City of Hood River

SYSTEM DEVELOPMENT CHARGE STUDY

Draft Report
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Section I. INTRODUCTION

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

I.A. PROJECT

The City of Hood River (City) is planning to update its system development charges (SDCs) to recover eligible infrastructure costs and provide partial funding for the capital needs of its water, sewer, stormwater, and transportation. In 2023, the City contracted with FCS GROUP to calculate the City's SDCs based on the planning documents provided by the City.

I.B. POLICY

SDCs are enabled by state statute, authorized by local ordinance, and constrained by the United States Constitution.

I.B.1. State Statute

Oregon Revised Statutes (ORS) 223.297 to 223.316 enable local governments to establish SDCs, which are one-time fees on development that are paid at the time of development or redevelopment that creates additional demand on the system for which it is charged. SDCs are intended to recover a fair share of the cost of existing and planned facilities that provide capacity to serve future users (i.e., growth).

ORS 223.299 defines two types of SDC:

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

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

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

In addition to the reimbursement and improvement fees, ORS 223.307(5) states, in part, that "system development charge revenues may be expended on the costs of complying" with state statutes concerning SDCs, including "the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures."

I.B.2. Local Ordinance

Chapter 12.07 of the Hood River Municipal Code authorizes and governs the collection and expenditure of SDCs in Hood River. The City is authorized to collect all five types of SDCs that are enabled by state statute. However, parks SDCs within the City's boundaries are imposed by the Hood River Valley Parks & Recreation District.

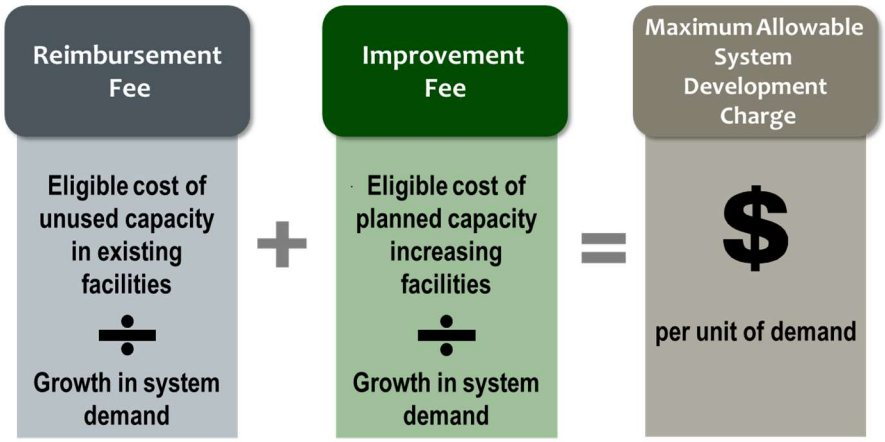
I.B.3. United States Constitution

The United States Supreme Court has determined that SDCs, impact fees, or other exactions that comply with state and/or local law may still violate the Takings Clause of the Fifth Amendment if they are not both related and roughly proportionate to the impact of the development. The SDCs calculated in this report are designed to meet both constitutional and statutory requirements.

I.C. SDC BACKGROUND

In general, SDCs are calculated by adding a reimbursement fee component and an improvement fee component—both with potential adjustments. Each component is calculated by dividing the eligible cost by growth in units of demand. The unit of demand becomes the basis of the charge. **Exhibit 1.1** below provides an illustration of this calculation, and the following sections discuss each element of the calculation in detail.

Exhibit 1.1: SDC Diagram



I.C.1. Growth in System Demand

The calculation of projected growth in system demand begins with defining the units by which current and future demand will be measured. A good unit of measurement allows an agency to quantify the incremental demand of development or redevelopment that creates additional demand for system facilities. A more precise unit of measurement allows an agency to distinguish different levels of demand added by different kinds of development or redevelopment.

Once a unit of measurement has been selected, using the best available data, the current level of demand is quantified, and a future level of demand is estimated. The difference between the current level and the future level is the growth in demand that will serve as the denominator in the SDC calculation. Generally, the future level of demand is measured at the end of the planning period of the relevant project list, to ensure a strong nexus between the projects to be built and the growth expected.

I.C.2. Reimbursement Fee

The reimbursement fee is calculated as the eligible cost of unused capacity in existing facilities that will serve growth (called the reimbursement fee cost basis) divided by the growth in system demand. The eligible cost is determined by multiplying the percentage of the total capacity available for growth by the original cost of such facilities. Some care must be taken that the percentage of capacity available for growth used in a reimbursement fee calculation only represents that capacity that will be used by growth during the planning period and does not represent capacity that will be used after the planning period.

Additionally, some adjustments to the original cost must be made. If system facilities were paid for with grants or developer contributions, then the City did not incur the costs of those facilities and cannot fairly ask developers to reimburse the City for such costs. If system facilities were paid for with debt and the debt is still outstanding, then the remaining principal is subtracted from the original cost to ensure that growth is not double paying for the same capacity; once in the SDCs, and again in the utility rates or property taxes that pay the debt service.

I.C.3. Improvement Fee

The improvement fee is calculated as the eligible cost of planned capacity increasing facilities (called the improvement fee cost basis) divided by the growth in system demand. The eligible cost of such projects is the percentage that provides capacity for growth during the planning period multiplied by the cost of applicable projects. Again, care must be taken so that the percentage used to calculate the eligible cost refers only to capacity expected to be used by growth during the planning period.

Additionally, some adjustments to the project cost should be made. If a project is expected to have more outside funding (such as through grants) than the ineligible cost of the project, then the eligible cost should be reduced by the difference.

I.C.4. Maximum Allowable SDC

The maximum allowable SDC is the improvement fee plus the reimbursement fee, plus an adjustment for administering the SDC program and complying with state law, as discussed in a previous section.

Section II. WATER SDC

This section provides the detailed calculations of the maximum allowable water SDC.

II.A. GROWTH

This section describes the growth in demand that will serve as the denominator in the SDC calculation, starting by defining the unit of measurement and then measuring the difference between current and future demand.

II.A.1. Unit of Measurement

For water SDCs, meter size is the best measure of the maximum flow that is available to a customer. To compare meters and calculate the total demand of the system, meters are often compared by their flow rates and measured by their meter capacity equivalents (MCEs). In this system, the smallest meter employed by the City is one MCE, and every larger meter is a larger number of MCEs based on their relative flow rates. Flow rates are most often based on the American Water Work Association (AWWA) flow rates assuming either a 5/8" or 3/4" base meter. The smallest meter size available within the City is 3/4" meters, so a 3/4" base for the MCE calculations was selected for the water SDC calculation.

II.A.2. Growth in Demand

The City had 5,370 MCEs in 2023 based on its meter report. According to the 2011 Water System Master Plan, the peak season maximum day demand in million gallons per day (MGD) is expected to be 3.90 MGD in 2011 and increase to 4.78 MGD by 2031. Using a compound average growth rate, FCS GROUP estimates current maximum day demand at 4.41 in 2023 and 5.97 in 2053, the end of the planning period. If MCEs grow at the same rate as demand, there will be 7,281 MCEs in 2053, which means there will be a growth of 1,911 MCEs. The growth share, or the percentage of MCEs in 2053 that will arrive between 2023 and 2053, is calculated to be 26.25 percent.

These calculations are summarized in **Exhibit 2.1** below. The growth of 1,911 MCEs will be the denominator for the water SDC calculation, and the growth share of 26.25 percent will be useful when calculating the eligibility of selected projects on the project list, as it represents growth's share of projects that are expected to benefit existing and future users proportionately.

Exhibit 2.1 – Growth in MCEs for the Water SDC

	2011	2023	2031	2053	Growth (2023-2053)	Growth Share (2053)
Maximum Day Demand (MGD)	3.90	4.41	4.78	5.97	1.57	26.25%
Total MCEs		5,370	5,824	7,281	1,911	26.25%

II.B. IMPROVEMENT FEE

An improvement fee is the eligible cost of planned projects per unit of growth that such projects will serve. Since we have already calculated growth (denominator) above, we will focus here on the improvement fee cost basis (numerator).

II.B.1. Eligibility

A project's eligible cost is the product of its total cost and its eligibility percentage. The eligibility percentage represents the portion of the project that creates capacity for future users. Where possible, specific details about a project can provide an eligibility percentage. Such specific details were available for some of the projects on the project list. However, when this is not possible, projects can still be sorted into three broad categories.

The first category is for projects that do not provide capacity for future users. Such projects may be purely replacement projects, or they may be curing a deficiency in the water system. Projects in this category are zero percent eligible. The second category is for projects that are purely for future users, such as when new pipe is laid to provide for a new development. These projects are 100 percent eligible. Finally, projects that provide capacity that will be proportionately shared between current and future users are eligible at the growth share percentage discussed in the previous section**,** or 26.25 percent.

II.B.2. Improvement Fee Cost Basis

Projects in the improvement fee cost basis were taken from the City's Water System Master Plan, City capital improvement plan, and City staff input. Each project was sorted into one of the three categories discussed above based on the descriptions provided in the master plan and discussions with staff; or, where details were available, a more specific eligibility percentage was assigned. **Exhibit 2.2** below shows all the projects in the water system improvement fee cost basis. The eligibility for each project is shown in the SDC Eligibility column, and the SDC Eligible Costs column shows that full amount of the improvement fee cost basis is $20,215,184.

