CITY OF BEND

Draft Methodology Report

Water System Development Charges

Prepared for City of Bend

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GALARDI ROTHSTEIN GROUP

Contents

Tables and Figures

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Bend Economic Development Advisory Board (BEDAB)
Bend La Pine School District
Bend Park & Recreation District (BPRD)
Brooks Resources
Cascadia Partners
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Abbreviations and Acronyms

ADD	Average Day Demand
ADU	Accessory Dwelling Unit
AHAC	Affordable Housing Advisory Committee
AMI	Area Median Income
BEDAB	Bend Economic Development Advisory Board
BPRD	Bend Park & Recreation District
CCI	Construction Cost Index
CIP	Capital Improvement Program
City	City of Bend
CEDD	Community and Economic Development Department
COAR	Central Oregon Association of Realtors
COB	City of Bend
COBA	Central Oregon Builders Association
ECC	Environment and Climate Committee
EDCO	Economic Development for Central Oregon
ENR	Engineering News Record
GPD	Gallons Per Day
GPM	Gallons Per Minute
HREC	Human Rights and Equity Commission
IWSMP	Integrated Water System Master Plan
MDD	Maximum Day Demand
MG	Million Gallons
MGD	Million Gallons per Day
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statute
PRV	Pressure-Reducing Valve
SCADA	Supervisory Control and Data Acquisition
SDC	System Development Charge
SQ FT	Square Feet
TI	Tenant Improvements

1. Introduction

Authorization

In September 2022, the City of Bend (City) contracted with Galardi Rothstein Group (GRG) to update its System Development Charge (SDC) methodology. This report presents the updated methodology that was developed in conformance with Oregon Revised Statutes (ORS) 223.297-223.316 (SDC Statutes), industry standards, the City's policy objectives and 2021 Integrated Water System Master Plan (IWSMP).[1]

Report Organization

The following sections are included in this report:

- Section 1 – Introduction – Presents background information on the SDC project objectives and policy and legal framework for the methodology, a summary of the public engagement process that informed methodological choices, and the key elements of the updated methodology.
- Section 2 - SDC Cost Basis – Describes the growth capacity needs and the infrastructure costs associated with meeting those needs in aggregate, including the costs of the City's existing water system facilities and updated SDC project list.
- Section 3 - SDC Charge Basis - Provides information on how the water service requirements of individual developments are estimated for purposes of developing the SDC schedule.
- Appendix A - SDC Project List - Provides the list of planned capital projects for the water system based on the IWSMP that form the basis for the calculations in this methodology. The list includes the project description, and the estimated cost, timing, and portion of cost eligible for improvement SDC funding. The City Council may amend or update this project list by resolution.
- Appendix B - SDC Schedule - Provides the SDCs by land use category that are the product of the SDC methodology and project list. Also provides a description of each category. Consistent with ORS 223.304(8) and the City's SDC ordinance, the fees presented in Appendix B may be adjusted periodically for changes in costs or changes to the project list. The SDC Schedule adopted by the Bend City Council will be the applicable fee schedule.
- Appendix C – Exemptions for Certain Developments – Describes uses that will be exempt from payment of SDCs, subject to recording of deed restrictions. Also summarizes credits available on redevelopment of previously exempt uses. The provisions of the Bend Municipal Code control availability of credits.

Finally, Appendix D provides nonresidential benchmark data.

[1] Murraysmith, *City of Bend Integrated Water System Master Plan*, September 2021.

Rounding

The calculations contained in this report were produced by computer spreadsheets where numbers extend beyond the decimal places shown in the tables presented, so slight variations exist due to rounding. However, these variations are not material.

Background

System Development Charges (SDCs) are an important funding source for water system infrastructure. The City last updated the water SDC methodology in 2007. In September 2021, the City adopted the IWSMP that identifies over $477 million[2] in capital improvements needed for the system through 2040.

The primary objectives of the 2022-2023 SDC update are to:

- Determine SDC fee levels that align with infrastructure funding requirements, including growth-related project costs identified in the IWSMP.
- Modify the way SDCs are charged to:
  - Achieve greater consistency and efficiency across the transportation, water, and sewer systems.[3]
  - Support the City's housing and other City Council goals.
- Review SDC payment and related policies and procedures, including timing of collection, deferrals, financing, and exemptions.

Oregon SDC Legal Framework

The SDC Statutes (ORS 223.297 - 223.316) authorize local governments to impose SDCs on new development to provide equitable funding for capital improvements needed to support orderly growth and development. Specifically, SDCs may be imposed for the following types of capital improvements:

- Drainage and flood control (i.e., storm water)
- Water supply, treatment, and distribution
- Wastewater collection, transmission, treatment, and disposal
- Transportation
- Parks and recreation

The City of Bend does not provide park and recreation services, and has only adopted SDCs for water, wastewater (sewer) and transportation systems. The SDC Statutes also provide guidelines on the calculation and modification of SDCs, accounting requirements to track SDC revenues, and adoption of administrative review procedures. Key provisions of the SDC Statutes are summarized below. This legal overview is provided as a summary of Oregon law, does not change, or add requirements for future City action, which is governed by the Code and statute.

[2] Costs have been updated to reflect inflation through February 2023 based on the Engineering News Record Construction Cost for Seattle (15,088).

[3] The transportation and sanitary sewer SDC methodologies are documented in separate reports.

SDC Structure

An SDC may include a reimbursement fee, an improvement fee, or a combination of the two.

Reimbursement Fee

The reimbursement fee is based on the value of available capacity associated with capital improvements already constructed or under construction. The methodology used to calculate the reimbursement fee must consider the cost of existing facilities, prior contributions by existing users, the value of unused capacity, grants, and other relevant factors. The objective of the reimbursement fee methodology is to require new users to contribute an equitable share of the capital costs of existing facilities.

Improvement Fee

The improvement fee is designed to recover the costs of planned capital improvements that add system capacity to serve future users. An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities. The portion of the improvements funded by improvement fees must be related to the need for increased capacity for future users.

Project List

Local governments are required to prepare a master plan or comparable plan, prior to 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. The improvement fee must demonstrate consideration of the projected costs of projects identified on the list that are related to meeting the capacity needs of future growth.

The project list may be updated at any time. If an SDC is to be increased by a proposed modification to the list, then required action includes: (1) written notice provided to interested parties at least 30 days prior to adoption of the proposed modification and (2) hold a public hearing on the proposed modification if a request is received in writing up to seven days before the date of the planned adoption.

Credits for Qualified Public Improvements

A credit must be provided against the improvement fee for the construction of “qualified public improvements.” Qualified public improvements are improvements required as a condition of development approval, identified in the SDC project list, 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. The credit amount provided need only be for the improvement fee portion of the SDC owed by the development or future phases of the development; however, local governments have some latitude in establishing credit policies beyond the minimum requirements.

Methodology Review and Notification Requirements

The methodology for establishing or modifying improvement or reimbursement fees must be available for public review prior to adoption. 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 that are resultant of a methodology amendment. The requirements for any changes to the fees that represent a modification to the methodology are: (1) 90-day written notice prior to the first public hearing, and (2) SDC methodology made available for review 60 days prior to the public hearing.

Application of one or more cost indices periodically is allowable and is not considered a change in the methodology and is therefore not subject to the methodology review and notification procedures, provided that the index is published by a recognized agency and incorporated into the methodology or adopted separately by ordinance or resolution.

Other Provisions

Other provisions of the SDC Statutes include:

- Deposit of SDC revenues into dedicated accounts and annual accounting of revenues and expenditures is required.
- Expenditure of SDCs may include costs of complying with the provisions of the SDC Statutes, including costs of developing SDC methodologies, and providing an annual accounting of SDC expenditures.
- Creation of an administrative appeals procedure is required, whereby a citizen or other interested party may challenge the expenditure of SDC revenues. Furthermore, in the event a written objection to the calculation of an SDC is received, the local government must provide information on the right to petition for review pursuant to ORS 34.010, and about any locally adopted administrative review procedures.
- Specific information related to SDCs (e.g., SDC schedule, project list and methodology) must be made available on the local government's website along with the contact information for an SDC official that can be contacted in case of questions.

Policy Framework

Within the guidelines established by the SDC Statutes, local governments have flexibility to choose among different methodological approaches that balance data and administration requirements, and other considerations. For example, the SDC Statutes do not prescribe a particular basis for charging different development types or sizes (i.e., the development characteristics that will be used to estimate system demands or impact). Local governments may choose approaches that best align with their specific growth projections and policy objectives.

Key policy considerations used in the development of the water SDC methodology are summarized below.

Bend Comprehensive Plan

The Bend Comprehensive Plan guides how the City will meet projected growth in population and employment, including planning for public infrastructure. In addition to the infrastructure plans, which are part of the Comprehensive Plan, other supporting documents included in Chapter 11 (Growth Management), provide analyses and findings related to the specific types and scale of housing needed to meet the City’s forecast population growth. Key needs identified in the 2016 Housing Needs Analysis include:

- Higher density housing forms (e.g., single unit attached and multi-unit housing.)
- Greater diversity of housing choices (e.g., small single unit detached and attached units, cottages, accessory dwelling units, family-sized units, and group housing.)
- Income-qualified affordable housing units.

The Comprehensive Plan framework provided important context for evaluating SDC methodology options, particularly in establishing charges for different types and sizes of residential development. As noted in the 2016 Housing Needs report, incentivizing greater production of smaller units supports housing affordability goals:

> *In most cities, the stock of housing affordable to low-income households increases through the addition of new subsidized units, smaller market rate units, and older market rate units that become more affordable over time.*[4]

Bend City Council Goals (2023-2025)

The City Council goals for the 2023-2025 biennium provide additional context for development of the SDC methodology. Goals that are most relevant to SDCs are summarized in Table 1-1 below.

Table 1-1. Bend City Council Goals Related to SDCs (2023-2025)

Goal	Strategies & Action Items
Affordable Housing + Sustainable Development	• Plan for growth in alignment with climate, economic, and housing affordability strategies to ensure sufficient land supply for future needs including improving permitting process and review times. • Encourage economic development that results in shared prosperity, including strategic investments in the Core Area. • Optimize housing continuum including policy options to increase affordable and middle-income housing.
Environment + Climate	• Encourage sustainable development, including through reducing emissions from transportation.
Transportation + Infrastructure	• Improve the transportation system by focusing on safety and securing sustainable funding aligned with the Transportation System Plan, including updating the SDC methodology and implementing near-term multimodal and safety projects to capitalize on the existing system. • Ensure water, wastewater, and stormwater systems are aligned with the needs of a growing city.

Source: 2023-25 Council Goals and Work Plan
https://www.bendoregon.gov/home/showpublisheddocument/56311/638241653504570000

Collectively, the Comprehensive Plan and Council goals highlight the City's desire to support growth generally through investments in the infrastructure systems and to encourage a greater diversity of housing options, particularly smaller units, and higher density forms to align with affordability and sustainability goals. The SDC methodology includes approaches designed to address these goals.

Public Engagement

In addition to the policy framework established by the City's Comprehensive Plan and the City Council, the updated water SDC methodology presented in this report reflects feedback from stakeholders obtained through a combination of facilitated stakeholder group meetings, written comments, and discussions with individual stakeholders.

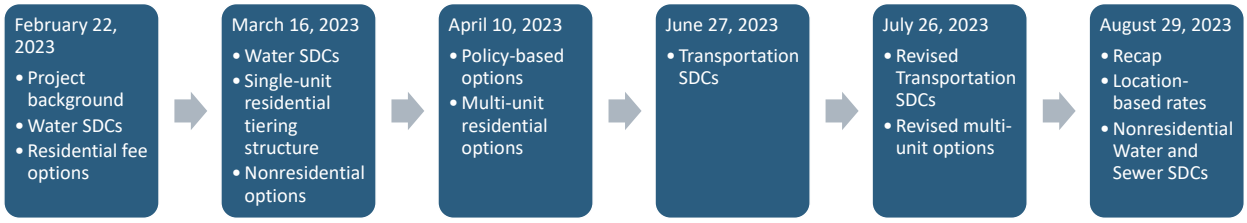
[4] Bend Housing Needs Analysis, August 31, 2016, page 77 (Based on analysis presented in the ECONorthwest report "Seattle Housing Affordability Policy Framework and Recommendations," March 2015.)

