

RESOLUTION NO. 1378

A RESOLUTION ADOPTING THE 2018 SYSTEM DEVELOPMENT CHARGE
METHODOLOGY REPORT AND AMEND WATER AND WASTEWATER SYSTEM
DEVELOPMENT CHARGES

WHEREAS, the City of Prineville has passed resolutions implementing system development charges in the City of Prineville; and

WHEREAS, the City of Prineville has previously amended the amounts of system development charges; and

WHEREAS, the City Manager is charged with reviewing system development charges to reflect adequate funding to construct facility needs and recommending system development charge rates to adequately provide resources to construct the City's facility needs in an efficient and cost effective manner; and

WHEREAS, the City has passed Ordinance No. 1237 adopting the 2017 updated City of Prineville Water System Master Plan, which plan updates the previous Water System Master Plan; and

WHEREAS, the City has passed Ordinance No. 1239 adopting the 2018 updated City of Prineville Wastewater Facilities Plan, which plan updates the previous Wastewater Facilities Plan; and

WHEREAS, the 2018 System Development Charge Methodology report attached hereto as Exhibit A and by this reference made a part hereof, documents the amount of funds necessary to reimburse the City for previous SDC eligible expenditures and adequately fund new improvements identified in the plans; and

WHEREAS, the City of Prineville desires to adopt the 2018 System Development Charge Methodology report and amend the amount of water and wastewater system development charges;

NOW, THEREFORE, the City of Prineville resolves as follows:

1. The 2018 System Development Charge Methodology report is hereby adopted.
2. The water and wastewater system development charges as set out in Resolution No. 1358 are hereby amended to those amounts shown on Exhibit B attached hereto and by this reference made a part hereof. All other fees set out in Resolution No. 1358 shall remain in full force and effect.

3. There shall be no refunds of any prior system development charges paid prior the effective date of this Resolution.

4. This Resolution is effective December 12 , 2018.

Betty J. Roppe, Mayor

ATTEST:

Lisa Morgan, City Recorder

Proposed		Current		Change	
4.2	Water SDC Fees				
4.2.1	3/4" meter 1.00 EDUs Maximum 810 gpd	4,601	1.00 EDUs Maximum 810 gpd	3,146.26	- EDUs 1,454.74
4.2.2	1" meter 1.67 EDUs Maximum 1,353 gpd	7,684	2.50 EDUs Maximum 2,025 gpd	7,865.65	(1) EDUs (181.65)
4.2.3	1.5" meter 3.33 EDUs Maximum 2,697 gpd	15,321	5.00 EDUs Maximum 4,050 gpd	15,731.30	(2) EDUs (410.30)
4.2.4	2" meter 5.33 EDUs Maximum 4,317 gpd	24,523	8.00 EDUs Maximum 6,480 gpd	25,170.08	(3) EDUs (647.08)
4.2.5	3" meter 10.00 EDUs Maximum 8,100 gpd	46,010	16.00 EDUs Maximum 12,960 gpd	50,340.16	(6) EDUs (4,330.16)
4.2.6	4" meter 16.67 EDUs Maximum 13,503 gpd	76,699	25.00 EDUs Maximum 20,250 gpd	78,656.50	(8) EDUs (1,957.50)
4.2.7	6" meter 33.33 EDUs Maximum 26,997 gpd	153,351	50.00 EDUs Maximum 40,500 gpd	157,313.00	(17) EDUs (3,962.00)
4.2.8	8" meter 53.33 EDUs Maximum 43,197 gpd	245,371	- EDUs NA		53 EDUs 245,371.00
4.2.9	Per each additional 810 gallons per day (gpd) over maxin	4,601		3,146.26	

Proposed		Current		Change	
4.3	Wastewater SDC Fees				
4.3.1	3/4" meter 1.00 EDUs Maximum 260 gpd	2,353	1.00 EDUs Maximum 260 gpd	4,703.33	- EDUs (2,350.33)
4.3.2	1" meter 1.67 EDUs Maximum 434 gpd	3,930	2.50 EDUs Maximum 650 gpd	11,758.33	(1) EDUs (7,828.33)
4.3.3	1.5" meter 3.33 EDUs Maximum 866 gpd	7,835	5.00 EDUs Maximum 1,300 gpd	23,516.65	(2) EDUs (15,681.65)
4.3.4	2" meter 5.33 EDUs Maximum 1,386 gpd	12,541	8.00 EDUs Maximum 2,080 gpd	37,626.64	(3) EDUs (25,085.64)
4.3.5	3" meter 10.00 EDUs Maximum 2,600 gpd	23,530	16.00 EDUs Maximum 4,160 gpd	75,253.28	(6) EDUs (51,723.28)
4.3.6	4" meter 16.67 EDUs Maximum 4,334 gpd	39,225	25.00 EDUs Maximum 6,500 gpd	117,583.25	(8) EDUs (78,358.25)
4.3.7	6" meter 33.33 EDUs Maximum 8,666 gpd	78,425	50.00 EDUs Maximum 13,000 gpd	235,166.50	(17) EDUs (156,741.50)
4.3.8	8" meter 53.33 EDUs Maximum 13,866 gpd	125,485	- EDUs NA		53 EDUs 125,485.00
4.3.9	Per each additional 810 gallons per day (gpd) over maxin	2,353		4,703.33	

Prineville, Oregon



Methodology Report for

SYSTEM DEVELOPMENT CHARGES

November 2018



Draft



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SECTION 1: INTRODUCTION

The City of Prineville conducts periodic updates to its Comprehensive Plan and its various Public Facility Plans to provide orderly and sustainable growth of local roads, water, and wastewater systems. A key funding source for these public facilities are system development charges (SDCs). SDCs are one-time fees for new development, designed and created to allocate the costs of infrastructure capacity needed to serve new development equitably.