Exhibit 2.2 – Water SDC Improvement Fee Cost Basis

#	Category	2023 Cost	SDC Eligibility	SDC-Eligible Cost
1	Replace vent screen in Coe reservoir	$ 599	0%	$ -
2	Seal top of Coe	30,553	0%	-
3	Seal exposed rebar on the interior of Coe reservoir ceiling	3,994	0%	-
4	Clean and remove all debris from bottom of Coe Reservoir	9,985	0%	-
5	Sensus FlexNet SmartPoint M2 Model 520M – Pit Set transceivers.	3,003	0%	-
6	Replace overflow screen on Stone Springs 1	599	0%	-
7	install a device (data logger) to aggregate and store flow data obtained from the Dynasonics ultrasonic flow meter at the Chlorination facility	599	0%	-
8	Establish a GIS system for mapping and inventory	15,975	0%	-
9	Reinstate a routine inspection program on all reservoirs	35,146	0%	-
10	Reinstate a routine exercise/maintenance program on all CARVs, ARVs, blowoffs, valves and hydrants.	159,754	0%	-
11	Conduct field reconnaissance and Map all CARV's, ARV's, valves, and blowoffs within the system.	23,963	0%	-
12	Monitor system production and system demand on a monthly basis (3hrs/month for 20 years)	38,341	0%	-
13	Perform a water use audit at the Wastewater Treatment Plant	7,988	0%	-
14	Perform annual water audits and estimate non-metered water use and system leakage	79,877	0%	-
15	Perform a leak detection study and prioritize pipe replacement based on the study's Findings	31,951	0%	-
16	Initiate a water conservation public education and awareness program	7,988	0%	-
17	Perform a study to explore the public interest and cost of a technical and financial incentive program	6,390	0%	-
18	Perform water reuse feasibility study at WWTP for irrigation of port area	31,951	0%	-
19	Complete the ODWS's Combined Source Sample request to allow triggered samples	799	0%	-
20	Update the source water monitoring plan relating to triggered samples	3,994	0%	-
21	Perform a study to determine the possibility of using satellite transmitters to transmit flow meter data	26,359	0%	-
22	Update the City's Engineering Standards	15,975	0%	-
23	Install 10" DI line from Belmont to 8" Ice Fountain line south of Rocky Rd.	276,775	100%	276,775
24	Acquire existing 8" Ice Fountain line south of Rocky Rd.	471,775	0%	-
25	Install 8" PRV w/3" bypass at EL 480 NAVD 88 on 30th St	120,814	100%	120,814
26	PRV Telemetry	79,877	26%	20,964
27	Install 6" PRV w/3" bypass at EL 378 NAVD 88 on Rand Rd.	120,814	100%	120,814
28	PRV Telemetry	79,877	26%	20,964
29	Install 8" PVC line parallel to existing line on Rand Rd. to Cascade	506,721	100%	506,721
30	Install 8" PVC line to connect Timberline Dr. to Country Club Pressure Zone	17,473	100%	17,473
31	Zone 8 Inch 50 LF PVC Pipe $ 8 ,750 2,188	17,473	26%	4,586
32	Install 6" PRV w/2" bypass at EL 279 NAVD 88 between Hazel Ave. and E Eugene St. 2015-16 6 Inch 1 LS PRV $ 60,500 15,125	120,814	100%	120,814
33	PRV Telemetry	79,877	26%	20,964
34	Install 8" PRV w/3" bypass at EL 378 NAVD 88 south of Mt. Adams Ave.	120,814	100%	120,814
35	PRV Telemetry	79,877	26%	20,964
36	Install 10" PVC line from Creekside Lp. to Mt. Adams Ave.	284,563	100%	284,563
37	Install 8" PRV w/3" bypass at EL 143 NAVD 88 south of Button Bridge	120,814	100%	120,814
38	PRV Telemetry	79,877	26%	20,964
39	Replace 6" lead jointed line from Front to E. 2nd St. with 12" PVC	247,120	70%	173,899
40	Install 12" DI line along State St. from E. 2nd St. to Hwy 30 bridge and from bridge to Hwy 35	437,777	100%	437,777
41	Install 12" DI line under Hwy 30 bridge	569,125	100%	569,125
42	Install 10" DI line along hwy 35 from Hwy 30 to Button Bridge and from bridge to 8" main near I84	694,393	100%	694,393
43	Install 10 DI line under Button Bridge	463,288	100%	463,288
44	Install 8" PVC line for looping between dead end lines at Hood River Inn and toll house	288,307	100%	288,307
45	Install 8" PVC line for looping between hydrant at boat basin and Port Marina Dr.	235,887	100%	235,887
46	Install 8" PRV w/3" bypass at EL 424 NAVD 88 on 7th St	120,814	100%	120,814
47	PRV Telemetry	79,877	26%	20,964
48	Replace 2" Galv. Line with 8" PVC along 4th St. from Montello Ave to Serpentine Rd	164,248	90%	147,823
49	New 8" PVC line along Serpentine Rd. from 4th St. to 6th St	200,941	100%	200,941
50	Replace 4" lead jointed line with 8" PVC along Sherman from 6th to 9th	338,979	69%	233,048
51	Replace 4" lead jointed line with 8" PVC along 7th from Montello to Eugene	76,882	69%	52,856
52	Install 8" PVC line at 13th St. and Sherman Ave. to connect the west line to 13th St.	6,989	100%	6,989
53	Replace 2" Galv. line along Sherman between 9th and 12th	253,361	90%	228,024
54	Replace 4" abandoned line with 8" PVC along East 2nd between State and Sherman	55,914	69%	38,441
55	Replace 4" lead jointed line with 8" along 6th between State and Sherman	82,124	69%	56,460
56	Reconnect services from 4" lead jointed line to parallel 6" line along Sherman from Front to 5th	52,919	26%	13,889
57	New 8" PVC line along Sherman between 5th and 6th connecting 6" line to 6th	87,366	100%	87,366
58	Replace 4" lead jointed with 8" PVC line along 7th south of Pine	34,946	69%	24,026
59	Replace 4" lead jointed with 8" PVC line along 8th between Pine and Marian	167,742	69%	115,323
60	Replace 4" lead Jointed with 8" PVC line along 9th between Pine and Marian	185,215	69%	127,336
61	Replace 4" lead jointed with 8" PVC line along Marian between 9th and Wilson	87,366	69%	60,064
62	Replace 4" lead jointed with 8" PVC line along Wilson between Marian and 11th	181,721	69%	124,933
63	Replace 8" lead jointed with 8" PVC line along Wilson between 11th and 12th	104,839	0%	-
64	Replace 4" line with 8" PVC along Taylor between 13th and 18th	482,259	69%	331,553
65	Replace 1.5" and 6" line with 8" PVC along June between 12th and 13th	124,059	38%	46,522
66	New 6" isolation valve on 12th north of June (east)	6,230	100%	6,230
67	Replace 6" lead jointed line with 10" PVC along May between Park and 12th	140,384	57%	79,348
68	Replace 4" lead jointed line with 8" PVC along Montello between 12th and 13th	174,731	69%	120,128
69	Install 6" PRV w/2" bypass at EL 486 NAVD 88 along Marian between 9th and Wilson	120,814	100%	120,814
70	Replace 4" lead jointed line with 8" PVC along 8th between Montello and May	181,721	69%	124,933
71	Replace 4" lead jointed line with 8" PVC along Montello between 7th and 8th	143,280	69%	98,505
72	Install 8" PVC line to connect Sherman across 9th	57,661	100%	57,661
73	Install 8" PVC line to connect Eugene across 9th	34,946	100%	34,946
74	Replace 4", 6", and 8" lead jointed line with 8" PVC along Eugene between 9th and 13th	436,828	38%	163,811
75	Replace 4" and 6" lead jointed line with 8" PVC along 12th between State and Eugene	230,645	38%	86,492
76	Replace 6" lead jointed line with 8" PVC along State between 12th and 13th	178,226	38%	66,835
77	Replace 4" lead jointed and 4" CI with 8" PVC along Lincoln between 10th and 13th	272,581	0%	-
78	Replace 4" lead jointed with 8" PVC along Oak between 10th and 13th	293,549	69%	201,815
79	New 8" PVC line connecting Oak with Cascade near 15th	26,210	100%	26,210
80	Install 2" bypass PRV in existing PRV vault in 20th Street	13,979	100%	13,979

Exhibit 2.2 – Water SDC Improvement Fee Cost Basis, continued

#	Category	2023 Cost	SDC Eligibility	SDC-Eligible Cost
81	Replace 2" line with 8" PVC along Hull between 10th and hydrant	139,785	90%	125,807
82	Replace 4" Lead Jointed with 8" PVC along Eugene east of 17th	195,699	69%	134,543
83	Replace 6" CI with 8" PVC along B Street west from 18th to hydrant	188,710	38%	70,766
85	Replace 6" CI with 8" PVC on Avalon Court east of Avalon St.	150,269	38%	56,351
86	Install new 10" PVC along Brookside from 12th to line west of Sterling Loop (connect at Sterling)	445,815	0%	-
87	Replace 6" CI with 8" PVC along Montello between 2nd and 4th	234,140	38%	87,803
88	Install new 8" PVC line to connect Rocky Road with Nina Lane	283,065	0%	-
91	Feasibility study to replace Wilson Reservoir	39,939	0%	-
92	Install flow meter with vault and bypass at Coe Reservoir	89,351	26%	23,450
93	New 10" Sensus accuMAG meter with Sensus FlexNet SmartPoint M2 Model 520M – Pit Set transceivers.	36,742	26%	9,643
94	Modifications to overflow at Cold Spring to measure overflow rate	159,754	26%	41,928
95	Update the 1993 geophysical interpretation using the subsurface information from Buffalo's investigation	15,975	26%	4,193
96	Conduct a fesability study of alternative sources to determine the potential of supplying the city with approximately 1400 gpm.	91,060	26%	23,899
97	Provide telemetry to all reservoirs, reservoir flow meters, control valve, and PRV vaults.	1,996,930	26%	524,096
98	Replace 6" CI line with 8" PVC along 16th from Avalon Court to Hydrant	10,484	38%	3,931
99	Install new 8" PVC line from end of Nix Drive to line on 16th	218,414	100%	218,414
100	Install new 8" PVC from just north of 20th Street PRV to Cascade Commons line	34,946	100%	34,946
101	Replace 8" DI with 10" PVC along Country Club from the intersection of "New" Country Club and "Old"	341,475	0%	-
102	Install new 8" PVC line from 18th and Hope to Jaymar	206,183	0%	-
103	Replace 4" Steel line with 8" PVC along Jaymar from Wasco to Hope	87,366	0%	-
104	-Fire Hydrants at >6" lines	101,843	26%	26,729
105	-Blow-off Assembly at <6" lines	15,876	26%	4,167
106	Install new 8" PRV w/3" bypass at EL 480 NAVD 88 on Frankton	120,814	100%	120,814
107	Install new 8" PRV w/3" bypass at EL 378 NAVD 88 on Frankton	120,814	100%	120,814
108	PRV Telemetry	159,754	26%	41,928
109	Install new 10" PVC line along Frankton between Belmont and Country Club	2,523,121	100%	2,523,121
110	Install new 10" PVC along Brookside from Indian Creek to 10" line west of Sterling (STP-22)	1,688,404	100%	1,688,404
111	Replace existing Wilson Reservoir with 2 new 1 MG reservoir	4,792,633	26%	1,257,830
112	Sitework for reservoir placement	419,355	26%	110,060
113	6" bypass vault with PRV	120,814	26%	31,708
114	Flow Meter with vault and bypass	89,351	26%	23,450
115	Altitude valve with vault	130,999	26%	34,381
116	10" pipeline	80,277	100%	80,277
117	12" pipeline	47,327	100%	47,327
118	24" pipeline	53,917	100%	53,917
119	Aquire the 8" Ice Fountain line from Country Club under freeway and west along Westcliff Drive	1,397,851	0%	-
120	Install 10" PVC along Country Club from Frankton to where Country Club veers away from I84	512,213	100%	512,213
121	Bore 10" PVC under I84 where Country Club veers away from I84 and connect to line along Westcliff	329,493	26%	86,476
122	Aquire the Ice Fountain lines west of Frankton within the Stonegate Dr., Parsons Rd., and Toms Dr. area	1,238,097	0%	-
123	Install 8" PVC along Post Canyon between Frankton and Parsons	419,355	100%	419,355
124	Aquire the Ice Fountain lines west of Frankton within the Summitview Way and Forest View Dr. area	1,537,636	0%	-
125	Aquire the Ice Fountain lines East of Westside School to Indian Cliff/Hood View Court	1,797,237	0%	-
126	Aquire the 6" and 8" Ice Fountain Lines near St. Charles Place and Adams Loop	718,895	0%	-
127	Aquire the Ice Fountain lines near Avalon Dr., Sheridan Ct., and Rachel Way	1,298,005	0%	-
128	Aquire the 6" Ice Fountain line near Henderson Rd.	579,110	0%	-
129	Replace 6" line along Indian Cliff with 8" PVC	109,831	38%	41,187
130	Aquire the 8" Ice Fountain line near Broken Tee Dr	838,711	0%	-
131	Aquire the 6" Ice Fountain line from 8th and Eliot to the end of Cameo	539,171	0%	-
132	Install new 8" PVC pipe between Cameo and new development line east of 6th	89,862	100%	89,862
133	Install new 8" PVC from Belmont north to long-term development south of 25th	192,205	0%	-
134	Install New 10" PVC from intersection of Frankton and Post Canyon east to Belmont	1,631,492	0%	-
135	Install new 8" PVC from end of 29th south to new 10" line	111,828	0%	-
136	Install new 10" PVC along Country Club from Frankton to 10" line near current intertie with I.F.	464,786	0%	-
137	Install New 10" PVC along Westcliff from new 10" pipe in Jaymar to I.F. line W. of I-84 exit 62	2,322,030	0%	-
138	Install new 8" PRV w/3" bypass at EL 293 NAVD 88 on Westcliff	120,814	0%	-
139	PRV Telemetry	79,877	0%	-
140	Reconnect services from 4" L.J. line to parallel 10" line along 13th between Columbia to Oak	33,948	26%	8,910
141	Reconnect services from 4" L.J. line to parallel 6" line along 17th between Sherman to May	53,917	26%	14,151
142	Reconnect services from 4" L.J. line to parallel 6" line along Montello between Front and 2nd	27,957	26%	7,337
143	Replace 4" lead jointed with 8" PVC along 12th between Eugene and Prospect	157,258	69%	108,115
144	Replace 6" lead jointed with 8" PVC along 6th between Cascade and State	171,237	38%	64,214
145	Replace 6" lead jointed with 8" PVC along Cascade between 6th and hydrant near 12th	583,603	38%	218,851
147	Replace 8" lead jointed with 8" PVC along 9th between Columbia and PRV	230,645	0%	-
148	Replace 8" lead jointed with 8" PVC along Oak between 5th and 9th	356,452	0%	-
149	Replace 4" lead jointed with 8" PVC along 2nd between Montello and Prospect	89,113	69%	61,265
150	Replace 4" lead jointed with 8" PVC along Prospect between 2nd and 4th	232,393	69%	159,770
151	Replace 6" lead jointed with 8" PVC along 4th between Prospect and Pine	349,463	38%	131,049
152	Replace 6" lead jointed with 10" PVC along May between 4th and Park	694,333	57%	392,449
153	Replace 6" lead jointed with 8" PVC along 13th between State and Montello	398,388	38%	149,395
154	Replace 4" lead jointed with 8" PVC along 7th between May and Pine	244,624	69%	168,179
155	Replace 6" lead jointed with 8" PVC along 12th between May and Wilson	496,237	38%	186,089
156	Replace 4" and 6" lead jointed with 8" PVC along C Street between 12th and 17th	478,764	69%	329,150
157	Replace 4" lead jointed with 8" PVC along Bst between17th and 18th	94,355	69%	64,869
158	Replace 4" lead jointed with 8" PVC along Mayer Parkway	69,893	69%	48,051
159	Replace 4" lead jointed with 8" PVC along A Street between 12th and 17th	461,291	69%	317,137
160	Replace 4" lead jointed with 8" PVC along 15th between A Street and C Street	174,731	69%	120,128
161	Replace 6" lead jointed with 8" PVC along State between 6th and 12th	538,173	38%	201,815
162	Replace 4" and 6" lead jointed with 8" PVC along Columbia between 18th and hydrant near 12th	611,560	38%	229,335
163	Replace 4" lead jointed with 8" PVC along 15th between Columbia and Cascade	90,860	69%	62,466
164	Replace 4" lead jointed with 8" PVC along 18th south of Columbia	17,473	69%	12,013
165	PRV Replacement- 20th St/ Rand&Cascade	200,000	0%	-
166	AMI Meter Reading Upgrade	500,000	26%	131,225
167	In-line Hydro	1,732,400	26%	454,670
	Total	**$ 52,099,231**		**$ 20,215,184**