The City conducted six (6) stakeholder meetings over the course of the SDC update that included participation from members of the City Council and the following organizations:

Affordable Housing Advisory Committee (AHAC)
Bend Chamber of Commerce
Bend Economic Development Advisory Board (BEDAB)
Bend La Pine School District
Bend Park & Recreation District (BPRD)
Brooks Resources
Cascadia Partners
Central Oregon Association of Realtors (COAR)
Central Oregon Builders Association (COBA)
Compass Commercial
Deschutes County
Economic Development for Central Oregon (EDCO)
Environment and Climate Committee (ECC)
Habitat for Humanity
Hayden Homes
Hiatus Homes
Housing Works
Human Rights and Equity Commission (HREC)
Macher Management
Oregon Department of Transportation (ODOT)
Oregon State University-Cascades
Pahlisch Homes
R&H Construction
Stone Bridge Homes
Sunwest Builders
Wishcamper Development Partners
Wood Hill Homes

Feedback collected through these meetings[5] helped formulate the methodological framework and recommended policy changes related to the City's SDC program summarized in the section below. A list of meeting dates and topics is provided in Figure 1-1.

Figure 1-1. SDC Update Stakeholder Engagement Meetings and Topics



Methodological Framework

Key aspects of the updated water SDC methodology are summarized in Table 1-2. The methodology is comprised of two distinct components: 1) "Cost Basis" – the determination of growth-related system capacity costs in aggregate, and 2) "Charge Basis" – the determination of how individual development will be charged. Each component is summarized below and addressed in more detail in Sections 2 and 3 of this report. Controlling definitions are provided in the fee schedule adopted by the Bend City Council by resolution.

[5] As of the date of adoption of this methodology, detailed meeting summaries and recordings are available on the City's website. Archive copies may be available on request.

Table 1-2. Water SDC Methodology Framework

Methodology Element	Approach
SDC Cost Basis (Section 2)	
Fee Structure	Combined reimbursement and improvement fee
Improvement Fee	Project list based on capital projects identified in the IWSMP.
Reimbursement Fee	Available capacity valued based on original acquisition cost.
SDC Charge Basis (Section 3) [a]	
Residential	• Single unit and "middle" housing: tiered SDC structure with six (6) living area size tiers. • Multi-unit and other housing: Uniform SDC per unit by housing type. • Accessory dwelling units: no SDC if served by meter of primary unit.
Nonresidential	• "Wet" Industrial: Charged based on estimated maximum day water demand for development (as determined from water analysis). • Other development: SDCs based on cost per unit by type of land use.[b]
Irrigation (stand-alone meter or combined use with irrigation area > ¼ acre)	Based on the water meter size and demand needed for the irrigation area.

[a] "Middle" housing is defined in the Bend Development Code. See SDC fee schedule for other development category definitions.

[b] Units for most uses are gross square feet of building area.

Cost Basis

In most water systems, like Bend, growth capacity needs will be met through a combination of existing available capacity and future capacity-enhancing improvements. Therefore, the SDC methodology is based on a combined reimbursement and improvement SDC structure. The improvement fee is based on the capital project list identified in the IWSMP, adjusted for inflation through February 2023 and for anticipated developer funding.

The reimbursement fee is based on the available capacity in existing system facilities funded by the City and valued at original acquisition cost.

Charge Basis

As discussed previously, SDCs are needed to provide the infrastructure to make development of new housing and employment centers possible. However, for housing, there is also a recognition that SDCs assessed uniformly without consideration for the dwelling size or development context may not adequately reflect the relative service requirements of different sized units, as estimated from the City's water consumption data. Furthermore, uniform SDCs may contribute to affordability challenges for smaller dwellings.[6] Therefore, the water SDC methodology is designed to scale residential SDCs based on the type and size of the housing unit (i.e., lower SDCs for smaller and higher density multi-units and higher SDCs for larger and lower density single units), reflecting relative water use from existing customer billing data, as a means of balancing the City's infrastructure funding and housing needs.

Similarly, the SDCs for nonresidential development are also scaled based on the size and type of the development. For most land use types, the SDCs will be charged based on a standardized SDC schedule. However, for industrial and large irrigation uses, where the

[6] See for example Oregon System Development Charges Study: Why SDCs Matter and How They Affect Housing, Prepared for Oregon Housing and Community Services (December 2022).

maximum day water demands may vary widely, the SDC will be based on estimated water use specific to the development (as determined by a water analysis) and charged according to the average cost per gallon identified on the SDC schedule. Stand-alone irrigation meters will be charged based on the water meter size.

Policy Recommendations

Beyond methodological incentives, the City is considering policy-based incentives that reduce or exempt SDCs for certain development types. Certain uses will be exempt from payment of SDCs, and either subject to a durational deed restriction requiring the exempt use to remain in place for a certain period, or requiring that on redevelopment, SDCs are paid without a credit for an existing, exempt use, Exemptions and credits are addressed in the Bend Municipal Code, and in attached Appendix C, describing the uses to which exemptions apply. Additionally, the stakeholder group discussed expansion of the City's existing program of deferral of the time SDCs are payable. This is also addressed in the Bend Municipal Code.

Table 1-3 summarizes the policy recommendations related to SDC implementation and administration that were developed as part of the SDC update:

Table 1-3. SDC Update Policy Recommendations

SDC Program Element	Recommendation
Exemptions	Provide 100% exemption from water SDCs for the following developments: • Affordable Housing[a] • Temporary shelters • Childcare facilities
Deferrals	• Expand program (in phases) from multi-unit only to all residential development and then possibly commercial. • Lock in SDC rate at time of permit application. • Require payment of SDCs any time prior to Certificate of Occupancy. • No development agreement required for participation in program.

[a] See Appendix C for definitions.

2. SDC Cost Basis

Introduction

The methodology used to calculate water SDCs begins with the determination of growth costs (the costs in aggregate associated with meeting the capacity needs of future growth). This section describes the growth capacity requirements and the costs of facilities needed to meet those requirements.

Growth Capacity Requirements

Planning Assumptions

At the center of the water SDC methodology is the framework for determining an equitable share of capital costs for future system users based on their capacity needs. The IWSMP identifies capacity needs for current development and projected future growth (through 2040) under various water demand conditions and service delivery requirements (e.g., fire flow and emergency storage). Table 2-1 shows existing and projected future capacity requirements systemwide for source of supply and delivery, and by zone for storage and pumping, as identified in the IWSMP.

Table 2-1. Water System Design Basis and Assumptions

System Component	Design Basis (Units)	Current	Future (2040)	Growth Units	Growth % of 2040
Source of Supply	MDD (mgd)	28.1	45.2	17.1	37.8%
Storage					
Zone 1	Storage (mg)	0.6	0.9	0.3	33.3%
Zone 2	Storage (mg)	1.0	1.4	0.4	30.1%
Zone 3	Storage (mg)	2.7	7.4	4.7	63.6%
Zone 4a	Storage (mg)	1.5	4.0	2.5	63.6%
Zone 4b	Storage (mg)	1.7	2.5	0.7	30.3%
Zone 5	Storage (mg)	7.4	11.6	4.3	36.7%
Pumping					
Zone 1	MDD (gpm)	582	691	109	15.8%
Zone 2	MDD (gpm)	632	747	115	15.4%
Zone 3	MDD (gpm)	6	29	23	79.3%
Zone 4b	MDD (gpm)	3,100	5,393	2,293	42.5%
Zone 2a	MDD (gpm)	552	774	222	28.7%

MDD = maximum day demand

mg = million gallons

gpm = gallons per minute

Maximum Day Demand (MDD) is defined as the highest daily recorded rate of water production in a year, and it is a factor in designing water supply, pumping, and delivery facilities. Storage facilities provide operational (or equalization) storage, and storage for emergency and fire protection needs. Growth requirements for pumping and storage include a pro-rata share of fire protection capacity.

Growth Share Framework

The framework and key assumptions used to determine growth's share of existing and planned future facility costs are summarized below for each major system component. The "growth share" determines how much improvement fee revenue the City can use to pay for an improvement on the SDC project list.

Source of Supply

The City's water supply sources include both surface water and groundwater facilities. As stated in the IWSMP, the City operates the system to maximize use of the surface supply when feasible and uses groundwater supply only to meet demands above the maximum available surface water supply.[7] The existing surface water facilities and groundwater improvements and surface water facility upgrades will be used to meet the total projected MDD of 45.2 million gallons per day (mgd) in 2040.

As shown in Table 2-2, growth is allocated 37.8 percent (3.5 mgd) of the total 9.5 mgd firm capacity of the surface water facilities, based on growth's share of 2040 MDD (from Table 2-1). The balance of growth's supply needs (13.5 mgd) will be met through new well construction (11.6 mgd) and available capacity in existing wells (1.9 mgd).

[7] IWSMP, "Supply Analysis", 4-11.

Table 2-2. Source of Supply Capacity and Growth Allocations

System Component	Firm Capacity (mgd)	Existing Capacity for Growth (mgd)	Future Capacity for Growth (mgd)	Total Growth Capacity (mgd)	Growth Share (%)
Surface Water	9.5	3.6	--	3.6	37.8
Groundwater Wells					
New Zone 3	1.6	--	1.6	1.6	100.0
New Zone 4	5.0	--	5.0	5.0	100.0
New Zone 5	5.0	--	5.0	5.0	100.0
Existing Facilities	25.3	1.9	--	1.9	7.5
Total Supply	**45.2**	**5.5**	**11.6**	**17.1**	**37.8**

Storage

Growth storage needs through 2040 are about 13 million gallons (mg), including a pro-rata share of fire and emergency storage capacity. These needs are met first by new reservoir capacity, as follows:

- New Zone 4 reservoir: 2.6 mgd (growth share = 64% of total 4.0 mgd facility)
- New Zone 5 reservoir: 3.0 mgd (growth share = 100%)
- New Zone 3 reservoir: 4.0 mgd (growth share = 57.1% of total 7 mgd facility)

The balance of growth storage needs will be met by existing reservoir available capacity (approximately 3.4 mg). Allocations of storage capacity differ in some cases from the calculated growth needs of the specific zones due to the integrated nature of the system (i.e., ability to move water between zones), the need to account for “dead” storage, and tank size rounding. The reimbursement fee cost basis includes the value of existing facility available capacity that ranges between 11 percent and 38 percent by zone.

Pumping

No new pump stations are planned in the IWSMP, so growth capacity needs will be met by existing system facility available capacity exclusively, including capacity from the City’s recently completed Murphy pump station. Growth allocations reflect planning assumptions by zone provided in Table 2-1 and range between 15 percent and 79 percent.

Transmission & Distribution

Water delivery for future development will utilize both existing system facilities and future water main extensions and upgrades. Existing facility costs are allocated in proportion to future MDD (i.e., 37.8 percent for growth). Existing and future development across the system are served by an integrated network of water mains designed to provide adequate pressure for fire flow, redundancy in the case of asset failure, and delivery of supply from various sources.

For new water main improvements, the following approaches are used in determining the growth share of project costs:

- **Transmission:** Most new transmission mains (e.g., mains to serve new storage and supply facilities) are allocated 100 percent to growth. For mains that will be upsized, the allocation to growth excludes the portion of capacity needed to replace the existing main size.
- **Distribution – Capacity:** Based on the IWSMP project list, few distribution projects (limited to new connections) are allocated 100 percent to growth. Most projects are improvements to

upsize existing mains, where the portion of project costs allocated to growth excludes the replacement capacity associated with the existing main size.

- **Distribution – Fire flow and looping**: Based on the IWSMP project list, all new and upgraded distribution pipes needed for fire flow are allocated 100 percent to existing development. Growth SDC allocation = 0 percent.
- **Distribution – Pipe Replacement**: Based on the IWSMP project list, all general pipe replacement costs are excluded from the SDCs, as the existing facility costs are already accounted for in the allocation of existing system available capacity.