This section describes the policy context and project scope upon which the body of this report is based. It concludes with a non-numeric overview of the calculations presented in subsequent sections of this report.

POLICY

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish system development charges (SDCs). SDCs are one-time fees on new development, and are paid at the time of development. SDCs are intended to equitably allocate the cost of existing and planned facilities that provide capacity to serve future customers/users of these facilities.

ORS 223.299 defines two components of the SDC:

- A “reimbursement fee” that is intended 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”, and
- An “improvement fee” that is intended 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 related system cost, e.g., water reimbursement SDCs must be spent on water system related costs.

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 that 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).



PROJECT

In 2017, the City contracted with Anderson Perry and Associates (AP) and GEL Oregon, Inc. to update the City's water and wastewater plans and to update the City's utility rates and SDC methodology and recommend fees for these systems. To facilitate policy decisions the utility master plans were finalized and adopted by the Council, as were the utility rates, with the final SDC methodology scope of work completed separately by GEL Oregon, Inc.

We approached this project in four phases:

- **Engagement during master plan update.** In this phase, GEL participated in master plan project update meetings to understand the nature of planned improvements and their potential impact to SDCs and to provide feedback on various alternatives.
- **Framework for charges.** In this phase, we worked with City staff and the engineering team to identify and agree on the approach to be used and the components to be included in the analysis.
- **Technical Analysis.** During this phase, we worked with City staff to isolate the recoverable portion of facility costs and calculate draft SDC rates.
- **Draft methodology report preparation.** Lastly, we documented the calculation of the draft SDC rates included in this report.

CALCULATION OVERVIEW

In general, the total SDC for a given type of improvement, e.g., water, is determined by adding the reimbursement fee component (if applicable) and the improvement fee component, subject to any potential adjustments. Each component is calculated by dividing eligible costs by an appropriate unit of measure, such as the number of units of demand may be served by each of the various improvements. Below are details on the components and how they may be adjusted.

Reimbursement Fee

The reimbursement fee is the allocable equitable cost of existing and available capacity per unit of demand that such capacity will serve. In order for a reimbursement fee to be applicable, the system must have unused capacity available to serve additional users. When facility types do not have excess capacity, no reimbursement fee may be charged.

Improvement Fee

The improvement fee is the allocable equitable cost of planned capacity-increasing capital projects per unit of demand that those projects will serve. Occasionally, capacity added by projects may serve a dual purpose of addressing existing demand and requirements and serving future demand. To compute a compliant SDC fee, future demand-related costs must be isolated, and costs related to current usage and requirements must be excluded.

We have used the "capacity approach" to allocate costs to the improvement fee basis. Under this approach, the cost of a given project is allocated to growth in proportion to the growth-related capacity that projects of a similar type will create.

Adjustments

Two cost basis adjustments are potentially applicable to both reimbursement and improvement fees: Inflation and compliance costs.



- **Inflation**

The City utilizes the Engineering News Record Construction Cost index to adjust for inflation associated with utility infrastructure construction costs.

- **Compliance Costs**

ORS 223.307(5) authorizes the expenditure of SDCs on “the costs of complying with the provisions of ORS 223.297 to 223.314, including the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures.”

To avoid spending monies for compliance that might otherwise have been spent on growth-related projects, this report includes an estimate of compliance costs in its SDCs. All estimates of compliance costs in this report are based on historical transfers from the appropriate SDC fund to the Administrative Services Fund and General Fund.

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SECTION 2: WATER

This section provides detailed calculations of our proposed maximum SDC for water facilities.

Growth – New Development/Demand

Generally, growth or new development demand is measured by an equivalent dwelling unit (EDU).. One equivalent dwelling unit is the hydraulic capacity of a ¾” water meter, which is the standard meter size for a single-family residence in Prineville. In 2017, the customer base of the City’s water utility was 4,973 meter equivalents, consisting of 3,541 residential EDUs (71.2%) and 1,432 commercial EDUs (29.8%) as shown in **exhibit 1**:

In addition to new growth, the master plan estimates additional connections from existing residents within the City and urban growth boundary (UGB) that have other sources of water. These customers are added to the customer base for future population growth projections. The master plan growth forecast for the 20-year period to 2037 includes annual population growth of seven tenths of a percent (0.7%), increasing to 11,752, or 4,682 EDUs. This forecast includes connections to the unserved population in the City and UGB as noted previously. Forecasting the same proportional growth in commercial EDUs (32.2%) results in a forecast of 1,602 additional EDUs as shown in **exhibit 1**.