II.C. REIMBURSEMENT FEE

A reimbursement fee is the eligible cost of existing water facilities available for future users per unit of growth that such facilities will serve. Since growth was calculated above, we will focus on the eligible cost of the water facilities available for future users. That is, we will focus on the reimbursable cost of water facilities.

II.C.1. Eligibility

First, to measure the capacity available for growth in the City's water facilities, the water system was divided into its functions of service. Only the supply and storage functions were found to have capacity based on the City's Water System Master Plan. Growth's equitable share of such capacity is calculated by subtracting the current demand from the current system capacity and dividing by the current system capacity.

II.C.2. Reimbursement Fee Cost Basis

The original cost of system facilities with capacity available for growth was provided by City staff. Then, the original cost was totaled by function and the eligibility percentage for each function was multiplied by the total original cost. This is shown in **Exhibit 2.3** below, which shows that the total reimbursable cost is $974,296.

Exhibit 2.3 – Water Reimbursement Fee Cost Basis

Function	Current Capacity	Current Demand	Est. 2023 MDD	Capacity for Growth	Original Cost	Reimburseable Costs
Source (cfs)	23	6.58	7.06	68.60%	$1,386,054	$ 950,871
Storage (MG)	4.12	3.60	3.87	5.97%	$ 392,392	$ 23,425
Total					$1,778,446	$ 974,296

II.D. CALCULATED SDC

This section combines the eligible costs from the improvement fee cost basis and the reimbursement fee cost basis and applies some adjustments. The result is a total SDC per MCE, which can then be applied to each meter size using the aforementioned flow factors.

II.D.1. Adjustments

Current SDC fund balances represent prior projects that remain unbuilt. These projects remain on the project list and are included in the improvement fee cost basis calculated. It is reasonable to reduce this cost basis by the amount of revenue already received for those projects that remain on the list and incomplete. As of June 30, 2023, the City had $1.4 million in fund balance. Of this balance, $846,815 is attributable to projects on the project list through previously collected improvement fees.

Based on the cost of developing SDC methodologies every five years, we estimate that $89,805 should be added to the cost basis to account for the costs of complying with state law over the planning period.

II.D.2. Calculated SDC

Exhibit 2.4 below summarizes the calculation of the water SDC. As shown, the fully calculated SDC is $11,136 per MCE.

Exhibit 2.4 – Calculated Water SDC

Calculated SDC	
Project Costs:	
Total Project Cost	$ 52,099,231
Average Eligibility	39%
Eligible Project Cost	$ 20,215,184
SDC Cost Bases:	
Improvement Fee	$ 20,215,184
Improvement Fee Fund Balance	(846,815)
Reimbursement Fee	974,296
Compliance Costs	89,805
Total	**$ 20,432,469**
Growth in MCEs	1,911
Improvement Fee per MCE	$ 10,579
Reimbursement Fee per MCE	510
Compliance Fee per MCE	47
Total SDC per MCE	**$ 11,136**

The SDC per MCE calculated in **Exhibit 2.4** can be applied to each meter size using the schedule shown in **Exhibit 2.5** below.

Exhibit 2.5 – Water SDC Schedule by Meter Size

Meter Size	MCE	Calculated SDC	Current SDC
3/4	1.00	$11,136	$ 5,049
1	1.67	$18,560	$ 8,414
1.5	3.33	$37,120	$ 16,829
2	5.33	$59,392	$ 26,926
3	10.67	$118,783	$ 84,143
4	16.67	$185,599	$ 168,285
6	33.33	$371,197	$ 336,573
8	53.33	$593,915	$ 454,372

Section III. SEWER SDC

This section provides the detailed calculations of the maximum allowable sewer SDC.

III.A. GROWTH

This section describes the growth in volume that will serve as the denominator in the SDC calculation, starting by defining the unit of measurement and then measuring the difference between current and future volume.

III.A.1. Unit of Measurement

For sewer SDCs, the meter size necessary for a development is broadly used as a measure of its potential water demand, and thus the potential sewage flow. In order to compare meters and calculate the total demand of the system, meters are often compared by their flow rates and measured by their meter capacity equivalents (MCEs). In this system, the smallest meter employed by the City is one MCE, and every larger meter is a larger number of MCEs based on their relative flow rates. Flow rates are most often based on the American Water Work Association's (AWWA) flow rates assuming either a 5/8" meter or 3/4" base. The smallest meter size available within the City is a 3/4" meter, so a 3/4" base for the MCE calculations was selected for the sewer SDC calculation.

III.A.2. Growth in Demand

The City had 5,370 MCEs as of 2023 based on its meter report. According to the 2011 Wastewater Facilities Plan, the peak daily flow is expected to be 5.71 MGD in 2023 and increase to 8.62 MGD by 2058, the expected year the system will reach buildout conditions. If MCEs grow at the same rate as demand, there will be 8,107 MCEs in 2058, which means there will be a growth of 2,737 MCEs. The growth share, or the percentage of MCEs in 2058 that will arrive between 2023 and 2058, is calculated to be 33.76 percent.

These calculations are summarized in **Exhibit 3.1** below. The growth of 2,737 MCEs will be the denominator for the sewer SDC calculation, and the growth share percentage of 33.76 percent will be useful for the reimbursement fee calculation. Note that the growth in MCEs is different from the growth shown in the water SDC calculation. However, it is important that the growth in MCEs be consistent with the projects planned to accommodate that growth, and therefore it is not necessary to adjust the growth in MCEs to match what was shown in the water SDC.

Exhibit 3.1 – Growth in MCEs for the Sewer SDC

	Existing Conditions	Buildout Conditions	Growth	Growth %
Peak Daily Flow (mgd)	5.71	8.62	2.91	33.76%
Meter Capacity Equivalents	5,370	8,107	2,737	33.76%

III.B. IMPROVEMENT FEE

An improvement fee is the eligible cost of planned projects per unit of growth that such projects will serve. Since we have already calculated growth (denominator) above, we will focus here on the improvement fee cost basis (numerator).

III.B.1. Eligibility

A project's eligible cost is the product of its total cost and its eligibility percentage. The eligibility percentage represents the portion of the project that creates capacity for future users. Where possible, specific details about a project can provide an eligibility percentage. Such specific details were available for some of the projects on the project list. However, when this is not possible, projects can still be sorted into three broad categories.

The first category is for projects that do not provide capacity for future users. Such projects may be purely replacement projects, or they may be solving a deficiency in the water system. Projects in this category are zero percent eligible. The second category is for projects that are purely for future users, such as when new pipe is laid to provide for a new development. These projects are 100 percent eligible. Finally, projects that provide capacity that will be proportionately shared between current and future users are eligible at the growth share percentage discussed in the previous section, or 33.76 percent.

III.B.2. Improvement Fee Cost Basis

Projects in the improvement fee cost basis were taken from the wastewater facilities plan, City capital improvement plan, and discussions with City staff. **Exhibit 3.2** below shows all the projects in the sewer system improvement fee cost basis. The eligibility for each project is shown in the SDC Eligibility column, and the SDC Eligible Costs column shows that full amount of the improvement fee cost basis is $10,260,823.

