City of Canby, Oregon

SANITARY SEWER & STORMWATER

System Development Charge Methodology & Capital Improvement Plan Update



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City of Canby

SANITARY SEWER & STORMWATER SYSTEM DEVELOPMENT CHARGE METHODOLOGY & CAPITAL IMPROVEMENT PLAN UPDATE

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City of Canby

SANITARY SEWER & STORMWATER SYSTEM DEVELOPMENT CHARGE METHODOLOGY & CAPITAL IMPROVEMENT PLAN UPDATE

This update of the Sanitary Sewer and Stormwater System Development Charge (SDC) is intended to summarize the current value of the existing sanitary and stormwater infrastructure, update the projects in the Capital Improvement Plans required to serve future users, and to define an equitable allocation of these costs to all benefitted users. The goal of this effort is to provide an SDC methodology to allocate a proportionate share of these values and costs that is equitable, understandable and defensible.

SDC METHODOLOGY OVERVIEW

Oregon Revised Statutes 223.297 through 223.314 provides the statutory basis for application of System Development Charges. These statutes are intended to provide a uniform framework for development of equitable funding to support orderly growth.

According to the statute, SDCs are composed of:

- Reimbursement Fees to address the value of existing improvements,
- Improvement Fees to address the cost of needed future improvements, or
- Combination of both Reimbursement and Improvement Fees.

The City's current methodology, which is retained in this update, uses the current "replacement value" for all existing improvements to establish the basis of the Reimbursement Fee. The basis for the Improvement Fee is the "estimated cost" of improvements not yet constructed, but needed to serve future populations.

The existing infrastructure typically has components with surplus capacity for future users as well as some areas of deficiencies or inadequacies in serving the existing users. Similarly, projects on the Capital Improvement Plan listing are required to provide capacity for future users, but also frequently resolve deficiencies in service to the existing users. To account for the available capacity in the City's infrastructure and the concurrent need to undertake capital improvements to resolve deficiencies, these SDC Methodologies include a combination of both Reimbursement Fees and Improvement Fees.

The existing infrastructure essentially provides a base level of service to current and future users, whereas the required capital improvements provide resolution of existing deficiencies as well as the improvements needed for future users.

To assure an equitable allocation of costs between existing and future users, the value of all existing facilities and the estimated cost of all future improvements are allocated to all users, current and future equally, based on their proportionate use of the available capacity. This method of allocating costs to all users ensures that the charge to future connections is equitable and that it is no more than the proportionate cost allocated to each existing user.

This methodology of allocating costs by the capacity of the facility avoids double charging for capacity and is also independent of current population. With this approach there is no need to identify percentage of remaining capacity to serve future users, nor to estimate future population growth. This allocation is dependent only upon the value of the existing facilities, the estimated cost of the required future facilities and the capacity of each component.

The values placed on the existing improvements have taken into consideration rate making principles and the impacts of inflation, contributions by existing users, gifts or grants to the City to construct the infrastructure, and the value of existing facilities. The City of Canby has no outstanding debt for the sanitary or stormwater systems.

Population projections are useful to anticipate future needs; however, the rate of growth to reach the projected population does not impact the fee calculations. The fee is based on funding the needed improvements to support growth, independent of when that population growth is realized. In periods of high growth, SDC revenues will accrue more quickly to allow undertaking needed improvements earlier to support the accelerated growth. In periods of low growth, revenues will accrue more slowly, but the need for infrastructure improvements to support this growth is also protracted.

ANNUAL ADJUSTMENTS

As permitted by ORS 223.304(8): 1) SDC fees may be adjusted as needed, based upon changes in the cost of materials, labor or real property applied to projects or project capacity as set forth in the associated systems' CIP; or 2) SDC fees may be increased periodically based upon application of a specific cost index.

The statutes require a specific cost index to be:

- (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 date 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.

The Engineering News Record (ENR) publishes a nationwide 20-city average cost escalation factor called the Construction Cost Index (CCI) that satisfies the criteria in this statute. The use of this 20-city average provides a well-established and well-known industry standard for the average change in construction costs. For reference, this current SDC update is based on an ENR CCI for March, 2017, of 10,277.

In accordance with ORS 223.309(2), the City may adjust any of the capital improvement projects, adjust project cost estimates, or values of existing improvements by resolution or ordinance at any time. However, if the SDC is increased as a result of the addition of a new "capacity increasing capital improvement" project, the City must provide a written notice, a minimum of 30 days prior to adoption, of the modifications to persons who have requested notice under ORS 223.304(6). Subsequently, the City must hold a public hearing for adoption only if, within seven days of the proposed adoption, the City receives a written request for a hearing.

If the City elects to modify the cost allocation methodology as opposed to only adjusting the project values or CIP inventories, written notice is required to be mailed 90 days prior to any adoption hearings to all persons who have requested notification under ORS 223.304(6). Additionally, the revised methodology must subsequently be made available for public review a minimum of 60 days prior to the hearing for adoption.