The population forecast used in the master plan is to be consistent with the population forecast prepared by Portland State University (PSU). PSUs forecast does not contemplate local economic conditions or events, such as the expansions of Facebook and Apple data centers. The Facebook and Apple expansions presently approved exceed the 20-year forecast for EDU growth. Additionally, the SDC eligible improvements included in the master plan recognize demand for water will be much greater in the 20-year period than the population forecast indicates.

To ensure SDC eligible capital improvement costs are equitably allocated, the population forecast for the UGB included in the City’s comprehensive plan is used to ascertain the build out population. The current proportional ratio of commercial and residential usage is retained to forecast the number of commercial EDUs at build out, 5,219 EDUs, or an increase of 3,787 EDUs. This forecast is more consistent with current approved and proposed commercial (non-residential) development activity within the master planning period and is used to provide a framework for the SDC calculations that follow. **See exhibit 1**.

Exhibit 1 – Present and forecast connected population and EDUs

Description	Present	2037	Change	Build out	Change
Connected population	8,889	11,752	2,863	32,400	23,511
Residents per household	2.51	2.51	-	2.51	-
Residential EDUs	3,541	4,682	1,141	12,908	9,367
Change - %			32.2%		164.5%
Commercial EDUs - meter capacity	1,432	1,893	461	5,219	3,787
Change - %			32.2%		164.5%
Total EDUs - meter capacity	4,973	6,575	1,602	18,127	13,154



Reimbursement Fee

The City's current water utility improvements consist of three functions or types of facilities:

- Source and supply
- Storage
- Distribution

According to the Prineville Water Master Plan, excess capacity to serve future users exists in various forms within the water utility infrastructure. **Exhibit 2** summarizes the potential opportunities for SDC reimbursement fees to be considered. Additional discussion is provided below.

Exhibit 2: Schedule of facilities with reimbursement potential

Type of facility	Present capacity	Demand	Excess	Reimbursable	Methodology
Source (gallons per minute) - permit	3,210	3,330	No	No	NA
Supply (gallons per minute) - wells	3,765	3,330	Yes	Possibly	No further consideration
Storage (gallons)	4.5 million	3.04 million	Yes	Yes	EDU capacity - net of depreciation
Distribution	Reimbursement agreements			Yes	2037 EDUs

Source and supply

Presently the current combined instantaneous water right permit withdrawal allowance from all well sources is 3,210 gallons per minute (gpm), with available well pumping capacity of 3,765 gpd. Present demand supply demand is 3,330 gpm. Therefore, a 120 gallons per minute (gpm) deficiency exists in the City's water right permits to meet present demand, or -3.6 percent (-3.6%). Water rights acquisition will be addressed through the City's water rate structure. Although there is excess capacity of 435 gpm (13.1%) in well production capacity, per evaluation of the capabilities, age and operating characteristics and practices of the City's wells, the consensus was not to include any SDC reimbursement for supply.

Storage

Storage capacity provided by the City's reservoirs is 4.5 million gallons, with present demand of 3.04 million gallons, providing excess capacity of 1.46 million gallons. As of June 30, 2017, the value of the excess capacity in storage facilities has been depreciated by 69.4%, or 30.6% recoverable through reimbursement. The equitable allocation of reservoir improvements, at full cost in August 2017 dollars, is \$1,582 per EDU, see **exhibit 8**, below. The calculated SDC reimbursement fee for reservoirs, adjusted for inflation, is \$500 (30.6% of \$1,582 increased by 3.31%), with the remainder collected as an SDC improvement fee.

Distribution

The capacity of the distribution system was evaluated and determined, excluding improvements installed by private developers subject to reimbursement agreements, to be adequate to meet present demand and in-fill development. However, the distribution system has certain deficiencies, such as inadequate fire flows in certain areas. These deficiencies are addressed through capital improvements paid by existing



customers. Therefore, it is recommended to limit SDC reimbursement related to distribution to the existing developer constructed SDC eligible improvements with executed reimbursement agreements that receive a portion of future SDC collections. The equitable allocation of the SDC reimbursement fee is based on recovering the remaining balance from the number of EDUs forecast for the 20-year period. See **exhibit 3** below.

Exhibit 3: Schedule of reimbursement agreements and calculated SDC reimbursement fee

Reimbursement Agreements	Balance 7/1/ Collections	Expiration	Balance 6/30/18	Balance - Water 6/30/18
St Charles - distribution	\$ 90,753		\$ 90,753	\$ 90,753
Lee Investment - distribution	75,000	18,000	57,000	28,500
Total	\$ 165,753	\$ 18,000	\$ 147,753	\$ 119,253
Number of EDUs - proportional to 2037 forecast				1,602
Reimbursement fee - distribution (Reimbursement Districts)				\$ 74
Adjusted for inflation				\$ 77

Summary

The total equitably allocated SDC reimbursement fee, adjusted for inflation, is \$577 (\$500 plus \$77).