Exhibit 3.2 – Sewer SDC Improvement Fee Cost Basis

Description	2023 Cost	Eligibility	Eligible Cost
Replace and re-slope 15" Sewer Pipe Section Located between MH's N26CA01 and N26DB03 near Jaymar Rd and Wasco St. Re-route 15" Sewer Pipe Section Located between MH's N26DB03 and N26DB01.	$ 316,548	0%	$ -
Re-route 8" Sewer Pipe on 22nd St. from June St. to Prospect Ave.	352,725	0%	-
Reroute and Upsize Existing 15" WWTP Influent Pipe to 24" Pipe.	629,220	61%	383,212
Replace 12" Main Sewer Pipe on 10th St. from Lincoln St. to Wasco St.	195,097	0%	-
Replace 10" Clay Sewer Pipe on 2nd St. between Sherman and Montello Ave.	321,716	0%	-
Replace 580' of 10" Sewer Pipe on Taylor Ave. West of 13th St. Replace 595' of 8" Sewer Pipe at 17th and C St. to Taylor Ave. Relocate 150' of Pipe into R/W.	465,132	0%	-
Replace 8"Sewer Pipe on Wilson St. from 9th to 10th.	227,398	0%	-
Future Sewer Located Southeast of Country ClubPump Station .	275,203	100%	275,203
Future Sewer Located West of Frankton Rd.	113,699	100%	113,699
Future Extension Connected to the Discharge Manhole for County Club Pump Station.	273,911	100%	273,911
Future Extension of Rocky Rd.	302,336	100%	302,336
Upgrade 8" Sewer Pipe Columbia Ave.between 7th and 10th St. to 10" .	466,424	54%	253,060
Upgrade 12" Sewer Pipe Section Locatedbetween MH's N25CB13 and N25CB14 North of Industrial Loop to 15".	65,894	33%	21,887
Upgrade 8" Sewer Pipe on Frankton Rd. between MH's N34BA02 and N34BA03 to 10".	209,309	34%	71,374
Replace 765' of 10" Sewer Pipe on 3rd St.between Pine and May. Replace 1560' of 8"Sewer Pipe on Pine St. between 3rd and 9th St.Replace 350' of 8" Sewer Pipe on 9th St.between Hull and Pine St. Replace 890' of 8"Sewer Pipe on Hull St.	1,263,608	0%	-
Replace 8" Sewer Pipe on 22nd St. from June St. to Belmont Ave. Replace 8" Sewer Pipe on Belmont Dr. from 22nd St. to Avalon Dr. andon Holly Dr.	1,509,094	0%	-
Replace 10" Sewer Pipe on 13th St. between State St. and Montello Ave	323,008	0%	-
Replace 8" Sewer Pipe on 17th St. from Montello Ave. to Prospect Ave.	158,920	0%	-
Replace 8" Sewer Pipe Segment on 7th St. between Eugene St. and Montello Ave.	93,026	0%	-
Replace 8" Sewer Pipe Section on 8th St. between Marian St. and May St.	527,149	0%	-
Replace 8" Sewer Pipe Section on 8th St.between Marian St. and May St.	104,655	0%	-
Replace 300' of 12" Sewer Clay Pipe. Replace 2,700' of 10" Sewer Clay Pipe. Replace 31,000' of 8" Sewer Clay Pipe.	11,627,003	0%	-
Future Extension to the Discharge Manhole for County Club Pump Station (Phase II)	91,734	100%	91,734
Future Extension of Belmont Ave.	346,265	100%	346,265
Future Low-Pressure Sewer Located on WestCliff Dr.	776,512	100%	776,512
Future Gravity Sewer, Pump Station and Forcemain Located South of I-84, Exit 64.	1,540,103	100%	1,540,103
Future Extension of Mt. Adams Ave.	392,778	100%	392,778
Future Sewer Pipe Branch from Mt. Adams to Frankton Pump Station.	224,814	100%	224,814
Future Sewer Located West of Frankton Rd. (Phase II).	325,592	100%	325,592
36" Bore and Casing for New 18" Sewer Pipe parallel to section between MH's N25DC03 and N25DC04 underneath Railroad.	352,725	54%	190,790
Re-slope 15" Main Sewer Pipe Located North of Cascade Ave. between MH's N26CB01 and N26CB02. Re-route into Wasco Ave. R/W and Re-slope 15" Main Sewer Pipe Located between MH's N26CB01 and N26CA06.	585,291	0%	-
Re-route Sewer Line Located Northwest of Sherman Ave. and 20th St. Install 440' of 10" Sewer along Sherman Ave. between 20th and 22nd St. Install 285' of 8" Sewer along 20th St. between Sherman Ave. and Armadale Ave.	321,716	34%	109,704
Upgrade 8" Sewer Pipe on 12th St. between Montello Ave. and Eugene St. to 10".	143,416	34%	48,904
Pipeline Replacement	325,000	0%	-
Replace Frankton, Country Club and East Marina Pump Stations	5,496,307	52%	2,855,225
Rebuild WestCliff Pump Station.	1,355,342	65%	876,986
Aboveground Pipe Evaluation	64,602	0%	-
Pretreatment Study	129,203	0%	-
Update City Sewer Standards	12,920	0%	-
Barrier for Aboveground Pipe along I-84.	426,371	0%	-
Additional Dewatered Sludge Storage Bays (CIP)	728,706	34%	246,002
Replace Existing UV System	891,503	0%	-
pH Control System (CIP)	98,194	34%	33,149
Replace Digester Gas Mixing	603,379	0%	-
Building Maintenance	122,743	0%	-
Miscellaneous Process Items	311,380	0%	-
Odor Control for WAS Storage Tank, Aeration Basin Splitter Box, and Headworks Odor Control Study (CIP)	401,822	0%	-
Add Blower for Activated Sludge Process (CIP)	502,601	0%	-
Package Tertiary Treatment System (CIP)	378,566	34%	127,799
WWTP Office Upgrades	80,000	0%	-
WWTP Facilities Plan	300,000	34%	101,276
Primary Clarifier Repair	350,000	0%	-
Headworks Rock Trap	250,000	0%	-
Upgrade PistaGrit Removal System	250,000	34%	84,397
Clarifier Sweep Replacement	750,000	0%	-
Upgrade Polymer Feed System	500,000	34%	168,794
Upgrade Waste-Gas Flare System	75,000	34%	25,319
SLARRA Machinery & Equipment	250,000	0%	-
Total	**$ 39,575,659**		**$ 10,260,823**

III.C. REIMBURSEMENT FEE

A reimbursement fee is the eligible cost of the sewer facilities available for future users per unit of growth that such facilities will serve. Since growth was calculated above, we will focus on the

eligible cost of the sewer facilities available for future users. That is, we will focus on the cost of reimbursable sewer facilities.

III.C.1. Eligibility

First, to measure the capacity available for growth in the City's sewer facilities, the sewer system was divided into separate functions of service: collection pipelines, pump stations, and wastewater treatment. Because the City is building and replacing so many pipelines as part of its planned improvements, the collection pipelines were not considered to have any available capacity for growth. Additionally, the wastewater facilities plan indicated deficiencies in flow volumes for the wastewater treatment plant by 2036. This was also not considered to have any eligible capacity. However, some of the City's pump stations have capacity to accommodate growth during the planning period.

III.C.2. Reimbursement Fee Cost Basis

The original cost of each pump station was identified in the City's asset records. Available capacity for growth was calculated by subtracting the current maximum peak wet weather flow (PWWF) of each pump station from existing design capacity and then dividing by said design capacity. The original cost of pump stations serving the City was multiplied by the capacity for this calculated remaining growth to find the reimbursable eligible cost. This is shown in **Exhibit 3.3** below, which shows that the total reimbursable cost is $16,988.

Exhibit 3.3 – Sewer Reimbursement Fee Cost Basis

Pump Station Capacity						
Name	Existing Design Capacity (gpm)	Maximum PWWF (gpm)	Capacity Remaining for Growth	Original Cost	Reimburseable Costs	Adjusted Reimburseable Costs
Country Club	170	230	0%	$ 17,488	$ -	$ -
WestCliff	170	60	65%	26,254	16,988	16,988
East Marina/Port	130	140	0%	938,334	-	-
Indian Creek	0	0	0%	2,367,560	-	-
				$ 3,349,636	$ 16,988	$ 16,988

III.D. CALCULATED SDC

This section combines the eligible costs from the improvement fee cost basis and the reimbursement fee cost basis and applies some adjustments. The result is a total SDC per MCE, which can then be applied to each meter size using flow factors.

III.D.1. Adjustments

Current SDC fund balances represent prior projects that remain unbuilt. These projects remain on the project list and are included in the improvement fee cost basis calculated. It is reasonable to reduce this cost basis by the amount of revenue already received for those projects that remain on the list and incomplete. As of June 30, 2023, the City had $547,879 in fund balance. Of this balance, $258,975 is attributable to projects on the project list through previously collected improvement fees.

Based on the cost of developing SDC methodologies every five years, we estimate that $104,773 should be added to the cost basis to account for the costs of complying with state law over the planning period.

III.D.2. Calculated SDC

Exhibit 3.4 below summarizes the calculation of the sewer SDC. As shown, the full SDC is $3,699 per MCE.

Exhibit 3.4 – Calculated Sewer SDC

Calculated SDC	
Project Costs:	
Total Project Cost	$ 39,575,659
Average Eligibility	26%
Eligible Project Cost	$ 10,260,823
SDC Cost Bases:	
Improvement Fee	$ 10,260,823
Improvement Fee Fund Balance	(258,975)
Reimbursement Fee	16,988
Compliance Costs	104,773
Total	**$ 10,123,608**
Growth in MCEs	2,737
Improvement Fee per MCE	$ 3,655
Reimbursement Fee per MCE	6
Compliance Fee per MCE	38
Total SDC per MCE	**$ 3,699**

The SDC per MCE calculated in **Exhibit 3.4** can be applied to each meter size using the schedule shown in **Exhibit 3.5** below.

Exhibit 3.5 – Sewer SDC Schedule by Meter Size

Meter Size	MCEs	Calculated SDC	Current SDC
3/4	1.00	$ 3,699	$ 2,270
1	1.67	$ 6,178	$ 3,794
1 1/2	3.33	$ 12,318	$ 7,564
2	5.33	$ 19,717	$ 12,108
3	10.67	$ 39,470	$ 37,863
4	16.67	$ 61,665	$ 75,705
6	33.33	$123,294	$151,431
8	53.33	$197,278	$204,422

Section IV. Stormwater SDC

This section provides the detailed calculations of the maximum allowable stormwater SDC.

IV.A. GROWTH

This section describes the growth in demand that will serve as the denominator in the SDC calculation, starting by defining the unit of measurement and then measuring the difference between current and future demand.

IV.A.1. Unit of Measurement

The purpose of a stormwater utility is to manage increased runoff, and increased runoff is created when precipitation falls on impervious surfaces. Therefore, demand for stormwater capacity is often measured by the impervious surface area of a development.

IV.A.2. Growth in Demand

The City's 2015 Buildable Lands Inventory (BLI) and 2011 Economic Opportunities Analysis were used to estimate the City's existing impervious surface area. The BLI provided the number of buildable acres by zone for residential land uses and the Economic Opportunities Analysis provided buildable acres by commercial use zones. The average impervious surface area for each of these zones was also provided in the City Stormwater Capital Facilities Plan. Applying these average impervious surface areas to each zone, the available amount of impervious surface area development of each land use was estimated. Based on a buildable total of 702.82 acres, the impervious surface percentage resulted in a total of 414.00 acres of land that would be impervious surface area by the time of the City's buildout. That means that there is 18,033,786 square feet available for new impervious surface area, which is also the denominator of the SDC calculation. These calculations are summarized in **Exhibit 4.1** below.