Support Facilities

Existing water system facilities include Supervisory Control and Data Acquisition (SCADA) systems and other facilities that support the operation of water system for both existing and future development. Therefore, these facilities are allocated in proportion to growth's share of future MDD (growth = 37.8 percent).

Reimbursement Fee

Table 2-3 summarizes the existing system facility costs by major component and the growth share of costs net of contributed capital and facilities that will be replaced by improvements on the project list. The reimbursement fee cost basis reflects the original acquisition costs of system assets as of June 30, 2022.

Table 2-3. Reimbursement Fee Cost Basis

System Component	Acquisition Cost	Exclusions[a]	Net Acquisition Cost	Growth %	Growth Cost
Source of Supply					
Surface Water	$77,327,373		$77,327,373	37.8%	$29,215,986
Groundwater	$13,343,624	$978,130	$12,365,494	7.5%	$929,611
Storage					
Zone 1 (Tower Rock)	$56,000	$0	$56,000	12.0%	$6,702
Zone 2 (College 1 & 2)	$100,056	$0	$100,056	11.4%	$11,381
Zone 3 (Outback 2 & 3)	$4,909,098	$0	$4,909,098	12.0%	$589,670
Zone 4A (Overturf E&W, Westwood)	$1,449,387	$1,449,387	$0	0.0%	$0
Zone 4B (Rock Bluff)	$163,900	$0	$163,900	30.0%	$49,170
5 (Awbrey, Pilot 3)	$4,673,241	$0	$4,673,241	28.1%	$1,313,181
Pumping					
Zone 1 Awbrey	$1,049,300	$0	$1,049,300	15.8%	$165,789
Zone 2 College	$252,000	$0	$252,000	15.4%	$38,808
Zone 3 Murphy	$832,197	$0	$832,197	79.3%	$659,932
Zone 4b Scott	$137,723	$0	$137,723	42.5%	$58,557
Zone 2a Tetherow	$0	$0	$0	0.0%	$0
Transmission & Distribution					
City funded	$49,820,478	$1,459,818	$48,360,660	37.8%	$18,271,724
Developer funded	$68,648,079	$68,648,079	$0	0.0%	$0
Support Facilities					
SCADA	$3,029,732	$0	$3,029,732	37.8%	$1,144,699
Meters	$10,921,707	$10,921,707	$0	0.0%	$0
Total	**$236,713,896**	**$83,457,120**	**$153,256,775**	**34%**	**$52,455,212**

Source: City of Bend "Fixed Assets and Work in Progress", June 30, 2022.

[a] Includes developer-funded infrastructure and facilities to be replaced by planned improvements.

Improvement Fee

As mentioned previously, the methodology for establishing an improvement fee must demonstrate 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.

Project List

The cost of future capacity-increasing improvements (the improvement fee cost basis) is based on the SDC project list shown in Table A-1 of Appendix A that is based on the IWSMP capital improvement plan. The improvement costs reflect estimated cost inflation since the plan was

adopted in 2021. Specifically, the Engineering News Record (ENR) Construction Cost Index (CCI) for Seattle was used as a basis for cost escalation through February 2023 (index = 15,087.53).

Local water mains needed to bring service directly to new developments will be constructed by developers and are therefore excluded from the project list. Where developers are required to build improvements that are included on the project list as a condition of development approval, they will be potentially eligible for SDC credits, in accordance with the City's policies identified in City Code.

Each improvement on the project list was reviewed in the context of the growth share framework discussed previously to determine the portion of costs that are SDC-eligible (i.e., increase capacity for future growth). Based on the SDC Statutes, an increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities.

Improvement Fee Cost Basis

Table 2-4 summarizes the future improvement costs by major component and the growth share of costs net of direct developer funding. Detailed project information, including description, estimated cost, timing, and SDC-eligible share and costs are provided in Table A-1 (Appendix A).

Table 2-4. Improvement Fee Cost Basis

System Component	Improvement Cost	Growth %	SDC-Eligible Growth Cost
Source of Supply			
Surface Water	$19,560,852	37.8%	$7,390,521
Groundwater	$40,349,148	89.6%	$36,165,597
Storage			
Zone 4	$13,715,825	64.0%	$8,778,128
Zone 5	$11,013,982	100.0%	$11,013,982
Zone 3	$21,842,137	57.1%	$12,481,221
PRVs	$378,992	37.8%	$143,191
Transmission & Distribution			
Distribution	$13,541,000	55.2%	$7,478,733
Transmission	$43,158,576	69.7%	$30,074,798
Total	**$163,560,513**	**69.4%**	**$113,526,173**

Source: IWSMP capital improvement plan.

Compliance Costs

Local governments may spend SDCs on the costs of complying with the SDC Statutes. Compliance costs include costs related to developing the SDC methodology and project list, as well as compliance functions performed across several different departments.

Table 2-5 shows the calculation of the estimated compliance costs based on the 20-year planning period. The estimated compliance costs include 37.8 percent of master planning costs (associated with development of the project list and other information needed for the SDC methodology). Periodic updates to the project list and methodology are amortized over the planning period to determine the annual cost estimates.

Table 2-5. Compliance Costs

Cost Category (Example Costs)	Growth Cost
Multi-System "Shared" Compliance Costs by Department (Annual)[a]	
Finance (Budgeting, accounting, reporting)	$18,458
Planning (SDC calculations and credits)	$21,716
Development Services (credits, website updates, updates)	$361,653
Engineering (appeals, developer agreements)	$5,883
Building Department (permit techs)	$2,068
CEDD Administration (administrative support)	$1,505
Office of Performance Management (software maintenance)	$85,653
City Administration (legal review, code development, appeals)	$80,806
SDC Methodology[b]	$42,857
Software Modifications[b]	$2,369
Total Shared Costs (Annual)	**$622,969**
Total Shared Costs (20-Year)	**$12,459,378**
Allocated Water System Compliance Costs (20-Year)	
Water System Master Planning Costs (37.8 percent growth)[bc]	$1,385,724
Water Share of Multi-System Compliance Costs (25% of Total Shared Costs)	3,114,845
Total Water Compliance Cost (20-Year)	**$4,500,569**

[a] City of Bend estimate. CEDD = Community and Economic Development Department

[b] Assumes three updates amortized over planning period.

[c] Reflects IWSMP capital improvement plan estimates.

Unit Costs of Capacity

System-wide unit costs of capacity (shown in Table 2-6) are determined by dividing each cost basis component by the aggregate growth-related capacity requirements over the planning period from Table 2-1. These unit costs are then used to develop the SDCs for each development category, as described in Section 3.

Table 2-6. Unit Costs of Capacity

SDC Component	Cost Basis
Growth ($)[a]	
Reimbursement	$52,455,212
Improvement	113,526,173
Compliance	4,500,569
Total	**$170,481,953**
Growth Capacity (gpd)	17,070,000
Unit Cost ($/gpd)	
Reimbursement	$3.07
Improvement	6.65
Compliance	0.26
Total $/gpd	**$9.99**

[a] From Tables 2-3 to 2-5.

3. SDC Charge Basis

Introduction

Water SDCs are determined for individual developments based on the systemwide unit cost of capacity presented in Section 2 and the estimated service requirements of the development. Water service requirements are both a function of the type of land use and the scale of the development. The SDC schedule establishes the charges that will be assessed for each land use category and the units of measure that will be used to determine the development scale and total SDCs owed.

The water SDC schedule based on this methodology and project list is shown in Appendix B (Table B-1). This section describes the determination of SDC categories and the estimated service requirements for each category.

Water SDC Categories

As discussed in Section 1, a primary objective of the updated SDC methodology framework is greater efficiency and consistency in how SDCs are determined across the City's water, sanitary sewer, and transportation systems. Establishing a limited number of land use categories with individualized fees is key to enhanced administrative efficiency and clarity. Part of the efficiency gained from this type of approach is a reduction in the number of SDC reassessments for commercial and industrial tenant improvements (TI) for changes in use alone. A methodology with fewer distinct SDC categories may also make it easier for developers to estimate charges for a particular project, as the overlap between categories is reduced. As indicated in *Proportionate Share Impact Fees and Development Mitigation*:

> *An alternative approach is to use a smaller number of broader, more generalized nonresidential categories. Having learned that attempts to enumerate every possible land use in the fee schedule is both unnecessary and overly complicated, many communities are now moving in this direction.* [8]

Therefore, consistent with current industry practice and the City's policy framework, the SDC schedule shown in Table B-1 consolidates similar uses into eight (8) primary residential and about two dozen nonresidential SDC categories. Sample development types and descriptions of each category are also provided in Appendix B. Many of the category definitions are based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th edition,* as they are also used for transportation SDC purposes. These categories will be included in the City's adopted fee resolution. The City may periodically review, and update SDC category definitions included in the City's SDC fee resolution(s), as needed to reflect more current editions of the ITE manual and evolving land use types and forms developing in the City. Such updates will not be considered changes to this methodology.

[8] "Arthur C. Nelson, James C. Nicholas, Julian Conrad Juergensmeyer, and Clancy Mullen, *Proportionate Share Impact Fees and Development Mitigation* (Routledge, 2023), 128.

Residential Categories

Table 3-1 shows the residential SDC categories included in the SDC methodology framework. Single unit (detached and attached units on individual lots) and middle housing with two-four units (e.g., duplex, triplex, quadplex, and townhomes) are combined for SDC assessment purposes and will be charged according to tiers based on size of living area of the unit. Under Oregon House Bill 2001 (2019) and the City's development code, any lot zoned for single unit detached housing may also be developed with up to four units (attached or detached), so combining these housing types is administratively straightforward, and a tiered structure enhances equity within the overall category, as it scales the SDC in proportion to water service requirements.

Scaled SDCs that charge lower fees for smaller homes and higher fees for larger homes are a way to capture different system impacts and balance the City's housing affordability objectives with the need to fund infrastructure.[9] For residential development, U.S Census data generally show a relationship between the size of the dwelling unit and the number of occupants which is a factor in demand for most types of infrastructure. National and local research have indicated that building size is a strong predictor of water consumption (impacting both water and wastewater systems).[10]

Table 3-1. Residential SDC Categories[a] and Service Requirement Measure

SDC Category	Unit of Measure
Single Unit & Middle Housing	
Living Area Tiers	Dwelling Unit
Tier 1 (<600 SQ FT)	Dwelling Unit
Tier 2 (601-1200 SQ FT)	Dwelling Unit
Tier 3 (1201-1600 SQ FT)	Dwelling Unit
Tier 4 (1601-2200 SQ FT)	Dwelling Unit
Tier 5 (2201-3000 SQ FT)	Dwelling Unit
Tier 6 (>3001 SQ FT)	Dwelling Unit
Multi-Unit Housing	
Housing >4 units on a single lot	Dwelling Unit
Manufactured Dwelling in Park	Dwelling Unit/Pad
Micro-Units/Single Occupancy	Dwelling Unit
Dormitories	Room
Attached Sr. Housing >4 units (55+ restricted, no care)	Dwelling Unit
Other Housing	

[9] As noted in *Proportionate Share Impact Fees and Development Mitigation*: "Moreover, when calibrated to reflect the costs of housing – where smaller homes on smaller lots in areas that cost less to serve are assessed at a lower value than larger homes on larger lots – impact fees can improve housing affordability.", xxxv.

[10] See for example "Residential End Uses of Water" (Water Research Foundation, 2014) which found indoor water use to be most significantly impacted by household size and "Spatial Variations of Single-Family Residential Water Consumption in Portland, Oregon" Chang, H., Parandvash, G.H. and Shandas, V. (2010) which found building size to be the best indicator of water consumption for single-family residential households, followed by building density.

Continuing Care Facility[b]	Units
Accessory Dwelling Unit[c]	Dwelling Unit

[a] Single unit housing includes manufactured homes on single lots and senior detached housing. Middle housing = 2-4 dwelling units on a single lot, including townhomes and cottage housing, as defined in the Bend Development Code. Full category descriptions are included in Appendix B and controlling definitions are found in the City's adopted Fee Resolution.