With no persons listed per ORS 223.304(6), then no advance notification is required for adjustments, other than those required for any public meeting.

CREDITS FOR ELIGIBLE CONSTRUCTION

ORS 223.304(4) requires that a method of credits be available for the construction of qualified public improvements. The statute further defines qualified public improvements as those required as a condition of development approval, identified in the plan and list adopted pursuant to ORS 223.309 and either:

- (a) Not located on or contiguous to property that is the subject of development approval; or
- (b) 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.

As a result of ORS 223.304(4) (a), a credit must be provided for eligible off-site public improvements; and in accordance with ORS 223.2304(4) (b), a credit must be provided for onsite development for the component of an eligible improvement which has capacity greater than the local government's minimum standard facility size or capacity.

When growth pressures mandate that the City make improvements within fully developed areas or unrelated to any specific development, the entire cost of the improvement may be funded with SDC revenues. If the improvement will provide service to undeveloped areas, the SDC expenditure should be reimbursed by development.

SDC CREDIT PAYMENTS

Credits for eligible public works construction are typically used to offset the SDC fees due from the developing property. In the event the credit exceeds the fees due from the development, the City has the option of reimbursing the developer with cash from current SDC reserves, cash receipts from future SDC revenues, and/or providing a credit against future development. ORS 223.304(5) (d) limits the application of a credit for future development to a maximum of 10 years. However, ORS 223.304(5) (c) allows the City to adopt additional methods of credit beyond the qualified public improvement credits required by statute, if so desired.

CREDIT FOR PRE-EXISTING USE

A system development charge is imposed on all new construction, or when a change of use on a parcel increases the demand on the utility. In the event of a change of use, the system development charge for the new use shall be offset by a credit in the amount of the calculated system development charge for the current existing use. The adjustment may not reduce the SDC charges to result in a refund.

Upon discontinuation of utility service and a 24-month interruption of utility payments, no credit is provided for pre-existing use.

SDC ADMINISTRATION REQUIREMENTS

Per ORS 223.311, System Development Charge revenues must be deposited in accounts designated for such revenues for each infrastructure. An annual accounting must be prepared by January 1 of each year identifying amounts collected for each utility, and the projects that were funded in the previous fiscal year.

The statute allows Reimbursement Fees to be expended on any capital improvements or associated debt service within the subject infrastructure. Improvement Fees may only be spent on projects that are included in a listing of eligible capital improvements planned to be funded with SDC revenues. Eligible projects include projects that increase capacity or level of performance on existing facilities, and associated debt service.

Oregon Revised Statutes 223.307(5) also allows SDC revenues to be expended for costs of complying with the provisions of the SDC statutes contained in ORS 223.297 to 223.314, including the costs of administration and providing annual accounting of development charge expenditures. Accordingly, a 2.5% surcharge is added to each identified fee to account for the cost of administration.

Annually, a transfer from each SDC fund in the amount of the 2.5% of the annual collections may be made to the City department completing the administration for fee calculations, accounting and annual fee adjustments. This transfer should be identified in each annual summary.

REVIEW PROCEDURE

Adoption of this System Development Charge Methodology and Capital Improvement Plan Update includes the adoption of an administrative review procedure for the methodology, expenditures and fee calculation.

Per ORS 223.304(7) (b) the SDC Methodology may be contested within 60 days of adoption in accordance with the procedure established in ORS 34.010 to 34.100. A challenge of any SDC expenditure must be made in accordance with the procedures defined in ORS 34.010 to ORS 34.100, and may be filed within 2 years of the SDC revenue expenditure.

If a private developer objects to the calculation of a system development fee, the City will take into consideration a utility impact analysis prepared specifically for the development that substantiates the demand on the infrastructure. The subsequent formal conclusion by the City may be contested through the procedures established in ORS 34.010 to ORS 34.100 for a writ of review. To avoid project delays, in the case of a contested fee calculation, the SDC fee payment shall be made as a deposit pending the formal review and outcome.

SANITARY SEWER AND STORMWATER SDC UPDATES

The following sections contain a summary of the existing improvements and required capital improvements for the Sanitary Sewer system and the Stormwater system, with estimates of the value of existing infrastructure, estimates and time lines for all projects in the Capital Improvement Plans, percentage of SDC eligible costs, and last, an allocation methodology to define equitable System Development Charges.

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City of Canby SANITARY SEWER SYSTEM SDC UPDATE

SS - I. OVERVIEW

The authority to establish System Development Charges for all five public utilities system was first adopted by the City Council in Ordinance 867 in October 1991, and ultimately codified in the Canby Municipal Code Chapter 4.20. The Sanitary sewer SDC methodology specifically was first adopted in Ordinance 868 in 1991. Subsequently, methodology updates were completed in 1996, 2001 and 2011, and multiple periodic adjustments have been made by resolution to account for inflation.