Exhibit 4.1 – Change in Impervious Surface Area

Zone		2023 Net Buildable Acres	Impervious Percentage Assumption	Available Impervious Acres	Available Impervious Square Feet
C-1	Office Residential	-	59%	-	-
C-2	Commercial	54.92	90%	49.37	2,150,543
I/LI	Industrial/Light Industrial	27.27	88%	23.97	1,044,237
R-1	Urban Low Density Residential	205.08	49%	99.67	4,341,481
R-2	Urban Standard Density Residential	260.01	61%	158.08	6,886,131
R-3	Urban High Density Residential	155.55	53%	82.91	3,611,394
Other				-	-
Other				-	-
	Total	702.82		414.00	18,033,786

IV.B. IMPROVEMENT FEE

An improvement fee is the eligible cost of planned projects per unit of growth that such projects will serve. Since we have already calculated growth (denominator) above, we will focus here on the improvement fee cost basis (numerator).

IV.B.1. Eligibility

A project's eligible cost is the product of its total cost and its eligibility percentage. The eligibility percentage represents the portion of the project that creates capacity for future users. The City's stormwater capital improvement plan specified that 8,700 feet of pipes were not sufficient and needed to be replaced. It also listed the amount of linear feet the project list would add to the system. As such, growth's equitable share of such capacity is best captured by dividing the growth-related feet of pipe, 8,700 feet, by the total length of pipe added by the project list, 43,377 feet. This gives us an eligibility of 79.94%.

In cases where the project was related to channel deepening rather than stormwater pipe installation, we used a growth share based on population projections to find a growth share percentage. This was found by using the buildout population provided in the facilities plan of 22,650 and the current population of the City, 10,347. These population projections provide a growth estimate of 12,303 residents or 54.32 percent of future residents that will be new.

IV.B.2. Improvement Fee Cost Basis

Projects in the improvement fee cost basis were taken from the master plan, City capital improvement plan and discussions with City staff. **Exhibit 4.2** below shows all the projects in the stormwater improvement fee cost basis. The eligibility for each project is shown in the SDC Eligibility column, and the SDC Eligible Costs column shows that full amount of the improvement fee cost basis is $23,347,496.

Exhibit 4.2 – Stormwater SDC Improvement Fee Cost Basis

Description	2023 Cost	SDC Eligibility	SDC Eligible Cost
From new MH north of 3511 Belmont to new MH at driveway of 3490 Belmont	$ 797,241	79.94%	$ 637,341
West of 13th near State behind Cottonwood Apts, from inlet to MH DD40	165,115	79.94%	131,998
Along Cascade from CB DD23 west of 13th to CB DD19 at 13th	843,467	79.94%	674,295
Henderson Creek near Hazel to 30th, Deepen Channel	217,055	54.32%	117,900
Open Channel along E. 2nd from E. Eugene to E. Sherman, Deepen Channel	66,496	54.32%	36,119
May from MH near 2860 May west to MH near path	1,470,036	79.94%	1,175,195
22nd and Eugene, from CB AB17 to CB AB18	1,783,211	79.94%	1,425,558
Along Sherman from MH BA22 west of 24th to MH DC05 at 20th	570,224	79.94%	455,856
22nd between June and CB south of May, from CB BD11 to CB BD13	1,048,578	79.94%	838,268
Along Cascade from MH at Henderson Creek to MH west of Walmart parking lot on south	1,832,217	79.94%	1,464,735
From MH at Belmont and Henderson to MH at Belmont and 22nd.	2,986,712	79.94%	2,387,676
18th and May, from MH AC28 to CB AC02	1,721,949	79.94%	1,376,583
27th from CB near OC south of May to May, from CB BC04 to MH BC07	1,539,801	79.94%	1,230,968
Prospect from existing CB near pathway to existing CB near Rene Pl. (CB BB11)	1,347,289	79.94%	1,077,067
Wasco from 18th to 15th, from MH at 18th to CB DA41	501,502	79.94%	400,917
Install new CB on Eugene St. east of 13th St. and construct new pipe to the OC	44,922	79.94%	35,912
Hull from a new MH near the CBs north of 1011 to new MH at 10th	487,709	79.94%	389,891
Montello between 8th and 7th, from MH BB04 to MH BA01	526,837	79.94%	421,171
Columbia from CB near 1030 Columbia to CB near 1016 Columbia	341,104	79.94%	272,690
Cascade and 10th, from CB CC15 to MH CC21	966,997	79.94%	773,049
Pine between 11th and 10th, from MH BC10 to MH BC14	835,391	79.94%	667,839
Avalon Dr. from 1830 Avalon to 1802 Avalon, from MH DC06 and CB DC17	782,487	79.94%	625,546
North line of Cascade from CB near 3140 Cascade to CB CB01 near Hood River Square	402,418	79.94%	321,707
Oak and Cascade, from CB DD25 to MH DD26	144,046	79.94%	115,155
12th and Brookside, from CB DD06 CB DD04	1,337,795	79.94%	1,069,477
May from MH at 28th to MH near 2790 May	804,150	79.94%	642,864
Henderson Creek north of May to Prospect	145,273	54.32%	78,909
22nd from existing CB BD08 near 1101 22nd to existing CB BD11 north of June	542,987	79.94%	434,082
14th between B St. and C St., from MH AD28 to MH AD59	1,913,548	79.94%	1,529,753
9th between Eugene and Hazel, from Eugene connection to CB BB32	667,782	79.94%	533,847
2nd and State, from MH DC05 to MH DC07	272,169	79.94%	217,580
June between 5th and 4th, from MH BD21 to MH BD25	787,023	79.94%	629,172
8th between Eliot and Kropp, from CB CC08 to MH CC13	1,282,731	79.94%	1,025,457
North of 2249 Cascade Ave, from MH in Safeway approach to OC	166,268	79.94%	132,920
Waterfront Storm Line (Admin)	150,000	79.94%	119,915
Waterfront Storm Line (Phase Two)	4,089,005	79.94%	3,268,885
Waterfront Storm Line (Phase Three)	1,903,200	79.94%	1,521,481
Total	$ 35,484,736		$ 23,347,496

IV.C. REIMBURSEMENT FEE

A reimbursement fee is the eligible cost of existing stormwater facilities available for future users per unit of growth that such facilities will serve. Since growth was calculated above, we will focus on the eligible cost of the stormwater facilities available for future users. That is, we will focus on the reimbursable cost of stormwater facilities.

The stormwater master plan provided no evidence that existing stormwater facilities have capacity available to serve future users. Therefore, we have not calculated a reimbursement fee.

IV.D. CALCULATED SDC

This section combines the eligible costs from the improvement fee cost basis and the reimbursement fee cost basis and applies some adjustments. The result is a total SDC per impervious square foot.

IV.D.1. Adjustments

Current SDC fund balances represent prior projects that remain unbuilt. These projects remain on the project list and are included in the improvement fee cost basis calculated. It is reasonable to reduce this cost basis by the amount of revenue already received for those projects that remain on the list and incomplete. As of June 30, 2023, the City had $239,270 in fund balance. Of this balance, the entire fee is attributable to projects on the project list through previously collected improvement fees.

Based on the cost of developing SDC methodologies every five years, we estimate that $89,805 should be added to the cost basis to account for the costs of complying with state law over the planning period.

IV.D.2. Calculated SDC

Exhibit 4.3 below summarizes the calculation of the stormwater SDC. As shown, the full SDC is $1.29 per impervious square foot (ISF). A typical new single-family residence with a 2,500 square foot impervious footprint could be charged up to $3,228.36.

Exhibit 4.3 – Calculated Stormwater SDC

Calculated SDC	
Project Costs:	
Total Project Cost	$ 35,484,736
Average Eligibility	66%
Eligible Project Cost	$ 23,347,496
SDC Cost Bases:	
Improvement Fee	$ 23,347,496
Improvement Fee Fund Balance	(239,270)
Reimbursement Fee	-
Compliance Costs	89,805
Total	**$ 23,198,031**
Available Impervious Square Feet	18,033,786
Improvement Fee per ISF	1.29
Reimbursement Fee per ISF	-
Compliance Fee per ISF	0.00
Total SDC per ISF	**1.29**

Section V. TRANSPORTATION SDC

This section provides the detailed calculations of the maximum allowable transportation SDC.

V.A. GROWTH

This section describes the growth in demand that will serve as the denominator in the SDC calculation, starting by defining the unit of measurement and then measuring the difference between current and future demand.

V.A.1. Unit of Measurement

For transportation SDCs, a common unit of growth is the PM peak hour person trip end. A PM peak hour person trip end represents one person departing or arriving at a particular property during the peak travel time of the afternoon by any mode. So, for example, three people in a van entering a property would count as three person trip ends, even though only one vehicle entered the property. Using person trip ends recognizes that a variety of transportation methods may be used to access the transportation system. Because the planned project list includes accommodations for all travel methods, the person trip end approach is the best option for the SDC calculation.

V.A.2. Growth in Demand

According to the City's Transportation System Plan (TSP), there were 11,595 PM peak hour vehicle trip ends in 2006. That is forecasted to increase to 19,348 PM peak hour vehicle trip ends by 2031. FCS GROUP used a compound average growth rate from these data points to forecast the number of current trip ends in 2023 (16,424) and 2053 (30,361), to align with the time horizon of the project list.

Using data from the U.S. Department of Transportation's 2022 National Household Travel Survey, on average, one PM peak hour vehicle trip end is equal to 1.58 PM peak hour person trip ends. That means that there were 26,014 PM peak hour person trip ends in 2023 and will be 48,088 such trip ends in 2053. In other words, 22,075 PM peak hour person trip ends are expected to arrive between 2023 and 2053.

These calculations are summarized in **Exhibit 5.1** below. The growth of 22,075 peak hour person trip ends will be the denominator for the transportation SDC, and the growth share of 45.90 percent will be useful for the improvement fee calculation in the section below.

Exhibit 5.1 – Growth in PM Peak Hour Person Trips

	2006	2023	2031	2053	Growth	Growth Share
PM peak hour vehicle trip ends	11,595	16,424	19,348	30,361	13,937	45.90%
PM peak hour person trip ends	18,365	26,014	30,645	48,088	22,075	45.90%

V.B. IMPROVEMENT FEE

An improvement fee is the eligible cost of planned projects per unit of growth that such projects will serve. Since we have already calculated growth (denominator) above, we will focus here on the improvement fee cost basis (numerator).

V.B.1. Eligibility

A project's eligible cost is the product of its total cost and its eligibility percentage. The eligibility percentage represents the portion of the project that creates capacity for future users. Most of the City's transportation projects are sized to accommodate both existing users and growth. As such, growth's equitable share of such projects is best captured by the growth share, or 45.90 percent. However, certain projects in the TSP represent major repair or replacement efforts, and thus do not provide capacity for future users. The eligibility of such projects is 0 percent.

V.B.2. Improvement Fee Cost Basis

Projects in the improvement fee cost basis were taken from the City's updated TSP project list. Given the length of the project list, the full list is shown in **Appendix A.** The eligibility for each project is shown in the SDC Eligibility column, and the SDC Eligible Costs column shows that full amount of the improvement fee cost basis is $135.7 million.

V.C. CALCULATED SDC

Note that no reimbursement fee is calculated in this SDC's case. So, this section takes the improvement fee cost basis, applies some adjustments, and calculates the SDC per peak hour person trip end that can be applied using a schedule of trip ends by land use in **Appendix B**.