[b] Units include a mix of beds and dwelling units in these facilities.

[c] ADU = dwelling unit if water meter needed to serve primary dwelling unit plus ADU is larger than meter sized for only a primary dwelling unit on property.

Multi-unit development categories include attached or detached housing (more than four units on a single lot) and special categories for small multiple-unit developments (micro or single occupancy units), dormitories, and age-restricted senior housing without care facilities. For these categories, a uniform SDC per dwelling unit applies within each category due to the relatively limited dwelling size and water use variations observed from available City of Bend billing data (compared to single unit and middle housing units), the additional complexity of measuring individual units in larger scale multi-unit development, and affordability concerns for family-sized units.

Other housing categories are limited to continuing care facilities (defined as facilities that provide a continuum of housing types along with medical care facilities and other amenities such as dining) and accessory dwelling units (ADUs). Based on the current and continued recommended policy framework, the City does not charge SDCs for ADUs that may be accommodated by the same meter size as the primary dwelling unit.

Nonresidential Categories

Table 3-2 shows the nonresidential SDC categories and units of measure included in the water SDC methodology framework. The determination of nonresidential categories began with an analysis of the City's existing categories for transportation and sewer SDCs which included dozens of land use types. Though the City's 2007 water SDC methodology was based on water meter size (not the type of nonresidential use), the revised methodology framework is designed to bring consistency across the infrastructure systems, additional scaling of SDCs within a given meter size, and to reduce the number of existing categories used for transportation and sewer SDC assessment purposes. A meter size based SDC is retained for small and moderate sized[11] irrigation uses only.

Standard Categories

As shown in Table 3-2, the nonresidential SDC framework includes standard use categories that will be charged based on gross square feet (SQ FT) of building area (consistent with the sewer and transportation SDC methodologies). For industrial and manufacturing uses, the methodology includes a standard 'light' industrial rate and a formula for calculating the SDCs for 'wet' industries (i.e., any industry that uses water in the manufacturing process, or for cleaning, packaging, etc.) based on individual customer water service requirements, as further defined in the SDC fee resolution adopted by the City Council.

Retail/Services categories shown in Table 3-2 apply to most forms of retail/service establishments, including stand-alone developments (if not otherwise listed in the table) and all uses that are part of an integrated group of commercial establishments[12] (e.g., shopping

[11] Defined as stand-alone metered irrigation uses with a meter size of 2 inches or smaller.

[12] Integrated development is defined as a development that is planned or developed as a unit with features such as shared parking or access.

centers, “strip” retail, and retail space within a mixed-use building), except the following which will be charged based on the individual category rates:

- Hotels and other tourist accommodations
- Parks
- Quick-service restaurants with drive-throughs
- Super stores
- Car washes
- Service/gas stations
- Car sales

Individual category rates listed in the schedule (e.g., Medical – Dental - Vet Office, Indoor Fitness and Recreation, General Office, Movie Theater, etc.) will apply in any case if the land use is the primary use.[13] For Retail/Service uses that have greater than 50 percent floor area used for warehouse/storage (e.g., furniture stores) and mixed Medical and General Office developments (where the General Office portion exceeds 25 percent of gross floor area),a separate categories (and SDCs) are provided due to the different service requirements of these uses.

[13] Refer to the Bend Development Code for definitions of “use, primary” and “use, secondary”, to determine appropriate categories.

Table 3-2. Nonresidential SDC Categories and Unit of Measure

SDC Category	Unit of Measure
Standard Categories[a]	
Light Industrial/Manufacturing	1,000 SQ FT
Warehouse/Storage/Dist. Center	1,000 SQ FT
Movie Theater	1,000 SQ FT
Indoor Fitness & Recreation	1,000 SQ FT
Church, Religious Organization	1,000 SQ FT
Hospital	1,000 SQ FT
Medical - Dental - Vet Office	1,000 SQ FT
General Office	1,000 SQ FT
Medical – Dental – Vet Office w/General Office >25% of building area	1,000 SQ FT
Super Store (with or w/out membership or discount) [b]	1,000 SQ FT
Stand-Alone Retail/Services with >50% Floor Area Warehouse/Storage	1,000 SQ FT
Integrated & Stand-Alone Retail/Services (all sizes)[c]	1,000 SQ FT
Car Sales[b]	1,000 SQ FT
Banks/Financial Institutions	1,000 SQ FT
Restaurant (Table Service)	1,000 SQ FT
Quick Service Restaurant (Counter Service)	1,000 SQ FT
Special Unit Categories	
Public Parks, Private/Public Golf Course[b]	
Community space	1,000 SQ FT
Club house	1,000 SQ FT
Restroom	Each
Outdoor pool (not part of indoor fitness center)	1,000 SQ FT Surface Area
Separate irrigation space >1/4 acre	Meter Size
Childcare	Child
Schools K-12	Student
College/University	Student
Service Station/Gas Sales[b]	Each
Manual Car Wash[b]	Bay
Automated Car Wash[b]	Bay

SDC Category	Unit of Measure
Hotel/Motel/RV Park[b]	Room or Space
RV Dump Station (for Park Only)	Space
RV Dump Station (Open to Public)	Each
"Wet" Industrial[d]	Est. GPD MDD

[a] Additional irrigation charges apply for stand-alone water meters or for non-residential uses with >1/4 acre irrigation area served by a combined meter.

[b] Individual category rates apply even if part of integrated development.

[c] Integrated development is defined as a development that is planned or developed as a unit with features such as shared parking or access.

[d] Industrial customers that use water in the manufacturing process, or for cleaning, packaging, etc. MDD = maximum day demand.

Special Categories

As shown in Table 3-2, there are several uses (e.g., schools, gas sales, car wash, and lodging and outdoor park and recreation facilities) that will be charged based on units of measure other than building area or that are specific to the water SDC methodology (e.g., public pools and irrigation). Water meters used primarily to irrigate parks, fields, common areas, or other spaces, will be charged based on the water meter size for meters up to 2 inches, as shown in Table 3-3. For developments with stand-alone irrigation that require a separate water meter larger than 2 inches and for irrigation areas larger than ¼ acre that will be served by a meter also serving non-irrigation uses, the irrigation service requirements will be determined based on an individualized water use analysis, that will consider the irrigation specific water meter sizing requirements and other factors.

The City has a minimum standard meter size of 1-inch for irrigation purposes.

Table 3-3. Irrigation Meter SDC Categories

Meter Size[ab]	Unit of Measure
1-inch	Meter
1.5 inch	Meter
2-inch	Meter
3-inch and Larger	Estimated MDD (GPD)

[a] Applies to meters where irrigation is primary use.

[b] Reflects City requirement of 1-inch meter minimum.

Water Service Requirements

General Approach

As discussed in Section 2, a primary sizing consideration for water system infrastructure is the maximum day demand (MDD) of customers. Thus, water SDCs are designed to recover costs from individual developments in proportion to their estimated maximum day water delivery requirements. The MDD is the largest quantity of water delivered to the system over an actual 24-hour period and the average day demand (ADD) is the annual system demand divided by 365 days.

The Integrated Water System Master Plan (IWSMP) water demand projections for future growth are based on existing development average historical water consumption per residential dwelling unit and nonresidential employee. To account for water losses, projected system production requirements include a 5.5 percent adjustment to water consumption. System production records are then used to determine the ratio of MDD to ADD (2.14 based on the 2012-2018 period) for purposes of projecting future MDD production requirements for the water system.

Consistent with the IWSMP projections for overall system demands, estimating service requirements for each SDC category began with an analysis of existing customer historical average water use, based on utility billing data provided by the City. To estimate consumption requirements under MDD conditions for the SDC analysis, average consumption during the peak summer period (defined as the two highest months between July and September) was determined for each SDC category.[14] These maximum *month consumption* estimates were then adjusted to maximum *day production* estimates based on the IWSMP average water loss factor and a peak month to peak day conversion factor.[15] An additional factor (5 percent) was applied to the MDD production estimates to account for differences in the average use during the data period analyzed for the SDCs (2017-2022) and the IWSMP historical period (2012-2018).

Residential Service Requirements

Single Unit and Middle Housing

The City provides water service to about 24,000 residential accounts and sewer service to about 32,000 residential accounts. Water service to about one-third of residential accounts located in the City is provided by other providers (i.e., Roats and Avion). The City provided monthly water consumption data for the period 2017-2022 for each water customer account. Available information from the Deschutes County Assessor's Office was also provided for each account, including customer type, number of dwelling units, and dwelling unit size as measured by SQ FT of living area.[16] From this data, an analysis of the relationship between living area and peak summer month water use was conducted. Summary statistics are shown in Table 3-4 reflecting both maximum month consumption and estimated MDD production.

[14] Use rates were provided by the City for each month over the five years. The maximum monthly rate was estimated by first averaging a July, August, September estimate over the five-year sample, selecting the two highest months, and then averaging those monthly rates. Cubic feet per month were then converted to gallons per day by multiplying by 7.481 gallons per cubic feet and dividing by an estimated 30 days per month. Sewer rates were estimated by taking a monthly average of December, January, and February rates and then converting to gallons per day.

[15] Based on information contained in Table 2-5 of the IWSMP, system max month to ADD production is 1.99, while system MDD to ADD is 2.14.

[16] Deschutes County Property Information System records do not provide individual dwelling unit sizes for middle housing attached structures on the same lot. In this case, the total square footage for tax lot was assumed to be equally distributed across all units.

Table 3-4. Single Unit and Middle Housing Service Requirements per Dwelling Unit

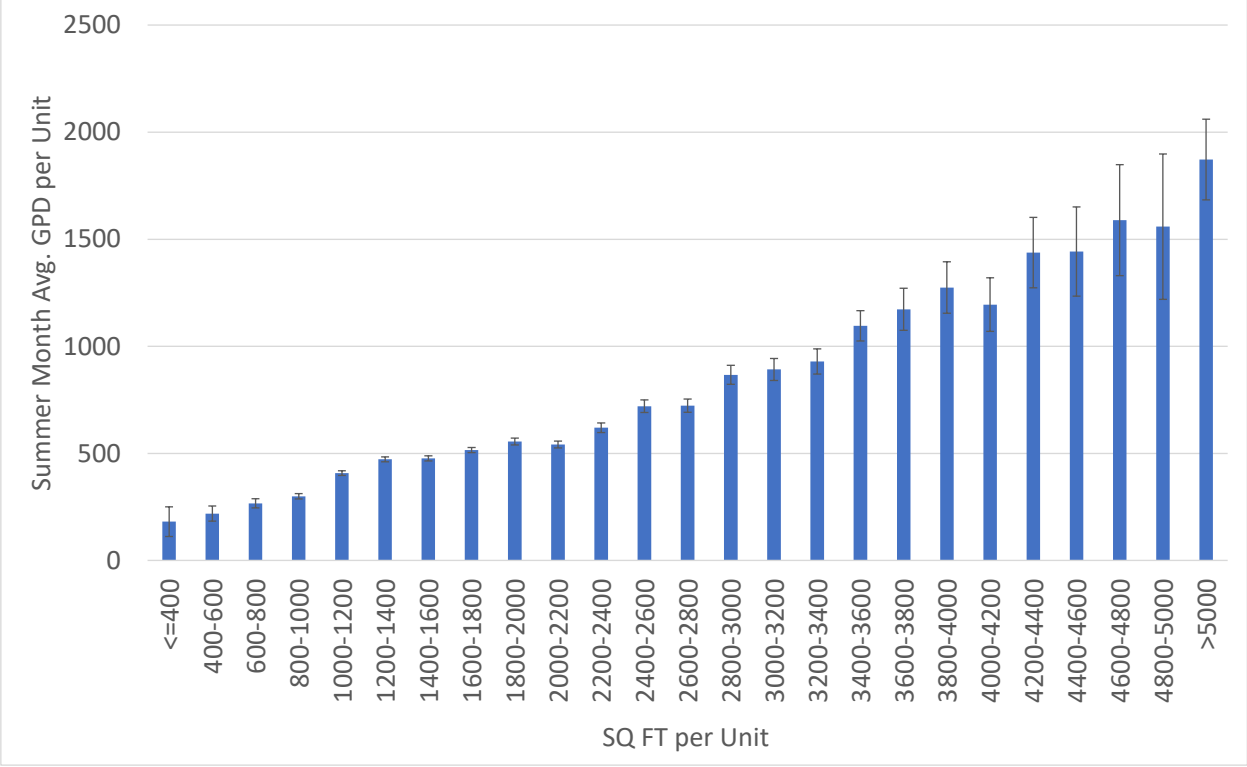
System Component	Number of Dwellings	% of Dwellings	GPD/Unit (Max Month Consumption)[a]	GPD/Unit (MDD Production)[b]
Average (for comparison only)			***595***	***709***
Living Area Tiers				
Tier 1 (<600 SQ FT)	152	0.6%	213	254
Tier 2 (601-1200 SQ FT)	3,871	16.2%	360	429
Tier 3 (1201-1600 SQ FT)	5,309	22.2%	475	566
Tier 4 (1601-2200 SQ FT)	7,198	30.1%	535	638
Tier 5 (2201-3000 SQ FT)	4,702	19.6%	710	846
Tier 6 (>3001 SQ FT)	2,718	11.3%	1141	1,360
Total	**23,950**	**100.0%**		

[a] Reflects average consumption during the two highest summer months.