SS - II. EQUIVALENT DWELLING UNIT (EDU) DEFINITION

SDCs are based on the average dry weather waste flow from a typical single family residential unit, which is adopted to be one Equivalent Dwelling Unit (EDU). For the sanitary sewer SDC all residential units are considered one EDU per family unit, whether located in a detached single family home or in a multi-family structure.

Commercial/industrial EDUs are more difficult to calculate because the waste flow varies dependent on the business activity. In accordance with Resolution 492, the number of commercial/industrial EDUs is determined by the size of the water meter serving the facility; however, this generally understates the actual proportion for larger meters when actual usage is compared to the proportional meter capacities.

When the capacity of the water meter is used to determine the number of commercial/industrial EDUs it results in a comparison of the water meter's peak instantaneous flows. The capacities of all sanitary sewer infrastructure components are based on average dry weather flows, not peak instantaneous flows. Also note the average water usage in a single family residential meter is approximately 1% of its capacity, whereas the average water usage for a commercial/industrial application can be 50 to 75% of its capacity. As a result, this update will define the EDUs for all commercial/industrial applications by the volume of waste flow discharged to the sanitary sewer system compared to the amount discharged by a single family residential unit.

To confirm the waste load from a single family residential unit or EDU, both the water meter records and the wastewater plant flows were analyzed for the past three years. From the Canby Utility records, the average residential component of metered water sales was 89 to 90 percent with commercial/industrial at 10 to 11 percent.

Per capita contribution has steadily declined over the past two decades. A plant flow and population analysis resulted in a previous standard of 80 gallons per capita per day. Using the past four years data, the average daily flow per resident has dropped to 55 gallons per day.

Per the 2010 census data, the average household size is 2.79 persons. As a result, an EDU is now defined as 2.79 times 55 gpd for a total of 155 gallons per day, or 625 cubic feet per month per EDU. Based on this criterion and accounting for 10 percent commercial industrial users, the City of Canby had approximately 7,170 EDU currently contributing to the wastewater system.

SS - III. CREDITS FOR ELIGIBLE CONSTRUCTION

By statute, credits must be issued for eligible improvements required to be constructed by private development. SDC credits are required for the oversized component of any on-site improvements, and for all eligible off-site improvements. To receive a credit, the project must be a qualified public improvement contained in the Capital Improvement Plan, and required as a condition of development approval.

The following table summarizes current construction cost estimates with 15% engineering, and establishes the credit provided for eligible construction projects:

CITY OF CANBY SANITARY SEWER COLLECTION SYSTEM VALUE OF CONSTRUCTION CREDITS

March ENR CCI 10,277

LINE SIZE	8"	10"	12"	15"	18"
CONSTRUCTION COST	\$180/lf	\$190/lf	\$200/lf	\$220/lf	\$240/lf
OVERSIZE CREDIT	\$0	\$10/lf	\$20/1f	\$40/1f	\$60/lf

SS - IV. SANITARY SEWER CAPITAL IMPROVEMENT PLAN

Consistent with the methodology used in the previous SDC documents, the estimated costs of the eligible CIP projects are allocated to all benefitted users based on the capacity of the infrastructure component and cost per gallon. This methodology equitably accounts for excess capacity as well as various system deficiencies, by allocating the value of existing improvements (in the Reimbursement Fee) and the cost of all needed improvements (in the Improvement Fee) over the total capacity of the infrastructure, ensuring the charge to future users is no more than the allocation to existing users.

The capacities of each infrastructure component are defined independently. Sanitary sewer is based on the design average dry weather flow (ADWF) capacity of the treatment facility. Stormwater capacity is defined as serving all EDU within the limits of the built-out Urban Growth Boundary (UGB).

The projects listed in the collection system CIP are intended to serve the build-out population of the existing Urban Growth Boundary. Build-out population has most recently been estimated in the 2010 Transportation System Plan as 26,100 people. Assuming the City maintains the current ratio of 10% commercial/industrial wastewater contribution to the 90% residential wastewater flow, at 2.79 persons per EDU the build-out capacity of the UGB is estimated at approximately 10,400 EDU. At 155 gpd/EDU, build-out of the UGB corresponds to a flow rate of 1.61 MGD.

The following table contains the Capital Improvement Plan for future improvements identified in previous Master Plans, Facility Plans and various planning efforts of the City staff. All estimated costs are based on the March 2017 ENR CCI of 10,277.