Improvement Fee

Calculation of the improvement fee begins with the estimated costs of capacity-increasing projects. We then utilize City estimates of the portion of each project that is available to serve new users and include only that portion of project costs in the improvement fee cost basis. Project costs that will be funded by a source other than the City are also excluded. **Exhibit 4** summarizes the SDC-eligible portion of the City’s water projects, including the project type (D – distribution; S – storage; Su – Supply):

Exhibit 4 – Schedule of SDC eligible water projects

Project number and description	Project Type	Total Project Cost	Ineligible Costs	SDC Eligible Cost
SDC 1 - Northridge Zone Piping (distribution mains to connect undeveloped areas)	D	\$ 2,059,850	\$ 104,300	\$ 1,955,550
SDC 2 and 3 - Valley zone piping (distribution mains to connect undeveloped areas)	D	1,745,425	23,200	1,722,225
SDC 4 - Williamson zone piping (distribution mains to connect undeveloped areas)	D	3,764,000	463,700	3,300,300
SDC 5 - Piping between airport zone and valley zone	D	4,893,000	-	4,893,000
SDC 6 - Airport zone piping (distribution loop existing system/increase fire flows)	D	413,000	-	413,000
SDC 7 - Airport zone piping (distribution mains to connect undeveloped areas)	D	2,621,500	-	2,621,500
SDC 8 - 3rd Street to Wayfinder Drive piping (new pressure level feed)	D	2,283,400	80,600	2,202,800
SDC 9 - New 1.0 million gallon reservoir (to serve new pressure level)	S	2,901,500	-	2,901,500
SDC 10 - Improvements to serve new pressure level on Barnes Butte	D	803,000	-	803,000
SDC 11 - Aquafier storage recovery, including recovery well	Su	11,635,000	-	11,635,000
SDC 12 and 13 -Improvements for increased system demand - reservoir	S	1,611,000	-	1,611,000
		\$ 34,730,675	\$ 671,800	\$ 34,058,875



Equivalent Dwelling Units

A unit of demand for water is based on the usage characteristics of single-family residential units, which throughout this report is referred to as an equivalent dwelling unit (EDU). Generally, necessary master plan improvements are responsive to forecast population changes. In Prineville’s case, the plan is significantly impacted by demands from non-residential users, i.e., industrial (shown as commercial in this report and in the master plan). Additionally, the plan calls out improvements that go well beyond the capacity requirements necessary to serve the number of EDUs forecast by population changes and additional commercial use consistent with existing proportional usage. Therefore, it is not equitable to charge an SDC improvement fee based on the costs of the SDC eligible improvements using the forecast change in EDUs during the 20-year forecast period. Rather, the number of EDUs used in the calculation of SDC improvement fees varies due to the differing EDU capacity provided by the various improvement types.

For example, the SDC cost eligible *distribution* improvements included in the master plan are designed to serve the build out population of the urban growth boundary (UGB), or 13,154 EDUs, which exceeds the forecast EDU growth in the system, or 1,602 EDUs (see exhibit 1 above). Meanwhile the *storage* improvements provide capacity for an additional 2,853 EDUs and *supply* improvements provide 9,511 EDUs capacity. Further explanation is provided below.

Distribution:

The forecast population within the UGB at build-out is 32,400. The City’s residents per household is 2.51, which is the equivalent dwelling unit (EDU). The number of additional residential EDUs within the UGB is 9,367. Maintaining the same ratio of commercial EDUs to residential EDUs provides for an additional 3,787 commercial EDUs within the UGB, for a total additional capacity of 13,154 EDUs.

Exhibit 5: EDUs - Distribution

Description	Present	2037	Change	Build out	Change
Connected population	8,889	11,752	2,863	32,400	23,511
Residents per household	2.51	2.51	-	2.51	-
Residential EDUs	3,541	4,682	1,141	12,908	9,367
Change - %			32.2%		164.5%
Commercial EDUs - meter capacity	1,432	1,893	461	5,219	3,787
Change - %			32.2%		164.5%
Total EDUs - meter capacity	4,973	6,575	1,602	18,127	13,154

Storage

The EDU equivalent gallons per day (gpd) for storage is calculated at 525.7 gallons. Presently, the City has 4.5 million gallons of reservoir storage, which exceeds present demand as noted in the reimbursement section above. Although the City has available reservoir capacity, to address future growth requirements, the master plan calls for an additional 1.5 million gallons of reservoir storage capacity. Based upon EDU utilization of 525.7 gallons per EDU, an additional 2,853 EDUs of capacity is planned for the system and utilized in the SDC calculation.



Exhibit 6: EDUs – Storage

Project number and description	Reservoir Capacity (million gallons)	EDU's (525.7 gpd per EDU)
SDC 9 - New 1.0 million gallon reservoir (to serve new pressure level)	1.00	1,902
SDC 12 and 13 -Improvements for increased system demand - reservoir	0.50	951
	1.50	2,853

Supply

With respect to the equitable allocation of costs associated with supply improvements, an EDU utilizes 810 gallons per day. The primary supply project included in the master plan is the Aquifer Storage Recovery project (ASR). Exhibit x below, provides the various project components of the ASR project, including the additional capacity in the number of EDUs.