[b] Adjusted for water system losses and peak month to peak day ratio.

Figure 3-1 shows the maximum month water consumption per unit for single unit and middle housing units across the full spectrum of unit sizes that was used to evaluate alternative tier structures.

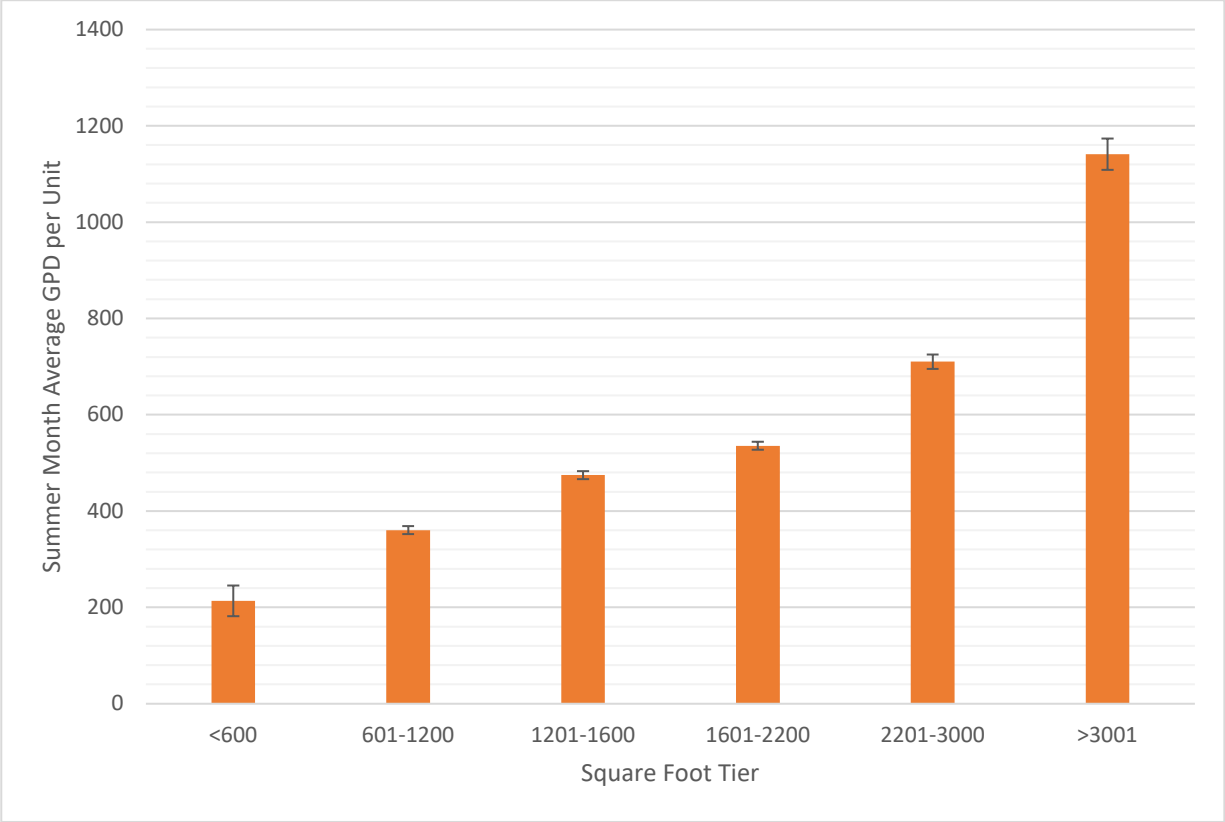
Figure 3-1. Single Unit and Middle Housing Average Summer Water Consumption (GPD) per Unit by Size of Unit (SQ FT of Living Area) and Margin of Error



Several tier options were considered before the six-tier structure shown in Tables 3-1 and 3-4 was selected as the preferred option by a majority of stakeholders. Initially, two scaling options were developed using a five-tier structure. A five-tier structure is currently used by the Bend Park and Recreation District (BPRD) for SDC purposes; however, the BPRD tiers (defined through an earlier SDC methodology development process) are not consistent with the City's current development code as it applies to small dwelling units and alternative housing types. Specifically, the City's current development code[17] defines some small dwelling unit types (e.g., cottage housing) as structures between 600 SQ FT and 1,200 SQ FT, while BPRD's SDC structure has tiers include cut-offs at 500 SQ FT and 1,000 SQ FT. The recommended water tier structure includes cut-offs at 600 SQ FT and 1,200 SQ FT for consistency with the City's current development code.

Furthermore, at the suggestion of members of the SDC Stakeholder Group, a sixth tier was included to provide additional incentives on the lower end of the dwelling size range, compared to the five-tier options. Specific breakpoints for the tiers were selected based on both statistical significance of tiers across infrastructure systems (given the City's desire for a uniform tiering structure for water, sanitary sewer, and transportation infrastructure), and the development code considerations. Figure 3-2 shows the average use and margin of error bars for each tier. The margin of error is an indication of the variability of the data and the confidence of individual estimates. Larger error bars can be an indication of more variability in a tier or smaller sample sizes (as is the case for Tier 1 "<600"). Evaluation of confidence intervals provides the opportunity to group dwelling unit sizes such that the average use within each tier is distinct from other tiers.

Figure 3-2 Single Unit and Middle Housing Average Summer Water Use (GPD) per Unit by Living Area Tier and Margin of Error



[17] Bend Development Code BDC 3.8.300.

Multi-Unit and Other Housing Requirements

Water service requirements for multi-unit and other housing units are derived from a combination of City utility billing data, U.S Census data, and benchmark information where local data were not available. Summary statistics for each category are shown in Table 3-5.

Table 3-5. Multi-Unit and Other Housing Service Requirements per Dwelling Unit

System Component	Source of Estimate	GPD/Unit (Max Month Consumption)	GPD/Unit (MDD Production)[a]
Multi-Unit Housing			
Housing >4 units	Billing Data	163	194
Manufactured Dwelling in Park	Billing Data	294	350
Micro-Units/Single Occupancy[b]	Billing & Census Data	100	119
Dormitories[b]	Benchmark Data	100	119
Attached Sr. Housing (55+ restricted, no care)[c]	Benchmark Data	133	158
Other Housing			
Continuing Care Facility[c]	Benchmark Data	149	177
Accessory Dwelling Unit[d]	NA	NA	NA

GPD = Gallons per Day, MDD = Maximum Day Demand, N/A = not applicable

[a] Adjusted for water system losses and peak month to peak day ratio.

[b] Multi-unit housing >4 units rate X 0.61 (1.10 persons per unit avg. occupancy for 0- bedroom units/1.78 avg. occupancy for all multi-units).

[c] Based on data from 2019 Water Research Foundation report 4619A (*Developing Water Use Metrics for Commercial and Institutional Sectors*).

[d] ADU = dwelling unit if water meter needed to serve primary dwelling plus the ADU is larger than meter sized for primary dwelling unit on property.

As discussed previously, the SDC structure for multi-unit and other housing is based on a uniform average service requirement per unit to balance both technical considerations and policy objectives. City billing data were used to determine peak summer month consumption for housing units greater than four (4) units and manufactured dwelling units in parks. For micro-units and single occupancy units, the average water use reflects 61 percent of the "Housing >4 units" category. This is based on the ratio of average occupants for a studio dwelling with 0 bedrooms (1.10 person) relative to the overall attached housing average (1.78 persons) from U.S. Census data for Deschutes County.[18] The dormitory category rate is the same as the micro-unit rate and is similar to assumptions used by other communities, as shown in Appendix D. Benchmark information for senior attached housing and continuing care categories is based on information from the 2019 Water Research Foundation Report: *Developing Water Use Metrics for Commercial and Institutional Sectors.*[19]

[18] 2020 American Community Survey Public Use Microdata Sample (PUMS) for Deschutes County. (PUMS Microdata Area 00400)

[19] Fedak, R., D. Hannon, Z. Taylor, and A. Volckens. 2019. *Developing Water Use Metrics for the Commercial and Institutional Sectors*. Project 4619a. Denver, CO: The Water Research Foundation.

Nonresidential Service Requirements

Water service requirements for nonresidential SDC categories are derived from City billing data (for most standard categories), and benchmark information for other specialty categories. Summary statistics are shown in Table 3-6.

Table 3-6. Nonresidential SDC Categories and Service Requirements per Unit

SDC Category	Source of Estimate	GPD/Unit (Max Month Consumption)[a]	GPD/Unit (MDD Production)[b]
Standard Categories (per 1,000 SQ FT Building Area)[c]			
Light Industrial/Manufacturing	Billing Data	95	113
Warehouse/Storage/Dist. Center	Billing Data	65	78
Movie Theater	Benchmark	196	233
Indoor Fitness & Recreation	Billing Data	419	499
Churches, Religious Organizations	Benchmark	120	143
Hospital	Billing Data	346	413
Medical – Dental – Vet Office	Billing Data	268	320
General Office	Billing Data	177	211
Medical – Dental – Vet Office w/General Office >25% of building area	Billing Data	232	276
Super Store (with or w/out membership or discount)	Billing Data	140	167
Stand-Alone Retail/Services with >50% Floor Area Warehouse/Storage	Billing Data	104	124
Integrated & Stand-Alone Retail/Services (all sizes)	Billing Data	208	248
Car Sales	Billing Data	117	139
Banks/Financial Institutions	Billing Data	152	181
Restaurant (Table Service)	Billing Data	653	778
Quick Service Restaurant (Counter Service)	Billing Data	653	778
Special Unit Categories (Units Vary)			
Public Parks, Private/Public Golf Course[c]			
Community space (per 1,000 SQ FT)	Benchmark	120	143
Club house (per 1,000 SQ FT)	Billing Data	167	200
Restroom (each)	Benchmark	451	508
Outdoor pool (1,000 SQ FT surface area)	Benchmark	251	299
Separate irrigation space >1/4 acre	Billing Data	Meter Size	NA
Childcare (per child)	Benchmark	na	12
Schools K-12 (per student)	Benchmark	na	24
Colleges/Universities (per student)	Benchmark	na	36

SDC Category	Source of Estimate	GPD/Unit (Max Month Consumption)[a]	GPD/Unit (MDD Production)[b]
Service Station/Gas Sales (each)	Benchmark	450	476
Manual Car Wash (per bay)	Benchmark	300	317
Automated Car Wash (per bay)	Benchmark	3,700	3,915
Hotel/Motel/RV Park (per room or space)	Billing Data	135	161
RV Dump Station for Park (unserved space)	Benchmark	na	na
RV Dump Station for Public (each)	na	na	na
"Wet" Industrial/Manufacturing	Customer Water Analysis	na	na

MDD=Maximum Day Demand, GPD = gallons per Day, N/A = not applicable

[a] Reflects average use 2017-2022 during two highest summer months.