CITY OF CANBY SANITARY SEWER CAPITAL IMPROVEMENT PLAN ESTIMATED COST OF IMPROVEMENTS

ENR CCI 10,277

	Project	PRIORITY	TOTAL	ELIGIBLE	CAPACITY	COST PER
	DESCRIPTION	(YRS)	Cost	Cost	MGD	GALLON
Was	stewater Treatment & Disposal:					
1	WWTP Site Improvements	1-5	400,000	400,000	2.8	0.143
2	Power Distribution/PLC	1-5	275,000	275,000	2.8	0.098
3	UV Disinfection System	1-5	900,000	450,000	2.8	0.161
4	Outfall Diffuser/Mixing Zone	1-5	\$100,000	\$100,000	2.8	0.036
5	Primary Clarifier No. 2	6-10	800,000	800,000	2.8	0.286
6	Primary Clarifier No 1 Equip	6-10	400,000	200,000	2.8	0.071
7	Solids Dewatering Equip	6-10	900,000	450,000	2.8	0.161
8	Sludge Conditioning Basin 2	6-10	700,000	700,000	2.8	0.250
9	Lime Silo Relocation	6-10	100,000	100,000	2.8	0.036
10	RV Septage Receiving Station	6-10	175,000	175,000	2.8	0.063
11	RAS/WAS Pump Station Impr	6-10	150,000	75,000	2.8	0.027
12	Equipment & Maint Building	11-20	300,000	300,000	2.8	0.107
13	ODOR Control Improvements	11-20	400,000	400,000	2.8	0.143
14	Pressate Storage Basin Impr	11-20	200,000	200,000	2.8	0.071
15	Effluent Irrigation System	11-20	600,000	600,000	2.8	0.214
Col	lection System Improvements:					
16	Safeway Pumping Station	1-5	350,000	175,000	1.6	0.109
17	Pine Street PS Redirection	1-5	350,000	175,000	1.6	0.109
18	South Ivy Pump Station	1-5	400,000	400,000	1.6	0.250
19	S Ivy St, 1st to 10th Sewer	1-5	500,000	250,000	1.6	0.156
20	N Locust, 4th to 10th Sewer CO	1-5	50,000	0	1.6	0.000
21	NE 12th Sewer, E of Ivy St CO	1-5	12,000	0	1.6	0.000
22	N Maple, 10th to 14th Sewer CO	1-5	40,000	0	1.6	0.000
23	N Pine, 8th to 4th Sewer CO	1-5	80,000	80,000	1.6	0.050
24	Birch St, KBR to Territorial	11-20	600,000	300,000	1.6	0.188

28	waster Fran Opuate & SDC	TOTAL	\$9,762,000	\$7,585,000	2.8	\$3.33	
28	Master Plan Update & SDC	1-20	50,000	50,000	2.8	0.018	
Mas	Master Planning & Permitting						
27	NE 22nd Ave Pump Station	11-20	340,000	340,000	1.6	0.213	
26	N Birch Street Pump Station	11-20	340,000	340,000	1.6	0.213	
25	S 2nd Trunk, MH R-26 to O-39	11-20	250,000	250,000	1.6	0.156	

SS - V. SANITARY SEWER SDC IMPROVEMENT FEE CALCULATION

The Improvement Fee is the total of the cost per gallon of each CIP project listed above times the ADWF number of gallons per EDU. The Improvement Fee component of the Wastewater SDC is:

SDC Improvement Fee = (ADWF gpd/EDU) * (Cost per Gallon)

SDC Improvement Fee = (155 gpd/EDU) * (\$3.33 per gallon)

SDC Improvement Fee = \$516 per EDU

SS - VI. CAPITAL IMPROVEMENT PLAN PROJECT DESCRIPTIONS

- 1. WWTP Site Improvements This project is the last of the 2014-2019 five-year plan for plant improvements to meet future loading. This last phase is for restoration of the existing plant site to restore site impacts of the four earlier phases of work, including restoring all asphalt surfaces, sidewalks, and landscape areas, as well as completing remaining site improvements, such as updated access security, lighting and signage. Spare conduit will also be installed prior to any paving restoration.
- 2. Power Distribution / PLC Upgrades This task is for upgrading the power distribution equipment and nine obsolete programmable logic controllers. Power distribution improvements would include the replacing MCC-B in the Primary Sludge Pump Vault with MCC-A2 in the blower/chemical building. This would also involve the relocation of the two air compressors to the blower chemical building as well as the primary sludge pump control. The GE 90 type PLCs are obsolete, no longer supported and have been replaced by the GE RX3i series. The CPU, power supply and rack of each PLC need to be replaced. Currently the I/O modules are still compatible with the new racks and only need to be replaced as needed.
- 3. UV Disinfection System The UV disinfection system will require upgrading in the next 10 years to continue to affect effluent disinfection. This facility is listed in the reimbursement schedule also, so the eligible component is 50% to account for increased capacity and performance.
- 4. Outfall Diffuser/ Mixing Zone Study This project is to extend the effluent diffuser into the Willamette River to improve the dilution available in the mixing zone. In conjunction, an updated mixing zone study would be required to document the available dilution. This project

will likely be prompted by the NPDES permit renewal and more stringent limitations imposed by DEQ.