V.C.1. Adjustments

Current SDC fund balances represent prior projects that remain unbuilt. These projects remain on the project list and are included in the improvement fee cost basis calculated. It is reasonable to reduce this cost basis by the amount of revenue already received for those projects that remain on the list and incomplete. As of June 30, 2023, the City had $73,949 in fund balance. Of this balance, the entire fee is attributable to projects on the project list through previously collected improvement fees.

Based on the cost of developing SDC methodologies every five years, we estimate that $89,805 should be added to the cost basis to account for the costs of complying with state law over the planning period.

V.C.2. Calculated SDC

Exhibit 5.2 below summarizes the calculation of the transportation SDC. As shown, the full SDC is $6,153 per PM peak hour person trip end.

Exhibit 5.2 – Calculated Transportation SDC

Calculated SDC	
Project Costs:	
Total Project Cost	$ 297,051,840
Average Eligibility	46%
Eligible Project Cost	$ 135,724,012
SDC Cost Bases:	
Improvement Fee	$ 135,724,012
Improvement Fee Fund Balance	(73,949)
Reimbursement Fee	-
Compliance Costs	89,805
Total	**$ 135,739,869**
Growth in PM peak hour person trip ends	22,075
Improvement Fee per PM peak hour person trip ends	$ 6,149
Reimbursement Fee per PM peak hour person trip ends	-
Compliance Fee per PM peak hour person trip ends	4
Total SDC per PM peak hour person trip ends	**$ 6,153**

Appendix B provides the schedule of transportation SDCs by land use type based on the number of PM peak hour person trip ends each land use is expected to generate. For reference, the charge for a new single-family residence would be $9,161.

Section VI. IMPLEMENTATION

This section addresses practical aspects of implementing SDCs and provides a comparison with relevant jurisdictions. Also note that **Appendix C** describes a method for scaling the SDCs when charging single-family dwelling units.

VI.A. SETTING THE SDC

The maximum legally defensible SDCs for each service as calculated in the previous sections is shown in **Exhibit 7.1** below. The City has the liberty to set the SDC for each service at any level up to the maximum defensible charge by resolution.

Exhibit 7.1 – Maximum Defensible SDCs by Service

	Charge Basis	Calculated Maximum SDC	SFR SDC
Water	MCE	$11,135.91	$11,135.91
Sewer	MCE	3,699.19	3,699.19
Stormwater	Impervious Square Feet	1.29	3,228.36
Transportation	Person Trip Ends	6,153.21	9,161.16
Total			**$27,224.62**

The City may also decide to phase-in any or all of the SDCs to the maximum or a lower target charge over a period of time.

VI.B. INDEXING

ORS 223.304 allows for the periodic indexing of SDCs for inflation, as long as the index used is:

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

In accordance with Oregon statutes, it is recommended that the City use the ENR Construction Cost Index (CCI) – Seattle as the basis for adjusting SDCs annually. ENR does not have a comparable Oregon-specific index.

VI.C. COMPARISONS

Exhibit 7.2 below compares the City's existing and maximum defensible SDCs for a single-family residence with the existing SDCs of comparable jurisdictions.

Exhibit 7.2 – SDC Comparisons for a Single-Family Residence

	Water	Sewer	Stormwater	Transportation	Total
Independence	$22,567	$10,258	$ 1,142	$ 12,071	$ 46,038
Wilsonville	12,089	6,929	2,327	16,823	38,168
Beaverton	10,370	6,824	1,437	10,599	29,230
Hood River (Calculated)	11,136	3,699	3,228	9,161	27,225
Troutdale	9,551	12,399	1,779	1,310	25,039
West Linn	12,453	4,996	1,741	4,179	23,369
Portland	4,563	8,299	1,251	2,941	17,054
Scappoose	8,940	4,927	671	2,171	16,709
St. Helens	3,099	6,158	2,177	2,475	13,909
Depoe Bay	3,120	4,343	1,788	3,483	12,734
Hood River (Current)	5,185	2,331	900	2,442	10,858
The Dalles	2,317	1,789	342	1,500	5,948
Newport	1,456	2,583	1,350	387	5,776
Astoria	1,317	175	2,450	1,558	5,500

APPENDIX A: TRANSPORTATION SDC PROJECT LIST

Number	Description	Full Project Cost (2024)	SDC Eligibility	SDC-Eligible Cost
SW1	Rand Road	$ 1,792,267	45.90%	$ 822,730
SW2	20th Street	747,694	45.90%	343,225
SW3	Cascade Avenue/HCRH-Westcliff Drive to Mt. Adams Avenue	225,408	45.90%	103,472
SW4	Sherman Avenue	1,907,720	45.90%	875,728
SW5	State Street	500,295	45.90%	229,658
SW6	OR 35 (north of US 30)	-	45.90%	-
SW7	Serpentine Road/Eugene Street	483,802	45.90%	222,087
SW8	May Street	1,660,321	45.90%	762,161
SW9	22nd Street	1,138,035	45.90%	522,409
SW10	18th Street	1,022,582	45.90%	469,411
SW11	Belmont Avenue	901,631	45.90%	413,889
SW12	Frankton Road	3,293,154	45.90%	1,511,704
SW13	Country Club Road	1,253,488	45.90%	575,406
SW14	Cascade Avenue/HCRH (between Mt. Adams Avenue and Rand Road)	401,336	45.90%	184,231
SW15	East Sidewalk along 13th Street	1,100,000	45.90%	504,949
SW17	OR 35 (near I-84)	109,955	45.90%	50,474
SW18	Cascade Avenue (15th to 20th)	714,708	45.90%	328,083
SW19	Post Canyon Drive (Franktown Road to West UGB)	720,206	45.90%	330,606
CR1	**Westcliff Drive & Cascade Avenue-HCRH	-	45.90%	-
CR2	Wasco Avenue & 20th Street/ Jaymar Road	10,996	45.90%	5,047
CR3	**2nd Avenue (I-84 Eastbound)	192,421	45.90%	88,330
CR6	**OR 281-13th Street & Sherman Avenue	10,996	45.90%	5,047
CR7	**OR 281-13th Street & Montello Avenue	10,996	45.90%	5,047
CR8	Key East/West Crossings on 13th Street	1,700,000	45.90%	780,376
CR9	**OR 281-13th Street & May Street	98,960	45.90%	45,427
CR10	**OR 281-12th Street & Belmont Avenue	10,996	45.90%	5,047
CR11	**OR 281-13th Street & Belmont Avenue	27,489	45.90%	12,619
CR13	Rocky Road & May Street	10,996	45.90%	5,047
CR14	Fairview Drive & Belmont Drive	82,466	45.90%	37,856
CR15	**OR 281-13th Street & State Street	10,996	45.90%	5,047
CR16	**OR 281-12th Street & Pacific Avenue	10,996	45.90%	5,047
CR17	**5th Street & Oak Street-HCRH	27,489	45.90%	12,619
CR18	OR 281-13th Street & Oak Street-HCRH	10,996	45.90%	5,047
CR19	2nd Street & State Street	10,996	45.90%	5,047
CR20	(Future) Westside Community Trail & Belmont Drive	10,996	45.90%	5,047
CR21	**Cascade Avenue-HCRH (midblock between Mt. Adams Avenue and Rand Road)	49,480	45.90%	22,713
CR22	**Cascade Avenue near-HCRH (midblock between Rand Road and 20th Street)	49,480	45.90%	22,713
CR23	Sherman Road & Rand Road	87,964	45.90%	40,379
P1.1	Historic Columbia River Highway Trail	2,347,540	45.90%	1,077,625
P1.2	Westcliff Dr. Pedestrian Path	3,908,902	45.90%	1,794,360
P2	Waterfront Path	2,001,182	45.90%	918,631
P3	Waterfront Path Access from US 30	412,331	45.90%	189,278
P4	Westside Community Trail	1,500,886	45.90%	688,974
P5	Hood River Middle School Path	49,480	45.90%	22,713
P6	Indian Creek Trail Access from Union Street	10,996	45.90%	5,047
P8	Indian Creek Trail, Segment 2	-	45.90%	-
P9	Indian Creek Trail Access from Sherman Avenue	643,237	45.90%	295,274
P11	Post Canyon Path	1,176,519	45.90%	540,075
P13	Historic Columbia River Highway Trail, south side of Cascade Avenue	1,803,263	45.90%	827,778
P14	Westside Community Trail extension to Cascade Avenue	71,471	45.90%	32,808
P15	Upper Terrace Neighborhood Trail	1,566,859	45.90%	719,258
P17	West Community Trail extension west to Frankton Road	126,448	45.90%	58,045
P18	Trail from Sherman Avenue to Frankton Road	54,978	45.90%	25,237
P19	Henderson Creek Trail	5,816,622	45.90%	2,670,088
P20	Ridgeline Trail north of Sherman Ave	2,468,491	45.90%	1,133,147
P21	Bike Connection to Pacific Avenue	5,500,000	45.90%	2,524,744
Optional1	ADA/Curb Ramp Upgrade Program	153,937	0.00%	-
Optional2	“Smart Trips” Individualized Marketing Program	21,991	0.00%	-
Optional3	Bicycle/Pedestrian Connections to Transit	153,937	0.00%	-
Optional4	Safe Routes to Schools Curriculum	153,937	0.00%	-
Optional5	Bicycle Wayfinding Signage	109,955	0.00%	-
Optional6	Bicycle Parking Program	38,484	0.00%	-
BL1	Country Club Road	637,739	45.90%	292,751
BL2	Frankton Road	593,757	45.90%	272,561
BL3	Cascade Avenue-Oak Street-HCRH	241,901	45.90%	111,043
BL4	State Street	142,942	45.90%	65,617
BL5	OR 35/Hood River Bridge	120,951	45.90%	55,522
BL6a	May Street (Frankton Rd to Rand Rd)	786,179	45.90%	360,891
BL6b	May Street (17th Street to13th St)	153,937	45.90%	70,664
BL7	Rand Road	368,349	45.90%	169,089

(continued)