[b] Adjusted for water system losses and system peak month to peak day ratio.

[c] Service requirements do not include irrigation impacts. Additional irrigation charges apply for stand-alone meters or for non-residential uses with>1/4 acre irrigated area and is served by a meter with other uses.

Standard Development Categories

As for residential customers, the City provided monthly water consumption data for the period 2017-2022 for each nonresidential water customer account. Available information from the Deschutes County Assessor's Office was also provided for each account, including building size as measured by total square feet (SQ FT) of building area.[20] The City also provided information on the type of nonresidential account, where information was available from business license data. Average summer month consumption per 1,000 SQ FT of building area was converted to MDD production based on the process described previously.

Sample sizes for land use categories within the City of Bend billing database vary. Furthermore, verification of information for individual tax lots and utility accounts is beyond the scope of this study. Therefore, data from other local and state agencies (summarized in Appendix D) were used to supplement billing data for some categories where sample sizes were small (e.g., churches and religious organizations) and to benchmark results for other categories.

Special Unit Categories

Water use data for special unit categories is based on benchmark data for indoor school use, car washes, gas sales, pools, and restrooms. Billing data and room counts for lodging customers provided by the City were used to determine lodging service requirements per room, which were also compared to other utility surveys shown in the Benchmark data. Service requirements for community spaces are based on benchmark data for churches. Golf course club house service requirements reflect City billing data.

[20] Deschutes County Property Information System records do not provide individual dwelling unit sizes for middle housing attached structures on the same lot. In this case, the total square footage for tax lot was assumed to be equally distributed across all units.

‘Wet” Industries

SDCs for larger and more intensive industrial water users like breweries, distilleries, data centers and other customer that use water in the manufacturing process (for product, cleaning, etc., as defined in the adopted SDC fee resolution) will be determined based on the estimated water use of the customer (determined from a water analysis) and the following formula:

SDC = MDD of customer (in gpd) X system unit cost ($/gpd)

Where:

MDD of customer = highest daily projected rate of water consumption divided by the system loss rate of 5.5 percent. If a maximum day consumption rate is not available, the estimated maximum month rate of consumption multiplied by the 1.19 maximum day production factor may be used.

System unit cost ($/gpd of MDD) = $9.99, (as adjusted in the future for inflation adjustments and changes to the project list).

Irrigation

Additional SDCs will be applied to developments with stand-alone irrigation meters or large-scale irrigation (more than ¼ acre) served by a meter with other (e.g., indoor) water uses. Irrigation service requirements by meter size (up to 2 inches) are shown in Table 3-7 and reflect average summer month water use by meter size for existing nonresidential customers from City billing data (adjusted to MDD production, as described previously). Water service requirements for stand-alone irrigation requiring a meter larger than 2 inches and for irrigation areas larger than ¼ acre that will be served by a meter also serving other uses, will be determined based on the estimated irrigation needs for the development, given the significant variability of potential service demands and system impacts. For meters serving irrigation and other uses, the irrigation SDCs will be in addition to the fees assessed based on the SDC category.

Table 3-7. Irrigation Meter Service Requirements

Meter Size	Basis for Estimate[a]	GPD (Max Month Consumption)[a]	GPD (MDD Production)[b]
1-inch	Water Use Mean	1,453	1,731
1.5 inch	Water Use Mean	3,251	3,874
2-inch	Water Use Mean	5,361	6,389
3-inch and larger[c]	MDD (GPD)	Estimated from water use analysis	

MDD=Maximum Day Demand, GPD = gallons per Day

[a] Water use data from nonresidential customers by meter size for the period 2017-2022.

[b] Adjusted for water system losses and system peak month to peak day ratio.

[c] Also applies to irrigation >1/4 acre if being served by a meter with other (non-irrigation) uses.

SDC Schedule

The SDC for each development type is determined by multiplying the system-wide unit cost from Table 2-6 by the service requirement per unit for each SDC category as presented in Tables 3-4 through 3-7. Table B-1 in Appendix B provides the SDC schedule for each category based on the methodology framework outlined in Sections 1-3 and the SDC project list presented in Appendix A.

Future Modification to SDCs

Modifications to SDC Assumptions

Through calibration of consumption estimates to the IWSMP MDD production used for determination of the systemwide unit cost, IWSMP assumptions are applied consistently in the SDC methodology to the determination of the cost basis, unit cost, and service requirements estimates by SDC category.

As noted in the Capital Improvement Plan section of the IWSMP:

> *…projects may be delayed if demands are lower than projected, for example due to the continuing trend of decreasing per capita demands, or success in implementation of increased conservation program efforts.* [21]

The overall average MDD per dwelling unit for single unit housing decreased significantly from the City's prior water SDC methodology developed in 2007. Specifically, the 2007 methodology was based on 977 GPD per dwelling unit (consistent with the prior water master plan), while the updated MDD per dwelling unit is 708 GPD (consistent with the current customer usage patterns that served as the basis for development of water demand projections in the IWSMP). This reduction reflects a decline in per capita demands, particularly during the peak season.

Alternative SDC Calculations

The water SDC categories are intended to broadly capture the types of development projects in Bend. However, there will likely be instances where a development does not fit an established category, even with the broad definitions included in Appendix B. In those cases, the City will either determine the most applicable category for the use or a developer may elect to submit a water use analysis consistent with the parameters outlined in the Bend Municipal Code. The option to perform a separate water analysis only applies if the development does not fit the broad definition of an established category on the adopted SDC schedule.

Future Project List and Inflationary Adjustments

As allowed by SDC Statutes, the City may annually update the SDCs adopted by resolution based on application of an independent cost index and may apply the independent cost index to capture increased costs between the date of the last inflationary adjustment of this methodology. The City will use information published by the Engineering News Record (ENR) Construction Cost index for Seattle to determine the annual inflationary adjustment, or other index identified in the Bend Municipal Code.

Furthermore, as provided in ORS 223.309, the City may modify the project list shown in Table A-1 (also adopted by resolution) at any time. If a change in the project list will result in an increase to the SDCs, the City must also provide notification and review opportunities for the updated SDC schedule and project list.

Future inflationary adjustments, and updates to the SDC project list that do not result in an increase to the SDC schedule, do not require revision to this methodology report.

[21] Integrated Water System Master Plan, 6-17.

Appendix A – Water SDC Project List

Table A-1. Water SDC Project List

Project Number	Timing	Description	Estimated Project Cost	SDC %	SDC-Eligible Cost
		Supply Source			
O-1	2021-2030	Outback Facility Plan	$611,277	38%	$230,954
O-11	2021-2030	Townsite Act Land Acquisition	6,112,766	38%	2,309,538
TR-1	2021-2030	Pretreatment (Water Filtration Facility)	19,560,852	38%	7,390,521
W-15	2031-2040	New Bear Creek Zone 4 Well	4,950,118	100%	4,950,118
W-23	2031-2040	New Wilson Zone 4 Well #1	5,327,887	100%	5,327,887
W-24	2031-2040	New Wilson Zone 4 Well #2	5,327,887	100%	5,327,887
W-12	2031-2040	New Overturf Zone 5 Well	4,139,565	100%	4,139,565
W-26	2031-2040	New Purcell Paula Zone 5 Well #1	5,282,653	100%	5,282,653
W-27	2031-2040	New Purcell Paula Zone 5 Well #2	5,282,653	100%	5,282,653
W-8	2031-2040	New Outback Well	3,314,342	100%	3,314,342
		Supply Source Subtotal	**$59,910,001**		**$43,556,118**
		Storage Reservoirs			
T-9	2031-2040	New Overturf Zone 4 Reservoir	$13,715,825	64.0%	$8,778,128
T-11	2031-2040	New Overturf Zone 5 Reservoir	11,013,982	100%	11,013,982
T-2	2031-2040	Replacement Outback Reservoir #2 (Zone 3)	21,842,137	57.1%	12,481,221
	New	**Storage Subtotal**	**$46,571,945**		**$32,273,332**
		PRVs			
V-2	2031-2040	New Zone 4B to 5 PRV	189,496	38%	71,596
V-3	2031-2040	New Zone 4F to 5D PRV	189,496	38%	71,596
		PRV Subtotal	**$378,992**		**$143,191**
		Distribution Mains			

Project Number	Timing	Description	Estimated Project Cost	SDC %	SDC-Eligible Cost
P-15	2021-2030	Newport Avenue Replacement	$4,870,652	43%	$2,094,380
P-17	2021-2030	Revere Division and Thurston Upsize Part 1	2,539,243	55%	1,396,584
P-17	2031-2040	Revere Division and Thurston Upsize Part 2	2,539,243	55%	1,396,584
P-27	2031-2040	Upsize 6-inch pipe on Purcell Boulevard	226,172	75%	169,629
P-11	2031-2040	Zone 4F and Zone 4A Distribution Connection	314,196	100%	314,196
P-12	2031-2040	15th Street Upsize	234,730	56%	130,406
P-16	2031-2040	Roanoke Avenue Looping	415,668	44%	181,855
P-18	2031-2040	4th Street Upsize	363,098	100%	363,098
P-21	2031-2040	Metolius Drive Upsize	23,229	56%	13,008
P-26	2031-2040	Bear Creek Road Connections	960,927	38%	365,152
P-6	2031-2040	Niagara Court Upsize	583,158	100%	583,158
P-9	2031-2040	Skyliners Road and Flagline Drive Upsize	470,683	100%	470,683
		Distribution Subtotal	**$13,541,000**		**$7,478,733**
		Transmission			
P-13	2021-2030	New Awbrey Transmission	12,606,969	36%	4,538,509
P-19	2021-2030	6th Street Upsize	4,431,756	78%	3,461,175
P-20	2031-2040	8th Street Upsize and Parallel Transmission	7,316,981	86%	6,288,031
P-1	2031-2040	Outback Site Transmission	996,381	100%	996,381
P-10	2031-2040	New Zone 5 Overturf Reservoir & Well Trans	1,912,073	100%	1,912,073
P-2	2031-2040	Outback North Transmission Replacement	4,800,967	38%	1,813,911
P-22	2031-2040	Pilot Butte Parallel Transmission on Lafayette Ave.	1,643,112	100%	1,643,112
P-24	2031-2040	New and Upsize Bear Creek Well Trans	1,092,963	100%	1,092,963
P-25	2031-2040	Bear Creek Road Upsize 15th St to McCartney Dr	700,523	100%	700,523
P-4	2031-2040	Zn 3 to 4A Mt. Washington Dr. & Rivers Edge PRV Pipe Upsize	300,748	100%	300,748
P-5	2031-2040	Skyline Ranch Road Parallel	7,241,183	100%	7,241,183
P-7	2031-2040	Archie Briggs and Falcon Ridge Upsize	114,920	75%	86,190
		Transmission Subtotal	**$43,632,636**		**$30,074,798**
Total Project List			**$163,560,513**		**$113,526,173**