- 5. Primary Clarifier No 2 As plant flows increase an additional primary clarifier is required to pre-treat flows to the secondary treatment processes. This includes a new concrete tank and mechanism located adjacent to the existing, and utilizing the existing primary headworks.
- 6. Primary Clarifier Mechanism No. 1 Upgrade This project is to upgrade the existing primary clarifier sludge removal mechanism. This equipment was installed over 30 years ago and is in need of structural and functional improvements. This project is listed as a needed capital improvement, with 50% of the cost listed as eligible for SDC Improvement Fee funding for the increased level of performance that would increase capacity of the system. This primary clarifier is also included in the asset inventory supporting the Reimbursement Fee. Reimbursement funds should be used for the remaining cost of this improvement.
- 7. Solids Dewatering Equipment Upgrade The existing belt press is nearing the end of its service life and will require upgrading as repairs become more frequent. Half of the estimated replacement costs are included in the Improvement Fee to account for upgrading the equipment performance. The remaining project cost should be funded with reimbursement fees collected for this facility.
- 8. Sludge Conditioning Basin No. 2 The long-range capital improvement plan is to provide 600,000 gallons of sludge storage to provide conditioning before further treatment or processing into biosolids. The first 300,000 gallon structure was built in FY 2016-17 and can support the storage needs for many years. The second tank will provide additional storage, but the pair of structures can also function as an aerobic digester, as an alternative sludge treatment process. This improvement will be prompted by a need to find an alternative sludge disposal method in the event contract hauling of dewatered biosolids is no longer feasible.
- 9. Lime Silo Relocation The existing lime silo No. 1 is located adjacent to the Blower Building Number 2, and was originally used to adjust the pH of the thickened biosolids. That process was discontinued many years ago and the silo was repurposed to adjust the alkalinity of the primary effluent prior to entering the aeration basins. The relocated silo will increase the level of performance of the biological process and eliminate the need for extensive piping and remote pumps.
- 10. Septage Receiving Station This project is to install a public septage receiving station outside the City shops facility gate, to discharge into the existing trap and sewer connection adjacent to the City's septage discharge facility. The new station is anticipated to be automated and monitored remotely.
- 11. RAS/WAS Pump Station Improvements This facility has limited capacity and limited floor space. As flows increase, this structure needs to expand to the south, and the pumping equipment needs to be upgraded. A new power supply needs to be extended to the structure and the MCC relocated from the main office to this building. This facility is also listed in the

reimbursement fee schedule, so 50% is eligible for the Improvement Fee funding to account for the increased capacity and level of performance.

- 12. Equipment & Maintenance Building The plant site has very limited storage and maintenance facilities. As the plant loadings increase, a new structure is needed to store equipment and repair parts, and provide shop facilities. This structure is anticipated to be a pole building similar to the Biosolids Load-out structure.
- 13. ODOR Control Improvements The plant has incorporated several processes to minimize odors created at the facility which have allowed postponing mechanical odor control. The ultimate solution when odors become a problem is to install off-gas collection and treatment facilities. This project is to combine existing collection systems and install a treatment process.
- 14. Pressate Storage Basin Improvements This structure is used to treat and meter pressate flows back into the headworks. This facility requires structural improvements to retain its integrity and a cover for off-gas collection.
- 15. Effluent Irrigation System This project is to reduce the plant effluent discharged into the Willamette River by irrigating a portion of the flow on the City controlled property east of the plant, or through cooperation with the golf course west of the facility. This project will be prompted by more restrictive treatment requirements including thermal limitations on the plant effluent.
- 16. Safeway Pumping Station This project is to upgrade and expand the Safeway sanitary sewer pumping station. This project is listed in the reimbursement fee schedule, so only 50% is improvement fee eligible to account for the increased level of performance and capacity.
- 17. Pine Street Pumping Station This project is to upgrade and expand the N Pine Street sanitary sewer pumping station. Alternatively, this line item is also intended to connect this facility to the gravity sewer system in the Molalla Forest Road, if feasible, and abandon the existing pumping station. This project is listed in the reimbursement schedule so only 50% is eligible for Improvement Fee funding to account for increased capacity and level of performance.
- 18. South Ivy Street Pump Station This is a new station required to service areas that cannot be served by gravity on the southern boundary of the UGB.
- 19. South Ivy St. 1st to 10th Sewer Improvements This project is to fund upgrades and expansion of the gravity sewer system in South Ivy Street. This project is intended to coincide with the Clackamas County street improvement project, and intended to include mainline replacement to eliminate areas of reduced capacity, and the installation of cleanouts on all services. Mainline improvements are eligible for Improvement Fee Funding and the remainder of the work can be funded with Reimbursement Fees.