Exhibit 7: EDUs - Aquifer Storage Recovery Project – Supply

Project components	Cost	Gallons per minute GPM	Gallons per day (GPD)	GPD per EDU	EDUs
ASR Infiltration Gallery	\$ 8,740,000	2,000	2,880,000	810	3,556
3,000 gpm recovery well	1,900,000	3,000	4,320,000	810	5,333
Valley Well Rehab/Relocation	995,000	350	504,000	810	622
Combined	\$ 11,635,000	5,350	7,704,000	810	9,511

Improvement fee summary

The total project costs by type of facility improvement, the ineligible costs, which consists primarily of service connection related costs, the net SDC eligible costs, EDUs served by each type of facility improvement and the calculated equitable SDC cost allocation per EDU, by type, and in total is shown in exhibit x below. The calculated maximum SDC improvement fee is \$4,167 as of the date of the master plan study, i.e., August 2017.

Exhibit 8: Summary of project costs, EDUs, and SDC amounts by type and in total

Type of facility improvement	Total Costs of Projects	Ineligible Costs	SDC Eligible Cost	EDUs	Amount per EDU
Distribution	\$ 18,583,175	\$ 671,800	\$ 17,911,375	13,154	\$ 1,362
Storage	4,512,500	-	4,512,500	2,853	1,582
Supply	11,635,000	-	11,635,000	9,511	1,223
	\$ 34,730,675	\$ 671,800	\$ 34,058,875		\$ 4,167

Adjustments

Three adjustments are necessary for the SDC improvement fee:

- An inflationary adjustment to adjust project costs developed at the time the master plan was prepared (August 2017) and current costs (November 2018), and
- A portion of the City's maximum SDC improvement fee of \$4,167 is allocated to the SDC reimbursement fee to account for excess capacity within the storage system as described above in the reimbursement section, and
- An administrative fee to pay the costs associated with master plan development, SDC fee determination and annual reporting of SDC activities.

The cost of the SDC eligible projects is presented in August 2017 dollars. The City utilizes the Engineering News Record (ENR) index to account for changes in costs for construction related



improvements. The change in the ENR from August 2017 (index of 10,826) through November 2018 is (11,184), or an increase of 3.31percent (3.31%). The adjusted maximum Water SDC improvement fee is \$4,167 times 1.0331, or \$4,305.

A portion of the SDC improvement fee for storage is allocated to the reimbursement fee (\$484, unadjusted for inflation). The inflation adjusted allocation is \$500, resulting in an inflation adjusted SDC improvement fee of \$3,805 (\$4,305 less \$500).

The estimated costs to administer the SDC program is approximately \$405,000 during the 20-year period. Allocating these costs to the 1,602 EDUs forecast during the 20-year period results in an administrative fee of \$253. The City has historically charged an administrative fee of five percent (5.0%) of the SDC. A 5.0% fee, including all SDC components, is \$219, which is the recommended fee.

Total Water SDC Fee

The total maximum Water SDC is \$4,601, consisting of the following components:

Exhibit 9: Water SDC components

SDC fees	Aug-17	Nov-18
Reimbursement fee	\$ 558	\$ 577
Improvement fee	3,684	3,805
Administrative fee	212	219
Total Water SDC	\$ 4,454	\$ 4,601

Exhibit 10 presents the schedule of proposed water SDCs by meter size, i.e., EDU equivalent:

Exhibit 10: SDC schedule for meter sizes

Meter size	Equivalent Demand Factor	EDUs	SDC
3/4	1.00	1.00	\$ 4,601
1	1.67	1.67	7,684
1.5	3.33	3.33	15,321
2	5.33	5.33	24,523
3	10.00	10.00	46,010
4	16.67	16.67	76,699
6	33.33	33.33	153,351
8	53.33	53.33	245,371

In addition to SDCs based on meter size above, consistent with current practice for residential accounts, usage above the maximum gallons per day per EDU, i.e., 810 gallons, shall be charged the greater of the EDUs per the meter size chart above or EDUs determined by the maximum gallons per day. E.g., a residential customer connecting a 2 inch service and using 5,000 gallons per day would be charged the greater of \$24,523 or \$32,207 (5,000/810 = 6.17 EDUs, or 7.0 times \$4,601).



SECTION 3: WASTEWATER

This section provides detailed calculations of our recommended SDC for wastewater facilities.

Growth – New Development/Demand

Generally, growth or new development demand is measured by an equivalent dwelling unit (EDU). One equivalent dwelling unit consists of a single-family residence in Prineville, which are served by a ¾ inch water meter. The daily demand for wastewater treatment for single family residential in Prineville per the facilities plan is 260 gallons per day (gpd). In 2017, the customer base of the City's wastewater utility was 6,768 equivalent dwelling units, consisting of 3,587 residential EDUs (53.0%) and 3,181 commercial EDUs (47.0%) as shown in **exhibit 11**, serving a population of 9,003:

In addition to new growth, the wastewater facilities plan estimates additional connections from existing residents within the City and urban growth boundary (UGB) that are not served by treatment facilities. These customers are added to the customer base for future population growth projections. The facilities plan growth forecast for the 20-year period to 2037 includes annual population growth of seven tenths of a percent (0.7%), increasing to 11,702, a change of 1,075 EDUs. This forecast includes connections to the unserved population in the City and UGB as noted previously. Forecasting the same proportional growth in commercial EDUs (47.0%) results in a forecast of 954 additional EDUs as shown in **exhibit 11**.