Appendix B – Water SDC Schedule

Table B-1. SDC Schedule

SDC Schedule[a]	Unit of Measure	SDC $/Unit
Residential Category		
Single Unit & Middle Housing		
Average (for comparison only)		*$7,075*
Tier 1 <600 SQ FT	Dwelling Unit	$2,538
Tier 2 (601-1200 SQ FT)	Dwelling Unit	$4,288
Tier 3 (1201-1600 SQ FT)	Dwelling Unit	$5,651
Tier 4 (1601-2200 SQ FT)	Dwelling Unit	$6,373
Tier 5 (2201-3000 SQ FT)	Dwelling Unit	$8,453
Tier 6 (>3001 SQ FT)	Dwelling Unit	$13,581
Multi-Unit Housing		
Housing >4 units on a lot	Dwelling Unit	$1,939
Manufactured Dwelling in Park	Pad/Space	$3,494
Micro-Units/Single Occupancy	Dwelling Unit	$1,184
Dormitories	Room	$1,184
Attached Sr. Housing (55+ restricted, no care)	Dwelling Unit	$1,577
Other Housing		
Continuing Care Facility	Units	$1,772
Accessory Dwelling Unit	Dwelling Unit	NA
Nonresidential Category [b]		
Standard Categories		
Light Industrial/Manufacturing [c]	1,000 SQ FT	$1,131
Warehouse/ Storage/ Dist. Center	1,000 SQ FT	$774
Movie Theater	1,000 SQ FT	$2,330
Indoor fitness & Recreation	1,000 SQ FT	$4,988
Church, Religious Organization	1,000 SQ FT	$1,429
Hospital	1,000 SQ FT	$4,122
Medical - Dental - Vet Office	1,000 SQ FT	$3,192
General Office	1,000 SQ FT	$2,107
Medical – Dental – Vet Office w/General Office >25% of building area	1,000 SQ FT	$2,758
Super Store (with or w/out membership & discount) [d]	1,000 SQ FT	$1,665
Stand-Alone Retail/Services with >50% Floor Area Warehouse/Storage [e]	1,000 SQ FT	$1,240
Integrated & Stand-Alone Retail/Services (all sizes) [f]	1,000 SQ FT	$2,480
Car Sales [d]	1,000 SQ FT	$1,392
Bank/Financial Institution	1,000 SQ FT	$1,809

Restaurant (Table Service)	1,000 SQ FT	$7,772
Quick (Counter) Service Restaurant	1,000 SQ FT	$7,772
Special Categories		
Public Parks, Private/Public Golf Course, Common Areas		
Community space	1,000 SQ FT	$1,429
Club House	1,000 SQ FT	$1,993
Restroom	Each	$5,069
Outdoor pool	1,000 SQ FT Surface Area	$2,988
Separate irrigation space >1/4 acre	Meter or Water Use	See meter and water use rates
Childcare	Child	$119
Schools K-12	Student	$238
Colleges/Universities	Student	$357
Gas Sales/Service Station [d]	Bay	$4,756
Manual Car Wash [d]	Bay	$3,171
Automated Car Wash [d]	Bay	$39,103
Hotel/Motel/RV Park [d]	Room or Space	$1,612
RV Dump Station (Park and Public)	NA	NA
"Wet" Industrial/Manufacturing [g]	MDD Water Use (per GPD)	$9.99

Stand-Alone Irrigation SDC Schedule

Meter Size (Inches)	Units	SDC $/Unit
1	Meter	$17,293
1.5	Meter	38,692
2	Meter	63,804
3 and Larger	MDD Water Use (per GPD)	$9.99

[a] See accompanying category definitions to be included in SDC fee resolution.

[b] Additional irrigation SDCs apply for irrigation only meters or for non-residential categories when irrigated area >1/4 acre.

[c] Excludes "wet" industries that use water for manufacturing, cleaning, etc.

[d] Individual category rates apply even if part of integrated development.

[e] Does not apply to stored products that require water for growing, cleaning, or other uses.

[f] Integrated development is defined as a development that is planned or developed as a unit with features such as shared parking or access.

[g] "Wet" industries are required to prepare individual water and sewer analysis.

SDC Category Definitions and Examples

Table B-2. SDC Category Definitions and Examples

Category[a]	Definition/Example Development Types[a]
Residential Categories	
Single Unit & Middle Housing	Single unit housing with up to 4 units on one lot or parcel. Includes middle housing (duplexes, triplexes, quadplexes, cottage developments up to 4 units on one lot or parcel, and townhouses) and up to three manufactured homes on a single lot. Units can be attached or detached.
Multi-Unit Housing	Includes multi-unit housing that is part of a mixed-use development.
Housing >4 units	Five or more dwellings on an individual lot or parcel (e.g., multi-plexes, apartments, condominiums, etc.). Units can be attached or detached.
Manufactured Dwelling Park	Manufactured dwelling park as defined in Bend Development Code (four or more manufactured dwellings located on a lot, tract or parcel of land under the same ownership)
Micro-Units/Single Occupancy	Generally, consists of one room used for living and sleeping purposes and includes permanent provisions for sanitation but does not include a kitchen. See BDC definitions.
Dormitories	On-campus housing for students.
Sr. Housing	Age-restricted (55+) attached housing without care facilities.
Other Housing	
Continuing Care Facility	Nursing home, residential care facility, adult family housing, hospice care, assisted living, rest home, convalescent home, congregate or continuing care facility.
Accessory Dwelling Unit	A small, secondary dwelling unit on a lot or parcel with a single-unit dwelling unit as a primary use.

Category[a]	Definition/Example Development Types[a]
Nonresidential Category	
Standard Categories	
Light Industrial/Manufacturing	May include a mix of manufacturing, service, office, research, lab, and warehouse functions. Many produce goods by assembling other products, such as assembly of computers or other electronics. May be used for research and development projects that are a combination office and lab, where lab is the predominant (>50%) square footage of the combined development area. For purpose of water and sewer SDCs, excludes 'Wet' Industries that use water in the production process (see separate SDC category and definition).
"Wet" Industrial	Users in this category use water during the production process for either creating their products or cooling equipment. Industrial water may also be used for fabricating, processing, washing, diluting, cooling, or transporting a product. Water is also used by industries producing chemicals, food, and beverage products. Breweries, distilleries, and data centers are examples of these types of customers. Water use shall be determined through a water and sewer analysis, as defined in the City Code.
Warehouse/ Storage/ Dist. Center	Warehouse, storage, and high cube fulfillment centers. Self or mini storage. For water and sewer, does not apply if stored products require water for growing, cleaning, etc. In this case, the Stand-Alone Retail/Services rates apply.
Movie Theater	Audience seating, with one or more screens, and a lobby and refreshment stand.
Indoor Fitness & Recreation	Public or privately owned fitness or recreation facilities that may include indoor/outdoor pools, saunas, gyms, classes, courts or specialized passive or active recreation facilities. Features space for exercise, sports, and recreation, as well as a broader range of services such as eating/drinking, preschools/day care and meeting rooms.
Church, Religious Organization	Public worship facilities may include assembly hall or sanctuary, meeting rooms, classrooms, and occasionally dining facilities.
Hospital	Buildings with medical, surgical diagnosis, treatment, and housing of persons under the care of doctors and nurses.
Medical - Dental - Vet Office	A facility that provides diagnoses and outpatient care on a routine basis but does not provide prolonged in-house medical/surgical care. May be operated by either a single private physician/dentist/practitioner or a group. Includes vet offices as well as chiropractic and other treatment modalities, mental health professionals, etc. May be connected to other uses (except hospitals) or stand-alone. If this use is part of an Integrated Retail/Services development, this individual land use rate only applies if medical/dental/vet office is the principal use. For stand-alone development with >25% floor area used for General Office space, then Medical-Dental-Vet Office w/General Office >25% of building area rate applies.

Category[a]	Definition/Example Development Types[a]
General Office	An administrative office building houses one or more tenants and is the location where affairs of a business, commercial or industrial organization, professional person or firm are conducted. The building or buildings may be limited to one tenant, either the owner or lessee, or contain a mixture of tenants including professional services, insurance companies, investment brokers, and company headquarters. May include onsite daycare or food service facilities provided for tenants. Also includes libraries and research & development projects that may be a combination of office and research lab facilities, when the lab is secondary use (i.e., <50% of building square feet). If part of Integrated Retail/Services development, individual land use rate only applies if the primary use.
Medical – Dental – Vet Office w/General Office >25% of building area	Medical – Dental – Vet Office w/General office greater than 25% of building floor area. If this use is part of an Integrated Retail/Services development, this individual land use rate only applies if medical/dental/vet office is the principal use.
Super Store (with or w/out membership & discount)	Store includes full-service grocery department and a variety of other customer services; has centralized cashiers and may have garden center. May or may not be part of shopping center or require membership. Examples include Costco, Walmart, Fred Meyer, etc. Additional retail pads within the development will be charged at the Integrated Retail/Services rate.
Stand-Alone Retail/Services with >50% Floor Area Warehouse/Storage	Retail uses that are not part of an integrated development, and with floor area greater than 50% for warehouse/storage. For water and sewer, this category does not apply if stored products require water for growing, cleaning, etc. In that case, the regular Stand-Alone Retail/Services rates apply.
Integrated & Stand-Alone Retail/Services	Integrated retail rates apply to all uses within integrated developments (i.e., development that is planned or developed as a unit with features such as shared parking or access, like single development with multiple storefronts or office spaces, strip mall, mixed use building, etc.) except the following which will be charged based on the individual category rates: Hotels, Parks, Super Store, Quick-Service Restaurants w/drive-thru, Car Washes, Service/Gas Stations, and Car Sales. For stand-alone retail/services not otherwise listed in the rate schedule, the Integrated & Stand-Alone Retail/Services tier determined by the development square footage will apply for transportation SDCs. For Stand-Alone uses with >50% floor area used for warehouse/storage (e.g., furniture stores), the Stand-Alone Retail/Services with >50% Floor Area Warehouse/Storage will apply (regardless of development size for transportation) and provided that the stored products do not require water for growing, cleaning, etc.). Where a single use is the principal use (as defined in the BDC), in an integrated development then that single use category will apply to the square footage of the principal use, and the integrated rate will apply to the rest of the square footage
Car Sales	New and used automobile dealerships. Generally included are auto services and parts sales along with a sometimes substantial used-car operation. Some dealerships also include leasing activities and truck sales and servicing.
Bank/Financial Institution	A building, with or without a drive-up window, for the custody or exchange of money, and for facilitating the transmission of funds. Walk in and drive through. If part of integrated retail/services development, individual land use rate only applies if the principal use.

Category[a]	Definition/Example Development Types[a]
Restaurant (Table Service)	An eating and/or drinking establishment (including brewery taproom) that sells prepared food or beverages and generally offers accommodation for consuming the food or beverage on the premises. Usually serves breakfast, lunch, and/or dinner; generally, does not have a drive-up window. Fees apply to restaurants that are not incidental to shopping centers or hotels.
Quick (Counter) Service Restaurant	Quick food service and a limited menu of items. Food is generally served in disposable wrappings or containers and may be consumed inside or outside the restaurant building or food truck. Restaurants in this category may or may not have a drive-up window. Fees apply to restaurants/food trucks that have drive-thru lanes or are not incidental to shopping centers or hotels.
Special Categories	
Public Parks, Private/Public Golf Course, Common Areas	Parks owned and operated by public agencies, public and private golf courses. Sites may include a variety of recreation amenities, including boating or outdoor swimming facilities, splash pads, sport fields, playgrounds, and picnic facilities. A developed park includes at least one built amenity that provides a park experience beyond open space. Land preserved for natural areas, trails and trailheads are not considered developed parks for SDC purposes and will be excluded from acreage measurements used as the basis for transportation SDCs. When a park includes a recreation center, the park and recreation center will be charged as separate uses, with the latter charged the Indoor Fitness & Recreation rate. Water and sewer SDCs for parks will be charged according to the irrigation and park facility categories (e.g., Stand-Alone Restroom and Outdoor Pool).
Community space	Structures for gathering with a Homeowner's Association. Applies to water and sewer SDCs only.
Club House	Golf course pro shop or club house. Applies to water and sewer SDCs only.
Restroom (Stand-Alone)	Stand-alone public restroom facilities. Applies to water and sewer SDCs only. Separate water SDC does not apply if served by a meter used for irrigation and restroom is incidental to irrigation use.
Outdoor Pool (Public)	Outdoor public pools that are not part of an integrated recreation or fitness center. Applies to water and sewer SDCs only.
Separate Irrigation Space >1/4 acre	Irrigation uses that exceed ¼ acre and that are served by a meter that serves both the irrigation use and other water uses. Applies to water SDCs only.
Stand-Alone Irrigation	A water meter installed with irrigation as the primary use. May also serve a restroom or other incidental use if irrigation is the principal use. Applies to water SDCs only.
Childcare	Daycare and childcare facilities. Childcare facilities that are incidental to other categories (e.g., Indoor Fitness and Recreation, General Office, etc.) or are within Integrated Retail/Services developments and not the primary use will be charged those other category rates.
Schools K-12	Includes public and private primary and secondary schools (e.g., elementary, junior high, middle school and high school) instructional classrooms, offices, cafeterias, and gymnasiums. For water SDCs, Irrigation rate applies for outdoor sports fields and irrigation uses greater than ¼ acre.