- 20, 21 and 22. These projects are to upgrade the existing gravity sewer systems in each street that is scheduled for street improvements. The work primarily includes installing clean outs on all services, and should be funded with Reimbursement Fees.
- 23. N Pine Street 8th to 4th Sewer This project is to extend a new gravity sewer service to NE 4th Avenue prior to improvements to N Pine Street. This project will serve several new areas coincident with the anticipated relocation of the Pine Street NE 4th Avenue intersection.
- 24. Birch Street, Knights Bridge Road to Territorial Road This project is to reroute the pumped collection system from the Knights Bridge Road Pumping Station to the gravity sewer in Territorial Road. This project will permit abandoning the KBR station. The KBR Station is listed in the Reimbursement Fee schedule; therefore only 50% is Improvement Fee eligible to account for increased capacity and level of performance.
- 25. S 2nd Avenue Trunk This project is to increase the capacity of the trunk line in S 2nd Avenue, from manhole R-26 (S Elm Street) and manhole O-39 (S Ivy Street). This project is one of three remaining projects identified in the Collection System Master Plan required to increase capacity.
- 26. N Birch Street Pump Station This project is defined in the Collection System Master Plan to serve a currently undeveloped area in the NW corner of the UGB, which is unable to be served by the gravity system.
- 27. NW 22nd Avenue Pump Station This project is also defined in the Collection System Master Plan to serve a currently undeveloped area along NW 22nd Avenue that is unable to be served by the gravity system.
- 28. Master Planning & SDC Updates This line item is to account for planning and SDC efforts that will occur during build-out of the UGB and allocation of all of the capacity of the WWTP. This includes any Master Plan updates, and periodic updates to the SDC Methodology.

SS - VII. REIMBURSEMENT FEE ASSET SUMMARY

The Reimbursement Fee is intended to quantify the value of all existing improvements available to serve future demands. The following table lists the current value of each component of the sewerage system, based on replacement costs adjusted to the April 2017 ENR CCI of 10,678. The current value is then divided by the capacity in gallons per day of each existing facility to determine the cost per gallon ADWF.

All costs are estimates of current replacement value, including 12% for engineering, legal and administrative costs to construct each facility. The City has not received any grants or gifts for the sanitary sewer systems.

CITY OF CANBY SANITARY SEWER REIMBURSEMENT FEE REPLACEMENT COST OF EXISTING ASSETS

ENR CCI 10,277

	CAPITAL ASSET	REPLACEMENT VALUE (2017)	CAPACITY MGD	\$/GAL
Trea	tment Facility			
1	WWTP Land & Site Improvements, 13.17 Ac	\$1,975,000	2.80	\$0.705
2	Willamette River Wayside, 26 Ac	802,000	2.80	0.286
3	Headworks, Grit, Screen, RS Pumping	2,600,000	2.80	0.929
4	Control Building, Office, Staff Facilities	1,100,000	2.80	0.393
5	Primary Clarifier, Headworks, Sludge PS	1,210,000	2.80	0.432
6	BNR Aeration Basins (2)	3,400,000	2.80	1.214
7	Blower Building, Blowers, Standby Power	1,300,000	2.80	0.464
8	Secondary Clarifiers (2), RAS/WAS PS	2,500,000	2.80	0.893
9	Effluent Filtration Building & Equipment	1,600,000	2.80	0.571
10	UV Disinfection Building & Equipment	800,000	2.80	0.286
11	Effluent Metering Basin, Reuse PS	480,000	2.80	0.171
12	Outfall Pipe & Diffusers	1,250,000	2.80	0.446
13	Power Dist Network (updated 2017)	1,250,000	2.80	0.446
14	Lab Building & 2017 expansion	390,000	2.80	0.139
15	Flammable Storage Building	130,000	2.80	0.046
16	Tank 1,Tank 2, Transfer Pumps	1,100,000	2.80	0.393
17	GBT Building, Process Water System, Shop	460,000	2.80	0.164
18	Belt Press Building & Equipment	2,100,000	2.80	0.750
19	Sludge Storage Tank 3, Transfer PS (2017)	1,200,000	2.80	0.429
20	Biosolids Storage Building (2015)	1,400,000	2.80	0.500
21	Pressate Basin, Equipment Building, Transfer PS	440,000	2.80	0.157
22	Lime Silos (2) & Slurry Equipment	300,000	2.80	0.107
23	Storage Ponds (3) & Transfer PS	600,000	2.80	0.214
24	Off-Gas Collection System (6)	440,000	2.80	0.157
25	Mechanical & Site Piping	1,100,000	2.80	0.393
Colle	ection System Oversizing			
267	10" Sanitary Sewer, 9,000 lf @ \$10/lf	90,000	1.61	0.056
27	12" Sanitary Sewer, 16,300 lf @ \$20/lf	331,000	1.61	0.206
28	15" Sanitary sewer, 8,000 lf @ \$40/lf	320,000	1.61	0.199
29	18" Sanitary sewer, 7,100 lf @ \$60/lf	426,000	1.61	0.265
30	21" Sanitary Sewer, 1,500 lf @ \$80/lf	120,000	1.61	0.075
31	30" Sanitary Sewer, 1,800 lf @ \$120/lf	216,000	1.61	0.134
Pum	ping Stations & Force Mains			
32	Knights Bridge Road PS & 4" Force Main	390,000	1.61	0.242
33	3rd & Baker PS & 4" Force Main	400,000	1.61	0.248
34	Hazel Dell PS & 6" Force Main	400,000	1.61	0.248