The population forecast used in the facilities plan is consistent with the population forecast prepared by Portland State University (PSU). PSU's forecast does not contemplate local economic conditions or events, such as the expansions of Facebook and Apple data centers. The Facebook and Apple expansions presently planned exceed the 20-year forecast for EDU growth. The facilities plan includes sufficient treatment capacity for the planned industrial expansions as presently understood. A pending application includes an additional 2,904 EDUs.

To ensure equitable allocations of SDC eligible costs, the pending industrial EDUs (2,904) and the growth projection EDUs (2,029) are utilized to calculate the SDC reimbursement and improvement fee amounts.

Exhibit 11: Projected population and EDU growth – Wastewater System

Customer type	Present		20-year planning period forecast		EDUs
	population	EDUs	population	EDU - change	
Residential	9,003	3,587	11,702	1,075	4,662
Commerical/industrial - 20-year planning period		3,181		954	4,135
Industrial - additional development				2,904	2,904
Total	9,003	6,768	11,702	4,933	11,701



Reimbursement Fee

The current capital assets of the City's wastewater utility are distributed among the following categories:

- Treatment Plant
- Treatment – Wetland
- Collection improvements

The City has eligible SDC reimbursements from three components: Treatment – Wetland facilities, Treatment Plant and collection improvements installed by a private developer and subject to a reimbursement agreement.

To determine an equitable SDC reimbursement fee, we utilized the projected customer service growth included in the master plan plus the number of EDUs identified in a pending land use application. The 20-year population served projection is 11,702. The existing served population is 9,003, for a net increase of 2,699. A single family residential unit in Prineville consists of 2.51 residents. Therefore, growth in residential EDUs served are forecast to increase 1,075 EDUs. The 2018 master plan indicates that residential use of the wastewater system is fifty-three percent (53.0%) with commercial/industrial users representing the remaining forty-seven (47.0%). Over the next twenty-years, excluding Facebook and Apple development noted earlier, the proportion of use is projected to remain consistent over the 20-year planning period. Thus, an additional 954 EDUs from commercial/industrial users are projected through 2037. This provides for a total of 2,029 EDUs resulting from growth during the 20-year planning period. See **exhibit 11** above.

As of the writing of this report, a large industrial user has a pending land use application that consumes 2,904 EDUs. The total number of EDUs utilized in the calculation of the SDC reimbursement fees is 4,933 (2,029 plus 2,904). See **exhibit 11** above.

Additional information on the SDC reimbursement fee components is provided below.

Treatment – Wetland facilities

The City completed a major treatment plant expansion utilizing wetlands in 2017, resulting in total capacity of 2.5 million gallons day, with the 20-year average annual design flow of 1.16 million gallons. The City's project cost, net of federal and state grants, was \$4,750,000. The City's funding was provided with long-term debt financing that extends through the planning period and the SDC reimbursement fee will be used to repay debt service. **Exhibit 12** provides the calculation of the SDC reimbursement for the Wetland Treatment facilities.



Exhibit 12 – Reimbursement – Wetland Treatment facilities

Description	Amount
Wetland Treatment Facilities	\$ 4,750,000
Forecast EDUs	2,029
Industrial user	2,904
Adjusted EDUs - planning period	4,933
Reimbursement - reimbursement agreement	\$ 963

Treatment Plant

The City has two treatment plants, treatment plant 2 the most recently constructed in 2006, which was funded with debt service that extends through the planning period. The 2009 SDC study included a reimbursement fee that as of June 30, 2018 was \$1,304. The remaining eligible reimbursement is \$2.7 million as calculated below. With the addition of the Wetland Treatment facilities in 2017, and the resulting increased capacity, the remaining reimbursement for the treatment plant may be equitably allocated to more EDUs. The adjusted number of EDUs forecasted for the planning period is 4,933, resulting in an SDC reimbursement fee of \$549 related to the treatment plant improvements. See **exhibit 13** for details.

Exhibit 13: Reimbursement – Treatment Plant

Facility	Gallons per Day	EDU/gpd	EDUs
Plant 1	1,100,000	260	4,231
Plant 2	1,200,000	260	4,615
Totals	2,300,000	260	8,846
Current EDUs			6,768
Remaining excess capacity - EDUs - original plants			2,078
Current SDC reimbursement fee			\$ 1,304
Remaining reimbursement - plants			\$ 2,709,712
Forecast EDUs			2,029
Industrial user			2,904
Adjusted EDUs - planning period			4,933
Reimbursement - Treatment Plant			\$ 549

Reimbursement Agreements

A developer constructed SDC eligible collection system improvements that are subject to reimbursement. The outstanding balance of the agreement is \$28,500. The balance has been allocated to the adjusted forecast EDUs for the planning period, resulting in an SDC – reimbursement fee for reimbursement districts of \$6. See **exhibit 14** for details.



Exhibit 14: Reimbursement – reimbursement agreements

		Balance
		7/1/18
Existing reimbursement agreements		28,500
Lee Investment Inc.	Saddle Ridge	\$ 28,500
Forecast EDUs		2,029
Industrial user		2,904
Adjusted EDUs - planning period		4,933
SDC reimbursement - reimbursement agreement		\$ 6

Exhibit 15 summarizes the wastewater SDC reimbursement fees.

