	\$157,000
					Subtotal Zone 6	\$6,663,700

Zone 8 (21% Available)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Storage	Volume	1.0 MG	27	\$2,500,000	\$1,600,000	\$336,000
Pumping	Capacity	1750 gpm	28	\$0	\$0	\$0
Transmission	N/A	-	-	\$0	\$0	\$0
					Subtotal Zone 8	\$336,000

Zone 9 (25% Available)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Storage	Volume	3.0 MG	22	\$7,500,000	\$5,300,000	\$1,325,000
Pumping	Capacity	4000 gpm	20	\$2,500,000	\$1,833,000	\$458,300
Transmission	12-inch	3900	37	\$975,000	\$614,000	\$153,600
	18-inch	500	20	\$150,000	\$120,000	\$30,000
Subtotal Zone 9						\$1,966,900

Zone 10 (36% Available)						
Asset	Type	Inventory	Age	Replace \$	RCLD	SDC Eligible
Storage	Volume	4.0 MG	12	\$10,000,000	\$8,400,000	\$3,024,000
Pumping	Capacity	2100 gpm	1	\$1,500,000	\$1,480,000	\$1,110,000
	Capacity	1,250 gpm	28	\$1,000,000	\$626,667	\$225,600
Transmission	12-inch	16,170 ft	21	\$4,042,500	\$3,175,500	\$1,149,700
	18-inch	3,550 ft.	13	\$1,065,000	\$926,500	\$333,600
Subtotal Zone 10						\$5,832,900

Other Assets						
Asset	Type	Inventory	Age (yrs)	Replace \$	RCLD	SDC Eligible*
NCCWC (WTP)*	Treatment	9.8 mgd	12	\$24,500,000	\$21,560,000	\$4,312,000
Transmission	24-inch	9,500 ft	16	\$3,325,000	\$2,793,000	\$558,600
ASR Well No. 1	Source	1 mgd	20	\$2,500,000	\$2,000,000	\$740,000
Subtotal Other						\$5,610,600

*Note: Sunrise owns 48% of 20 mgd NCCWC WTP (built 2005). 20% available to future customers.

Pipeline "C" extends from NCCWC to Sunrise. 20% available to future customers.

ASR Well No. 1 is available to "All" customers. 37% reimbursable to future customers.