35	Willow Creek PS & Force Main	390,000	1.61	0.242
36	NE 34th Place PS & 4" Force Main	400,000	1.61	0.248
37	Safeway Pump Station	320,000	1.61	0.199
38	N 11th & Pine PS & Force Main	280,000	1.61	0.174
39	Mulino Pump Station & Force Main	720,000	1.61	0.447
Mas	ter Planning & SDC Maintenance			
40	Master Planning & SDC Methodology	80,000	1.61	0.050
	TOTA	AL \$34,810,000		\$13.721

^{*} Capacity of the treatment facility is 2.80 MGD ADWF. Population at build-out of the UGB is estimated at 26,100, which equates to 10,400 EDU and a projected flow of 1.61 MGD.

SS - VIII. SANITARY SEWER SDC REIMBURSEMENT FEE CALCULATION

The Reimbursement Fee is the total of the per gallon value of each asset listed above times the ADWF number of gallons per EDU. The Reimbursement Fee component of the Wastewater SDC is:

SDC Reimbursement Fee = (ADWF gpd/EDU) * (Cost per Gallon)

SDC Reimbursement Fee = (155 gpd/EDU) * (\$13.721 per gallon)

SDC Reimbursement Fee = \$2,127 per EDU

SS - IX. SANITARY SEWER SDC FEE SUMMARY

Similar to the previous methodology, all single family residential units are assigned one EDU which is based on 155 gpd at ADWF. Due to the reduced waste loads, all multi-family residential units are charged 0.8 EDU per unit.

Commercial and industrial developments are assessed SDC charges based on the equivalent number of EDU determined by the average daily volume of wastewater discharged divided by 155 gallons per day (or 625 cubic feet per month) per EDU. Flows should be based on the best estimates at permit stage and verified after one year of operation.

All SDC costs also include a compliance charge of 2.5% for staff review, fee calculations and accounting requirements.

CITY OF CANBY SANITARY SEWER SDC FEE SCHEDULE

April 2017

	EDU FACTOR	IMPROVEMENT FEE	REIMBURSEMENT FEE	ADMIN FEE (2.5%)	TOTAL SDC
Single Family Residential SDC Per Dwelling Unit:					
Per Unit	1	\$516	\$2,127	\$66	\$2,709
Multi-Family	Residential	SDC Per Dwell	ing Unit:		
Per Unit	0.8	\$413	\$1,701	\$53	\$2,167
Commercial / Industrial SDC Based on Wastewater Flow:					
Per 155 gpd	1	\$516	\$2,127	\$66	\$2,709

City of Canby STORMWATER SYSTEM SDC UPDATE

April 2017

SD - I. OVERVIEW

In 1991, Ordinance 867 authorized preparation of System Development Charges for the five public infrastructure components including stormwater. The specific Stormwater SDC Methodology was first adopted by Resolution No. 573 in 1994, and subsequently updated in 2001 and again in 2011.

This System Development Charge update is intended to document the value of existing facilities with capacity to serve future users, and to document needed stormwater improvements to serve build-out of the Urban Growth Boundary. The value of the existing capacity and the estimated cost of future improvements is then allocated to all benefitted users.

SD - II. EQUIVALENT DWELLING UNIT (EDU) DEFINITION

In the Canby area, the soils are very permeable and able to assimilate runoff on-site, with minimal impacts on the public stormwater facilities. More typically in surrounding communities, the impermeable area of each site generates the stormwater runoff. In those cases, the stormwater SDC fees are allocated based on the proportionate area of each impermeable area.

In Canby, the volume of runoff closely correlates with the development of the transportation system because the majority of the stormwater results from street and sidewalk runoff. As used in earlier Canby Stormwater SDC methodologies, an equitable method of cost allocation is based on the proportionate use of the public transportation system, as equated to the number of trips from each land use.

Trip rates for each type of land use are published by the Institute of Transportation Engineers (ITE) based on multiple studies of actual developments. A single family residential household has 9.52 Equivalent Length New Daily Trips (ELNDT) on an average weekday. This trip rate is considered one Equivalent Dwelling Unit (EDU). ITE publishes a Trip Generation Manual which includes average weekday rates for most potential land uses, and the current edition is adopted by reference in this methodology.