Number	Description	Full Project Cost (2024)	SDC Eligibility	SDC-Eligible Cost
BL9	Belmont Avenue	197,919	45.90%	90,854
BL10	Belmont Drive/ Hudson Road	208,915	45.90%	95,901
BL11	Indian Creek Road	280,385	45.90%	128,709
BL12	Brookside Drive/Eliot Drive	643,237	45.90%	295,274
BL13	13th Street	126,448	45.90%	58,045
SLM1	Wasco Street/7th Street	65,973	45.90%	30,285
SLM2	Industrial Street/3rd Street/2nd Street	21,991	45.90%	10,095
SLM3	Oak Street/Front Street	38,484	45.90%	17,666
SLM4	Cascade Avenue	38,484	45.90%	17,666
SLM5	State Street	21,991	45.90%	10,095
SLM6	Sherman Avenue	71,471	45.90%	32,808
SLM7	9th Street/Park Street	10,996	45.90%	5,047
SLM8	May Street	21,991	45.90%	10,095
SLM9	22nd Street	27,489	45.90%	12,619
SLM10	Portway Avenue	27,489	45.90%	12,619
SLM11	Riverside Drive	10,996	45.90%	5,047
BR1	20th Street/Jaymar Road	49,480	45.90%	22,713
BR2	Sherman Avenue	21,991	45.90%	10,095
BR3	Montello Avenue/Eugene Street	258,394	45.90%	118,614
BR4	9th Street	49,480	45.90%	22,713
BR5	4th Street	27,489	45.90%	12,619
BR6	18th Street/17th Street/Avalon Way/Avalon Drive	142,942	45.90%	65,617
BR7	8th Street	109,955	45.90%	50,474
CT1	Taylor Avenue Neighborhood Connection	1,600,000	45.90%	734,471
CT2	12th Street Interim Cycle Track	-	45.90%	-
CT3	May Street Safe Route to School	6,300,000	45.90%	2,891,980
MV1	I-84 Exit 62 Interchange	53,207,250	45.90%	24,424,491
MV1/MV2 Int	I-84 Exit 62 Interchange	7,603,392	45.90%	3,490,295
MV2a	Cascade Ave (HCRH): I-84 Exit 62 Interchange to Mt. Adams Ave.	1,990,186	45.90%	913,584
MV2b	Cascade Ave (HCRH): Mt. Adams Ave to Rand Rd.	1,379,936	45.90%	633,452
MV3	Mt. Adams Ave.: Cascade Ave. to Wine Country Ave.	3,485,575	45.90%	1,600,034
MV4.1	30th Street: Belmont Drive to Fairview Drive	7,410,971	45.90%	3,401,965
MV4.2	Westside Drive (Wine Country Avenue to May Street)	20,902,456	45.90%	9,595,155
MV4.3	May Street/Westside Drive	2,199,101	45.90%	1,009,485
MV 4.4	30th St.: May St. to Sherman Ave.	43,982	45.90%	20,190
MV5	Sherman Ave.: Rand Rd. to Westside Drive	11,880,643	45.90%	5,453,743
MV6	Rand Rd.: May St. to Belmont Ave.	4,519,153	45.90%	2,074,492
MV7	Belmont Ave.: Rand Rd. to Frankton Rd.	14,909,905	45.90%	6,844,309
MV8	I-84 Exit 63 Interchange	15,267,259	45.90%	7,008,350
MV9	I-84 Exit 63 westbound off-ramp queue management	412,331	45.90%	189,278
MV10	Cascade Ave. (HCRH) / Westcliff Dr.	2,199,101	45.90%	1,009,485
MV11	Mt. Adams Ave./ Cascade Ave.(HCRH)	6,047,528	45.90%	2,776,084
MV12.1	Wine Country Avenue/Westside Drive	3,298,652	45.90%	1,514,228
MV13	Rand Rd./ Cascade Ave. (HCRH)	3,518,562	45.90%	1,615,176
MV14	2nd St./ Riverside Dr.	555,273	45.90%	254,895
MV15	2nd St./ Portway Ave.	10,996	45.90%	5,047
MV16	OR 35/ State St.	4,398,202	45.90%	2,018,970
MV17	May St./ 13th St. (OR 281) Roundabout	16,400,000	45.90%	7,528,328
MV18	May St./17th St.	10,996	45.90%	5,047
MV19	May St./ 22nd St.	10,996	45.90%	5,047
MV20	Cascade Ave. (HCRH) / 20th St.	4,398,202	45.90%	2,018,970
MV21	Belmont Ave., 12th St., and 13th St. intersections and two-way traffic on 13th St.	15,100,000	45.90%	6,931,571
MV22	A, B, and C Streets Improvements	3,600,000	45.90%	1,652,560
MV23	2nd St./ Oak St.(HCRH)	1,099,551	45.90%	504,743
MV24	2nd St./State St.	2,199,101	45.90%	1,009,485
MV25	Rand Road/27th Street/May Street	1,099,551	45.90%	504,743
MV26	Exit 62 IAMP Refinement Plan	236,403	45.90%	108,520
MV27	12th St.: Belmont Ave. to May St.	17,800,000	45.90%	8,170,991
MV28	Belmont Ave. Shared Street	2,500,000	45.90%	1,147,611
	Pavement Management System	659,730	0.00%	-
	2nd and Oak Signalization	1,099,551	45.90%	504,743
	Traffic Signal, Realign C&Rand	164,933	45.90%	75,711
	May Street Elevated Sidewalk	1,209,506	45.90%	555,217
	Safe Routes to School Improvements	219,910	45.90%	100,949
	Parking Meter Upgrade	93,462	0.00%	-
	Total	**$ 297,051,840**	45.69%	**$ 135,724,012**

APPENDIX B: TRANSPORTATION SDC SCHEDULE

	ITE Code	Unit of Measure	PM Peak Hour Vehicle Trip Ends	Pass-by Trip Reduction	Person Trip Conversion Factor	New PM Peak Hour Person Trip Ends	Transportation SDC
Parking Lot	90	Parking Spaces	0.49	1.00	1.58	0.78	$ 4,775
General Light Industrial	110	1,000 SFGFA	0.65	1.00	1.58	1.03	6,335
Industrial Park	130	1,000 SFGFA	0.34	1.00	1.58	0.54	3,314
Manufacturing	140	1,000 SFGFA	0.74	1.00	1.58	1.17	7,212
Warehousing	150	1,000 SFGFA	0.18	1.00	1.58	0.29	1,754
Mini-Warehouse	151	1,000 SFGFA	0.15	1.00	1.58	0.24	1,462
Utility	170	1,000 SFGFA	2.16	1.00	1.58	3.42	21,051
Specialty Trade Contractor	180	1,000 SFGFA	1.93	1.00	1.58	3.06	18,810
Single-Family Detached Housing	210	Dwelling Units	0.94	1.00	1.58	1.49	9,161
Multifamily Housing (Low-Rise, not close to rail transit)	220	Dwelling Units	0.51	1.00	1.06	0.54	3,323
Multifamily Housing (Mid-Rise, not close to rail transit)	221	Dwelling Units	0.39	1.00	1.58	0.62	3,801
Residential Townhome/Plex	230	Dwelling Units	0.36	1.00	5.28	1.90	11,691
Mobile Home Park	240	Dwelling Units	0.58	1.00	1.58	0.92	5,653
Senior Adult Housing - Detached	251	Dwelling Units	0.30	1.00	1.58	0.48	2,924
Senior Adult Housing - Attached	252	Dwelling Units	0.25	1.00	1.58	0.40	2,436
Congregate Care Facility	253	Dwelling Units	0.18	1.00	2.44	0.44	2,707
Assisted Living	254	1,000 SFGFA	0.48	1.00	1.58	0.76	4,678
Continuing Care Retirement	255	Units	0.19	1.00	1.58	0.30	1,852
Recreational Homes	260	Dwelling Units	0.29	1.00	1.58	0.46	2,826
Timeshare	265	Dwelling Units	0.63	1.00	1.58	1.00	6,140
Residential Planned Unit Development	270	Dwelling Units	0.69	1.00	1.58	1.09	6,725
Hotel	310	Rooms	0.59	1.00	1.58	0.93	5,750
Motel	320	Rooms	0.36	1.00	1.58	0.57	3,509
Campground/Recreational Vehicle Park	416	Acres	0.48	1.00	1.58	0.76	4,678
Multipurpose Recreational Facility	435	1,000 SFGFA	3.58	1.00	1.58	5.67	34,890
Multiplex Movie Theater	445	1,000 SFGFA	6.17	1.00	1.58	9.77	60,132
Ice Skating Rink	465	1,000 SFGFA	0.17	1.00	1.58	0.27	1,657
Amusement Park	480	Acres	3.95	1.00	1.58	6.26	38,496
Soccer Complex	488	Fields	16.43	1.00	1.58	26.02	160,125
Health/Fitness Club	492	1,000 SFGFA	3.45	1.00	1.58	5.46	33,623
Recreational Community Center	495	1,000 SFGFA	2.50	1.00	1.40	3.49	21,475
Elementary School	520	Students	0.16	1.00	1.58	0.25	1,559
Middle School/Junior High School	522	Students	0.15	1.00	1.58	0.24	1,462
High School	525	Students	0.14	1.00	1.58	0.22	1,364
Junior/Community College	540	Students	0.11	1.00	1.58	0.17	1,072
Church	560	1,000 SFGFA	0.49	1.00	1.58	0.78	4,775
Day Care Center	565	1,000 SFGFA	11.12	0.56	1.58	9.86	60,690
Prison	571	Beds	0.08	1.00	1.58	0.13	780
Fire and Rescue Station	575	1,000 SFGFA	0.48	1.00	1.58	0.76	4,678
Library	590	1,000 SFGFA	8.16	1.00	1.58	12.92	79,527
Hospital	610	1,000 SFGFA	0.86	1.00	1.58	1.36	8,381
Nursing Home	620	1,000 SFGFA	0.59	1.00	1.58	0.93	5,750
Clinic	630	1,000 SFGFA	3.69	1.00	2.21	8.15	50,149
Animal Hospital/Veterinary Clinic	640	1,000 SFGFA	3.53	1.00	1.58	5.59	34,403
General Office Building	710	1,000 SFGFA	1.44	1.00	1.04	1.50	9,230
Small Office Building	712	1,000 SFGFA	2.16	1.00	1.58	3.42	21,051
Single Tenant Office Building	715	1,000 SFGFA	1.76	1.00	1.58	2.79	17,153
Medical-Dental Office Building	720	1,000 SFGFA	3.93	1.00	1.58	6.22	38,301
Government Office Building	730	1,000 SFGFA	1.71	1.00	1.58	2.71	16,666
State Motor Vehicles Dept.	731	1,000 SFGFA	5.20	1.00	1.58	8.24	50,679
United States Post Office	732	1,000 SFGFA	11.21	1.00	1.58	17.76	109,252
Office Park	750	1,000 SFGFA	1.30	1.00	1.58	2.06	12,670

(continued)