Exhibit 15: Total Wastewater SDC - Reimbursement

Reimbursement	Amount
SDC reimbursement - Wetland Treatment facilities	\$ 963
Reimbursement - Treatment Plant	549
SDC reimbursement - reimbursement agreement	6
Total SDC - reimbursement	\$ 1,518

Improvement Fee

Calculation of the improvement fee begins with the estimated costs of capacity-increasing projects. We then utilize City estimates of the portion of each project that is available to serve new users and include only that portion of project costs in the improvement fee cost basis. Project costs that will be funded by a source other than the City are also excluded. The City’s wastewater facilities plan, dated March 2018, includes collection system improvements with a total cost of \$4,307,445. Of these costs, \$816,143 were determined to be discretionary excludable costs. Net SDC eligible costs included in the SDC fee calculation is \$3,491,302. See **exhibit 16** below. **Exhibit 17** below provides the calculation of the wastewater improvement fee.

Exhibit 16: Schedule of SDC eligible wastewater projects

Description	Amount
Collection system and lift station improvements	\$ 4,307,445
Less: discretionary excludable costs	
8-inch PVC gravity sewer line	458,550
Sewer service connections	25,000
4-inch forcemain	40,000
Existing lift station improvements	81,000
Sub-total	604,550
Admin, legal, engineering and contingencies @ 35%	211,593
Total discretionary excludable costs	816,143
Net SDC eligible costs	\$ 3,491,302



Exhibit 17: SDC improvement fee

Description	SDC net eligible costs	Adjusted forecasted EDUs	SDC improvement fee
Collection expansion	\$ 3,491,302	4,933	\$ 708

Adjustments

Inflation

As with the water system SDC, certain adjustments may be appropriate. In the wastewater analysis the SDC improvement fee is based on project costs as of March 2018. The ENR index in March 2018 was 10,959, and in November 2018, 11,184, an increase of 225, or 2.05%. The adjusted improvement fee is \$723.

Administration

The estimated costs to administer the SDC program during the 20-year planning period is \$565,000. The calculated SDC administration adjustment is \$115. The City has historically charged a five percent (5.0%) fee for SDC administration. The resulting fee is \$112 (5.0% of \$723 plus \$1,518, or \$2,241).

Total Wastewater SDC for Residential

The total SDC, including reimbursement fee, improvement fee and administrative fee is \$2,353.

Exhibit 18 provides a summary of the wastewater SDC components and total fee and **exhibit 19** provides a schedule of proposed residential wastewater SDCs by meter size.

Exhibit 18: Wastewater SDC by component

SDC component	Amount
SDC - reimbursement	\$ 1,518
SDC - improvement	723
SDC - administration	112
Total wastewater SDC	\$ 2,353

Exhibit 19: Schedule of Proposed Wastewater SDCs by meter size

Meter size	Equivalent Demand Factor	EDUs	SDC
3/4	1.00	1.00	\$ 2,353
1	1.67	1.67	3,930
1.5	3.33	3.33	7,835
2	5.33	5.33	12,541
3	10.00	10.00	23,530
4	16.67	16.67	39,225
6	33.33	33.33	78,425
8	53.33	53.33	125,485



In addition to SDCs based on meter size above, consistent with current practice for residential accounts, usage above the maximum gallons per day per EDU, i.e., 260 gallons, shall be charged the greater of the EDUs per the meter size chart above or EDUs determined by the maximum gallons per day. E.g., a residential customer connecting a 2 inch service and using 2,000 gallons per day (winter average) would be charged the greater of \$12,541 or \$18,824 (2,000/260 = 7.69 EDUs, or 8.0 times \$2,353).

Total Wastewater SDC for Non-residential

Non-residential wastewater SDCs may be adjusted if the waste characteristics exceed those of residential customers as described in Chapter Three of the Wastewater Facilities Plan. A separate evaluation may be necessary to ascertain the equivalent dwelling unit impacts on the wastewater treatment facilities.

SECTION 4: CONCLUSION

This section summarizes the recommended SDCs and provides a recommendation for annual adjustment.

RECOMMENDED SDCS

Exhibit 22 proposes the maximum SDCs and compares each SDC to its current SDC amount:

Exhibit 22: Proposed maximum SDCs compared to current SDCs

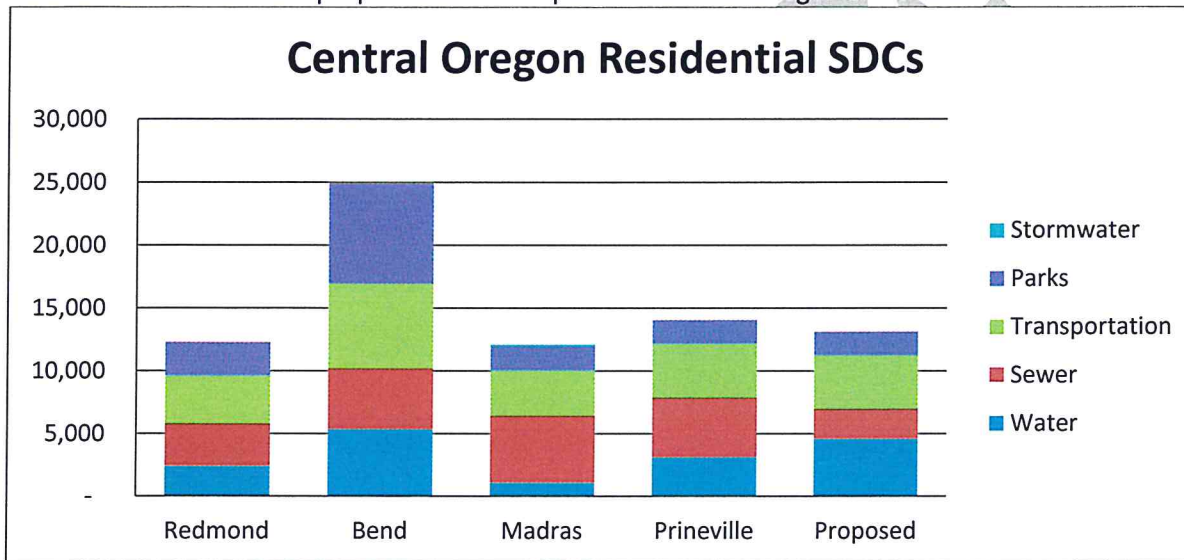
Proposed				Current				Change					
Water SDC Fees													
3/4" meter	1.00	EDUs	Maximum	810 gpd	4,601	1.00	EDUs	Maximum	810 gpd	3,146.26	-	EDUs	1,454.74
1" meter	1.67	EDUs	Maximum	1,353 gpd	7,684	2.50	EDUs	Maximum	2,025 gpd	7,865.65	(1)	EDUs	(181.65)
1.5" meter	3.33	EDUs	Maximum	2,697 gpd	15,321	5.00	EDUs	Maximum	4,050 gpd	15,731.30	(2)	EDUs	(410.30)
2" meter	5.33	EDUs	Maximum	4,317 gpd	24,523	8.00	EDUs	Maximum	6,480 gpd	25,170.08	(3)	EDUs	(647.08)
3" meter	10.00	EDUs	Maximum	8,100 gpd	46,010	16.00	EDUs	Maximum	12,960 gpd	50,340.16	(6)	EDUs	(4,330.16)
4" meter	16.67	EDUs	Maximum	13,503 gpd	76,699	25.00	EDUs	Maximum	20,250 gpd	78,656.50	(8)	EDUs	(1,957.50)
6" meter	33.33	EDUs	Maximum	26,997 gpd	153,351	50.00	EDUs	Maximum	40,500 gpd	157,313.00	(17)	EDUs	(3,962.00)
8" meter	53.33	EDUs	Maximum	43,197 gpd	245,371	-	EDUs	NA			53	EDUs	245,371.00
Per each additional 810 gallons per day (gpd) over maxin				4,601						3,146.26			1,454.74

Proposed				Current				Change					
Wastewater SDC Fees													
3/4" meter	1.00	EDUs	Maximum	260 gpd	2,353	1.00	EDUs	Maximum	260 gpd	4,703.33	-	EDUs	(2,350.33)
1" meter	1.67	EDUs	Maximum	434 gpd	3,930	2.50	EDUs	Maximum	650 gpd	11,758.33	(1)	EDUs	(7,828.33)
1.5" meter	3.33	EDUs	Maximum	866 gpd	7,835	5.00	EDUs	Maximum	1,300 gpd	23,516.65	(2)	EDUs	(15,681.65)
2" meter	5.33	EDUs	Maximum	1,386 gpd	12,541	8.00	EDUs	Maximum	2,080 gpd	37,626.64	(3)	EDUs	(25,085.64)
3" meter	10.00	EDUs	Maximum	2,600 gpd	23,530	16.00	EDUs	Maximum	4,160 gpd	75,253.28	(6)	EDUs	(51,723.28)
4" meter	16.67	EDUs	Maximum	4,334 gpd	39,225	25.00	EDUs	Maximum	6,500 gpd	117,583.25	(8)	EDUs	(78,358.25)
6" meter	33.33	EDUs	Maximum	8,666 gpd	78,425	50.00	EDUs	Maximum	13,000 gpd	235,166.50	(17)	EDUs	(156,741.50)
8" meter	53.33	EDUs	Maximum	13,866 gpd	125,485	-	EDUs	NA			53	EDUs	125,485.00
Per each additional 810 gallons per day (gpd) over maxin				2,353						4,703.33			(2,350.33)



Exhibit 23 compares both the current and recommended SDCs to the SDCs of comparable local jurisdictions:

Exhibit 23: Current and proposed SDCs compared to Central Oregon cities SDCs



City	Water	Sewer	Transportation	Parks	Stormwater	Total
Redmond	2,407	3,366	3,876	2,672	-	12,321
Bend	5,377	4,795	6,800	7,949	-	24,921
Madras	1,100	5,289	3,659	1,874	220	12,142
Prineville	3,146	4,703	4,327	1,887	-	14,063
Proposed	4,601	2,353	4,327	1,887	-	13,168



ANNUAL ADJUSTMENT

ORS 223.304 allows for the periodic indexing of system development charges 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 continue to index its charges to the *Engineering News Record* Construction Cost Index for the 20-city average and adjust their SDCs annually. There is no comparable Oregon-specific index, and the closest market index, Seattle, is less representative of Prineville market conditions, and more volatile, than the broader based index.

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