Category[a]	Definition/Example Development Types[a]
College/University	Facilities of higher education include two-year, technical, four-year, and graduate-level institutions. Category includes instructional classrooms, offices, cafeterias, and gymnasiums. For water SDCs, Irrigation rate applies for outdoor sports fields and irrigation uses greater than ¼ acre.
Gas Sales/Service Station	A facility used for the sale of gasoline or service station that provides short duration, high-turnover auto services such as oil changes, etc. May include areas for servicing or repairing vehicles. May include minimart and/or carwash. Other auto repair falls under Integrated and Stand-Alone Retail/Services. Water and sewer SDCs assessed per site; transportation SDCs are assessed per service position (per ITE definition). Car washes on the site will be assessed additional water and sewer SDCs based on the type of car wash (see SDC schedule).
Car Wash	Manual operations where the driver parks and washes the vehicle in a stall, or an automated facility for the same purpose will be charged the same for transportation SDCs. Refer to SDC schedule for water and sewer rates for manual vs. automated car washes.
Hotel/Motel/RV Park	Includes hotel/motel and other overnight facilities primarily intended for transient stays. May include on-site restaurants (or food truck pads), cocktail lounges, meeting and banquet rooms or convention facilities as well as swimming pools and fitness. For water and sewer SDCs, applies to RV park spaces with individual water and sewer service connections. If individual spaces do not have sewer hookups, then use RV dump station rate for sewer portion.
RV Dump Station (For Park)	Facilities for disposal of black water and gray water from RV holding tanks at RV parks and campgrounds not served by individual services at each space. Applies to sewer SDCs only. Will be assessed based on number of spaces without individual connections.
Sewage Dump Station (Open to Public)	Facilities for disposal of black water and gray water from RV holding tanks at gas stations or other sites. Applies to sewer SDCs only.
Urban Area Rate	30% reduction in applicable transportation SDC for uses in areas identified on the map adopted by City Council in the Fee Resolution. To qualify, the development must be at least three stories high, the first floor must be “commercial ready” as defined in BDC Section 2.7.3245.A. 1., 2., and 3. Rate is not available for development that includes any auto-dependent or auto-oriented uses (as defined in the BDC) or for single-unit or middle housing residential uses. Multi-unit residential does qualify if it meets the other criteria.

[a] Categories and definitions in Bend Development Code control.

Appendix C – Exemptions for Certain Developments

Beyond methodological incentives, the City is considering policy-based incentives that reduce or exempt SDCs for certain development types. As policy-based incentives are outside of the methodology and no level of development of any particular use is guaranteed or known, any potential fee reductions are not offset by increases in SDCs for other development. However, the Bend Municipal Code specifies when credit for existing exempt uses will and will not be available. By not giving credit for exempted SDCs for existing or prior uses, revenue will be received on some redevelopment to non-exempt uses.

Policy-based incentives are generally reserved for development that may not be feasible in sufficient quantity to meet City goals, without more significant measures to reduce development costs.

History

Beginning in 2015, the City has exempted certain affordable housing developments from payment of sewer, water, and transportation SDCs.

> Ordinance NS-2247 (2015): adopted affordable housing exemption for up to $1 million in exemptions for projects reviewed and recommended by the City's Affordable Housing Advisory Committee, requiring repayment if affordable housing use ceased within 5 years from project completion.
>
> Ordinance NS 2298 (2017): established sunset and automatic repeal of affordable housing exemption January 1, 2023; removed $1 million cap.
>
> Ordinance NS-2457 (2022): extended sunset to December 31, 2024, to allow time for SDC methodology development, and added requirement for repayment if affordable housing use ceased within 20 years from project completion.

SDC exemptions have been available for the following types of development:

1. Rental housing that is affordable for households with an income at or below 80 percent of the area median income ("AMI") as determined by the State Housing Council based on information from the United States Department of Housing and Urban Development.
2. Owner-occupied or lease-to-purchase housing for households with an income at or below 80 percent of the AMI as determined by the State Housing Council based on information from the United States Department of Housing and Urban Development.
3. Homeless shelter developments.

Following the changes in 2022 that required a 20-year deed restriction, the State of Oregon adopted so-called "super-siting" authority allowing a greater number and type of homeless shelter developments to develop and operate throughout the state, including in Bend. This resulted in shelters opening that are operating on short-term leases and are unable to record a

20-year deed restriction. Some of these shelter operations were determined by the City not to increase demand on certain systems, and thus did not justify charging certain SDCs.

Additionally, beginning in 2018, the City exempted childcare facilities from transportation SDCs.

> Ordinance NS-2322 (2018): 70% exemption for transportation SDCs, sunset and automatic repeal on December 31, 2020
>
> Ordinance NS-2393 (2020): Increased to exemption of 100% of transportation SDCs, extended sunset to December 31, 2022
>
> Ordinance NS-2457 (2022): extended sunset to December 31, 2024, to allow time for SDC methodology development.

Because ORS 223.297 establishes that the purpose of SDCs, "ORS 223.297 to 223.316, is to provide a uniform framework for the imposition of system development charges by local governments," the City now wishes to include these exemptions from SDC charges for certain development types in the methodology, to provide consistency and uniformity in application of the methodology. Future changes to the uses that are exempt will require a change to this methodology appendix and required publication before the first hearing on the change.

Exempt Uses

The following development types are exempt from payment of 100% of SDCs, subject to recording of deed restrictions and repayment as provided in the Bend Municipal Code:

1. Rental housing that is affordable for households with an income at or below 80 percent of the area median income ("AMI") as determined by the State Housing Council based on information from the United States Department of Housing and Urban Development.
2. Owner-occupied or lease-to-purchase housing for households with an income at or below 80 percent of the AMI as determined by the State Housing Council based on information from the United States Department of Housing and Urban Development.
3. Homeless shelters, providing shelter on a temporary basis, and other accessory services, for individuals and families who lack permanent housing.
4. Childcare facilities, as defined in the Bend Development Code

SDCs may be payable on conversion or redevelopment of an exempt use to a non-exempt use, as provided in the Bend Municipal Code and depending on the type of deed restriction recorded for the exempt use.

Appendix D – Benchmark Data

Table D-1. Nonresidential Water and Sewer Service Requirements per Unit (GPD)

SDC Category	Avg. Summer GPD/ Unit[1]	Est. MDD GPD/ Unit[2]	Est. GPD ADWF[3]	MWMC (OR)[4]	Ventura (CA) [5]	WES (OR)[6]	LA County Sanitation District (CA)[7]	Miami Dade County (FL)[8]	Monterey (CA)[9]	AWWA[10]	WRF[11]	State Agency[12]
Based on 1,000 SQ FT												
Light Industrial	95	113	70	68-137	60	na	na	na	134	na	na	68-137
Warehouse/ Storage/ Dist. Center	65	78	38	41-68	na	17	25	15-20	140	na	30	41-68
Movie Theater	196	233	111	160	na	66	125	na	na	na	na	160
Indoor fitness & Recreation	419	499	236	219	213	131	300-600	100-200	na	na	500	219
Church, Religious Org.	120	143	62	68	92	33	50	100	75	42	na	68
Hospital	346	413	250	205	na	na	300	na	na	218	na	205
Medical - Dental - Vet Office	268	320	154	239	168	na	300	200	143	169	620	239
General Office	177	211	92	137	38	66	200	50	176	69	90	137
Super store (with or w/out membership and discount)	140	167	82	na	na	na	na	na	na	na	na	na
Retail/Services Integrated & Stand-Alone	208	248	129	137	155	na	325	100	na	143	125	130-180
Car Sales	117	139	76	68	105	66	100	100	na	203	na	na
Bank/Financial Institution	152	181	89	150	105	66	100	100	461	99	na	150
Restaurant (Table Service)	653	778	441	683	673	554	1,000	1,000	677	494	na	683
Quick Service Restaurant	653	778	441	410	870	554	1,000	650	707	415	na	410
Community space	118	143	62	68	92	33	50	100	75	42	na	68
Club House	167	200	113	na	na	na	100	200	na	na	na	na
Pool (1,000 SQ FT surface area)	251	299	139	na	na	na	na	na	na	na	100	na

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Units of Measure Vary												
Park Restroom (per facility)	451	508	250	na	na	250	na	na	na	na	250	na
Day Care (Per Child)	na	12	10	na	na	4	na	na	na	8(ii)	5-10	na
Schools K-12 (per Student)	na	24	20	na	20	9	na	na	na	9-11(i)	10-25	na
Colleges/Universities (Per Student)	na	36	30	na	na	9	na	na	na	na	75	na
Gas Sales (per Site)	450	476	450	na	na	na	na	450	na	na	500	na
Manual Car Wash (Per Bay)	300	317	300	na	na	299	700	350	na	na	1,200	na
Automated Car Wash (Per Bay)	3,700	3,915	3,700	na	na	3,989	3,700	1300-5500	na	na	1,200	na
Hotel/Motel/RV Park (per Room/Space)	135	161	91	na	134-172	125	125	115	na	109	100-175	na
RV Park Dump Station (per Unserved Space)	na	na	50	na	na	na	na	na	na	na	50	na
Public RV Dump Station (Per Station)	na	na	500	na	na	na	na	na	na	na	na	na
Continuing Care (per Bed)	na	na	131	na	91	125	na	100	na	97-109	120-125	na

na = not available for specific category or units of measure, GPD = Gallons Per Day

[1]For categories estimated based on billing data, reflects average water use during peak two months summer.

[2]Adjusted for water losses and peak day to peak month factor.

[3]Based on sample of existing City of Bend utility customers for available categories. Represents average water use during winter quarter months (Dec - Feb).

[4]Metropolitan Wastewater Management Commission (Eugene/Springfield) System Development Charge Methodology (June 2009)

[5]Gustorf, Kevin J., *Ventura Water Final Water Demand Factor Study*, April 2020

[6]Water Environment Services, "Rules and Regulations", April 2023

[7]Los Angeles County Sanitation District NO. 1, "Service Charge Report for Fiscal Year 2023-24"

[8]Miami-Dade County Code 24-43.1 Liquid waste disposal and potable water supply systems.

[9]Monterey Peninsula Water Management District, Rule 24 "Calculation of Water Use Capacity and Capacity Fees"

[10]Morales, M, Heaney, J., Friedman, R., Martin, J. "Estimating Commercial, Industrial, and Institutional Water Use on the basis of Heated Building Area", Journal AWWA, June 2011

[11]Water Research Foundation (WRF) Publications:

i) Fedak, R., Hannon, D., Taylor, Z., Volckens, A, *Developing Water Use Metrics for Commercial and Institutional Sector, Water Research Foundation,* Project 4619A, 2019 Note: based on indoor water use only (excludes cooling and irrigation).

ii) Kiefer, Jack C., and Krentz, Lisa R., *Methodology for Evaluating Water Use in Commerical, Institutional, and Industrial Sectors*, Water Research Foundation, Austin Water Utility, and US Environmental Protection Agency.

[12]Agency sources:

North Carolina Admin. Code 02T .0114 – "Wastewater Design Flow Rates", effective 2018 (Fitness Centers, Retail/Services, Hotel/Motel, RV Park Dump Station, Continuing Care, Park Restrooms)

"Design Guidelines for Wastewater Facilities", Maryland Department of the Environment, 2013 (Retail/Services, General Office)

"Washington Department of Health Water System Design Manual, Maximum Day Demand", June 2020 (used for outdoor pool and school K-12)

California Revenue Program Guidelines: Gas Sales and wastewater flows from K-12 schools (10-20 gpd on a student +staff basis) and daycare (5-10 gpd water use based on student +staff basis). Also, college/university information is based on 75 gpd from boarding school category.

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