	ITE Code	Unit of Measure	PM Peak Hour Vehicle Trip Ends	Pass-by Trip Reduction	Person Trip Conversion Factor	New PM Peak Hour Person Trip Ends	Transportation SDC
Research and Development Center	760	1,000 SFGFA	0.98	1.00	0.53	0.52	3,200
Business Park	770	1,000 SFGFA	1.22	1.00	1.58	1.93	11,890
Tractor Supply Store	810	1,000 SFGFA	1.40	1.00	1.58	2.22	13,644
Construction Equipment Rental Store	811	1,000 SFGFA	0.99	1.00	1.58	1.57	9,648
Building Materials and Lumber Store	812	1,000 SFGFA	2.25	1.00	1.58	3.56	21,928
Free-Standing Discount Superstore	813	1,000 SFGFA	4.33	0.71	1.58	4.87	29,962
Variety Store	814	1,000 SFGFA	6.70	0.66	2.19	9.68	59,536
Free-Standing Discount Store	815	1,000 SFGFA	4.86	0.80	1.58	6.16	37,892
Hardware/Paint Store	816	1,000 SFGFA	2.98	0.74	1.58	3.49	21,492
Nursery (Garden Center)	817	1,000 SFGFA	6.94	1.00	1.58	10.99	67,637
Nursery (Wholesale)	818	1,000 SFGFA	5.24	1.00	1.58	8.30	51,069
Shopping Center	820	1,000 SFGLA	3.40	0.78	1.58	4.20	25,846
Factory Outlet Center	823	1,000 SFGFA	2.29	1.00	1.58	3.63	22,318
Automobile Sales (New)	840	1,000 SFGFA	2.42	1.00	2.12	5.13	31,566
Automobile Sales (Used)	841	1,000 SFGFA	3.75	1.00	1.58	5.94	36,547
Recreational Vehicle Sales	842	1,000 SFGFA	0.77	1.00	1.58	1.22	7,504
Automobile Parts Sales	843	1,000 SFGFA	4.90	0.57	0.29	0.82	5,051
Tire Store	848	1,000 SFGFA	3.75	0.75	1.58	4.45	27,410
Tire Superstore	849	1,000 SFGFA	2.11	1.00	1.58	3.34	20,564
Supermarket	850	1,000 SFGFA	8.95	0.76	1.56	10.61	65,283
Convenience Market	851	1,000 SFGFA	49.11	0.49	1.58	38.11	234,525
Discount Club	857	1,000 SFGFA	4.19	0.66	1.58	4.38	26,951
Wholesale Market	860	1,000 SFGFA	1.76	1.00	1.58	2.79	17,153
Sporting Goods Superstore	861	1,000 SFGFA	2.14	1.00	1.41	3.01	18,521
Home Improvement Superstore	862	1,000 SFGFA	2.29	0.58	1.65	2.19	13,490
Electronics Superstore	863	1,000 SFGFA	4.25	0.60	1.58	4.04	24,852
Toy/Children's Superstore	864	1,000 SFGFA	5.00	1.00	1.58	7.92	48,730
Baby Superstore	865	1,000 SFGFA	1.82	1.00	1.58	2.88	17,738
Pet Supply Superstore	866	1,000 SFGFA	3.55	1.00	1.58	5.62	34,598
Office Supply Superstore	867	1,000 SFGFA	2.77	1.00	1.58	4.39	26,996
Book Superstore	868	1,000 SFGFA	15.83	1.00	1.58	25.07	154,278
Discount Home Furnishing Superstore	869	1,000 SFGFA	1.57	1.00	1.58	2.49	15,301
Bed and Linen Superstore	872	1,000 SFGFA	2.22	1.00	1.58	3.52	21,636
Department Store	875	1,000 SFGFA	1.95	1.00	1.58	3.09	19,005
Apparel Store	876	1,000 SFGFA	4.12	1.00	1.58	6.53	40,153
Arts and Crafts Store	879	1,000 SFGFA	6.21	1.00	1.58	9.84	60,522
Pharmacy/Drugstore without Drive-Through Window	880	1,000 SFGFA	8.51	0.47	1.58	6.34	38,981
Pharmacy/Drugstore with Drive-Through Window	881	1,000 SFGFA	10.25	0.51	1.58	8.28	50,947
Marijuana Dispensary	882	1,000 SFGFA	18.92	1.00	1.58	29.97	184,393
Furniture Store	890	1,000 SFGFA	0.52	0.47	1.58	0.39	2,382
Medical Equipment Store	897	1,000 SFGFA	1.24	1.00	1.58	1.96	12,085
Liquor Store	899	1,000 SFGFA	16.62	1.00	1.75	29.16	179,428
Walk-in Bank	911	1,000 SFGFA	12.13	1.00	1.58	19.21	118,218
Drive-in Bank	912	1,000 SFGFA	21.01	0.65	0.40	5.53	33,996
Hair Salon	918	1,000 SFGFA	1.45	1.00	1.58	2.30	14,132
Copy, Print, and Express Ship Store	920	1,000 SFGFA	7.42	1.00	1.58	11.75	72,315
Food Cart Pod	926	Food Carts	6.16	1.00	1.58	9.76	60,035
Fast Casual Restaurant	930	1,000 SFGFA	12.55	1.00	1.58	19.88	122,311
Quality Restaurant	931	1,000 SFGFA	7.80	0.56	1.58	6.92	42,570
High-Turnover (Sit-Down) Restaurant	932	1,000 SFGFA	9.05	0.57	2.02	10.42	64,114
Fast-Food Restaurant without Drive-Through Window	933	1,000 SFGFA	33.21	1.00	1.58	52.60	323,662
Fast-Food Restaurant with Drive-Through Window	934	1,000 SFGFA	33.03	0.45	2.11	31.34	192,829
Fast-Food Restaurant with Drive-Through Window and No Indoor Seating	935	1,000 SFGFA	59.50	0.69	1.58	65.03	400,118
Coffee/Donut Shop without Drive-Through Window	936	1,000 SFGFA	32.29	1.00	1.58	51.14	314,695
Coffee/Donut Shop with Drive-Through Window	937	1,000 SFGFA	38.99	1.00	0.77	29.97	184,412
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	938	1,000 SFGFA	15.08	0.02	1.58	0.48	2,939
Quick Lubrication Vehicle Shop	941	1,000 SFGFA	8.70	1.00	1.58	13.78	84,789
Automobile Care Center	942	1,000 SFGFA	3.11	1.00	1.58	4.93	30,310
Automobile Parts and Service Center	943	1,000 SFGFA	2.06	1.00	1.58	3.26	20,077
Gasoline/Service Station	944	Vehicle Fueling Positions	13.91	0.37	1.58	8.15	50,159
Convenience Store/Gas Station	945	Vehicle Fueling Positions	18.42	0.44	1.58	12.84	78,989
Self-Service Car Wash	947	Wash Stalls	5.54	1.00	1.58	8.77	53,992
Automated Car Wash	948	Car Wash Tunnels	77.50	1.00	1.58	122.75	755,308
Car Wash and Detail Center	949	Wash Stalls	13.60	1.00	1.58	21.54	132,544
Truck Stop	950	Vehicle Fueling Positions	15.42	1.00	1.58	24.42	150,282
Winery	970	1,000 SFGFA	7.31	1.00	1.58	11.58	71,243
Drinking Place	975	1,000 SFGFA	11.36	1.00	1.58	17.99	110,714

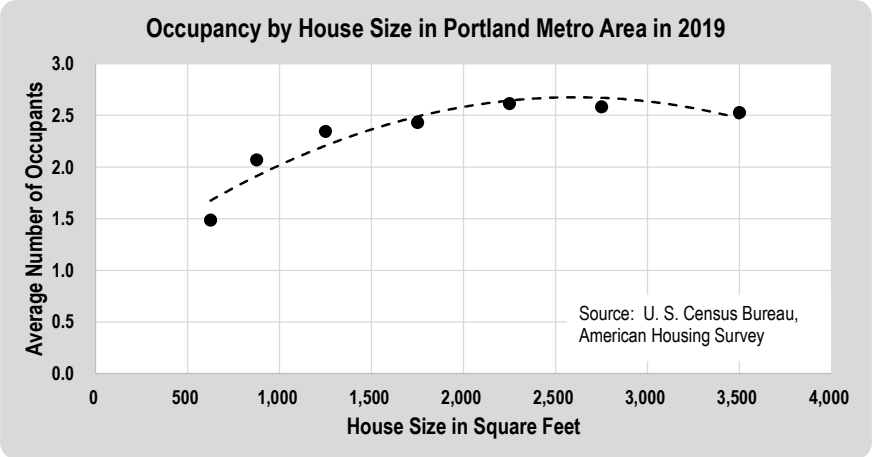
APPENDIX C: SINGLE-FAMILY SCALING

If the City wishes to scale its SDCs for single-family dwelling units, this appendix lays out an equitable and defensible approach for doing so.

OCCUPANCY BY HOUSE SIZE

Data from the U. S. Census Bureau for the Portland Metro Area indicates that, to a point, the number of occupants in a single-family dwelling unit is positively correlated with that unit's size. This data is shown in **Exhibit C.1** below.

Exhibit C.1 – Occupancy and Fixture Units by House Size



At 2,605 square feet, there is no longer a positive relationship between square footage and occupancy.

The average single-family home in Hood River has 2.06 occupants based on American Census Bureau data and has 2,000 square feet of heated floor area according to City data. That means that, on average, there is 0.001 occupant per square foot. Further, the smallest home that could support one occupant in Hood River based on those averages is 970 square feet.

SCALABLE WATER SDC

According to Census Data discussed in the previous section, the average single-family home in Hood River (2,000 square feet) should have 2.06 residents. That means that on average, one MCE is equal to 2.06 residents in Hood River. Therefore, an SDC of $11,135.91 per MCE is equivalent to a charge of $5,398.26 per resident.

According to Census data, the home size of 1 Hood River resident should be approximately 970 square feet.

Therefore, the minimum water SDC based on square footage should equal the charge for 970 square feet or $5,398. The maximum charge should be for 2,605 square feet, or $14,507. For every square

foot between, the charge should be $5.57 per square foot. These calculations are summarized in **Exhibit C.2** below.

Exhibit C.2 – Scalable Single-family Water SDC

	Square Feet	Residents	SDC
SDC per resident	970	1.0000	$5,398
SDC per square foot of single-family residence	1	0.0010	$5.57
Maximum SDC per single-family residence	2,605	2.6873	$14,507

SCALABLE SEWER SDC

The sewer SDC per MCE is $3,699.19. If the average single-family home in Hood River has 2.06 occupants, the equivalent SDC is $1,793 per resident.

Based on Census Bureau data, the smallest home in Hood River that could support one occupant is 970 square feet, at which point the charge would be $1,793. Every additional square foot supports 0.001 residents, which is charged at $1.85 per square foot. However, at 2,605 square feet, Census Bureau data would suggest that there is no relationship between house size and number of occupants, which caps the SDC at $4,819. These calculations are summarized in **Exhibit C.3** below.

Exhibit C.3 – Scalable Single-family Sewer SDC

	Square Feet	Residents	SDC
SDC per resident	970	1.0000	$1,793
SDC per square foot of single-family residence	1	0.0010	$1.85
Maximum SDC per single-family residence	2,605	2.6873	$4,819

SCALABLE STORMWATER SDC

The stormwater SDC calculated to be $1.29 per impervious square foot. This SDC scales naturally based on the impervious surface area of a new single-family dwelling unit, so no additional work to provide a scaled SDC is required.

SCALABLE TRANSPORTATION SDC

The transportation SDC per trip end is $6,153.21, and single-family homes in Hood River are charged for 1.49 trip ends, or $9,161,16. If the average single-family home in Hood River has 2.06 residents, the equivalent SDC is $4,440.97 per resident.

As in the sewer case, that means that the transportation SDC for a 970 square foot home would be $4,440.97, the SDC for every additional square foot would be $4.58 and the maximum transportation SDC at 2,605 square feet would be $11,934. These calculations are summarized in **Exhibit C.4** below.

Exhibit C.4 – Scalable Single-family Transportation SDC

	Square Feet	Residents	SDC
SDC per resident	970	1.0000	$4,441
SDC per square foot of single-family residence	1	0.0010	$4.58
Maximum SDC per single-family residence	2,605	2.6873	$11,934

SUMMARY OF SCALABLE SINGLE-FAMILY SDCS

The calculation of SDCs at various SF break points are provided below in **Exhibit C.6** below.

Exhibit C.6 – Summary of Scalable Single-Family SDCs

Sq. ft.			Water	Sewer	Transportation
	≤	970	$ 5,400.92	$ 1,794.81	$ 4,440.97
971	to	1,500	8,351.93	2,774.39	6,870.87
1,501	to	2,000	11,135.91	3,699.19	9,161.16
2,001	to	2,500	13,919.89	4,623.99	11,451.44
2,501	to	3,000	14,506.96	4,819.00	11,934.41
	≥	3,000	14,506.96	4,819.00	11,934.41