SD - III. CREDITS FOR ELIGIBLE CONSTRUCTION

Common to all SDCs, credits must be available for eligible public works construction that meets the requirements of the statute. When a regional improvement project is listed in the Capital Improvement Plan and is undertaken by a private developer as a condition of approval, credits must be made available for certain portions of the work.

The minimum line size for storm drainage system piping improvements in the City of Canby is defined to be 12" diameter. Anytime a developer is required to construct an onsite storm line greater than 12" diameter, a credit for oversizing the line should apply. If a developer is required to build any eligible off-site improvements, a credit for the entire construction cost should apply.

The following table summarizes construction costs, including 20% engineering, as the basis for SDC credits for eligible storm drainage system improvements:

CITY OF CANBY STORM DRAINAGE PIPING SYSTEM VALUE OF CONSTRUCTION CREDITS April 2017

LINE SIZE	12"	15"	18"	20"
CONSTRUCTION COST	\$80/lf	\$95/lf	\$110/lf	\$120/lf
OVERSIZE CREDIT	\$0	\$15/lf	\$30/lf	\$40/lf

SD - IV. STORMWATER SYSTEM CAPITAL IMPROVEMENT PLAN

The most recent stormwater planning effort was published in the 2013 Stormwater Master Plan. This document includes an inventory of existing system components and a listing of needed capital improvements.

The need to complete drainage system improvements is a result of growth pressure contributing additional runoff from extensions of the public streets and right-of-ways. As discussed in the introduction, the value of existing improvements and the estimated costs of future improvements are allocated over all of the population based on the proportionate use of the transportation system.

The following table summarizes the remaining capital improvements numbered as they were in the Stormwater Master Plan, as supplemented by City Staff input, with associated costs adjusted to the March 2017 ENR CCI of 10,277. This table is published to satisfy the requirements of ORS 223.309 and provides the CIP listing of projects eligible for SDC Improvement Fee expenditures.

CITY OF CANBY STORM DRAINAGE CAPITAL IMPROVEMENT PLAN ESTIMATED COST OF IMPROVEMENTS

ENR CCI 10,277

No	Project	PRIORITY	TOTAL COST	ELIGIBLE COST
2	NW 10th Ave, Locust to Pine Storm	1-5	\$250,000	\$250,000
4	SW 13th Ave at Cedar DW	1-5	30,000	30,000
6	NW 2nd Ave & N Ivy UIC Decom	1-5	40,000	40,000
8	S Ivy Street, 99E to S 13th Ave Storm	6-10	750,000	750,000
9	N Maple at Maple Street Park DW	6-10	30,000	30,000
10	N Maple St & NW 34th Place DW	6-10	30,000	30,000
13	N Knights Bridge Road Replacement	6-10	140,000	140,000
14	NW 2nd Ave, Cedar to Baker Storm	6-10	700,000	700,000
15	NW 3rd Ave, Cedar to Holly Storm	6-10	700,000	700,000
16	N Holly Street Drywells	6-10	60,000	60,000
18	N Alder St & N Baker St Impro	11-20	30,000	30,000
19	N Cedar Street Manhole	11-20	10,000	10,000
21	Police Sta/NW 3rd Ave Monitoring	11-20	30,000	30,000
22	Fish Eddy Flow Monitoring	11-20	30,000	30,000
23	Fish Eddy Wetland Treatment	11-20	700,000	700,000
24	Knights Bridge Rd. Swale Treatment	11-20	50,000	50,000
25	Comprehensive System Survey	1-20	60,000	60,000
26	Operations & Maintenance Manual	1-20	30,000	30,000
27	System Flow Monitoring	1-20	20,000	20,000
a	NE 4th Ave Fairgrounds DW	1-5	30,000	30,000
b	NW 5th Ave, Douglas to Cedar Storm	1-5	80,000	80,000
С	NW 9th Ave, Holly to Ivy DW	1-5	30,000	30,000
d	N Pine, 10th Ave to 11th Place Storm	1-5	80,000	80,000
e	Master Planning & SDC Update	1-20	50,000	50,000
	TOTAL IMPROVEMENT COSTS		\$3,960,000	\$3,960,000

SD - V. STORMWATER SYSTEM IMPROVEMENT FEE CALCULATION

The stormwater facilities for the City of Canby are predominately limited to collection, treatment and disposal of runoff from the public transportation improvements. Due to the high permeability of the native soils, stormwater from private properties are mandated to be disposed on-site and not permitted to discharge to the public right-of-way. As a result, the allocation of costs related to the stormwater system is the same as the allocation of responsibility for the public transportation facilities, including the streets and sidewalks.

The industry standard method of allocating transportation infrastructure costs is through the application of the Institute of Transportation Engineers (ITE) Equivalent Length New Daily Trips (ELNDT). Trip rates are published by ITE that provide a proportionate allocation of transportation impacts to each land use category.

The Stormwater Improvement Fee is based on the estimate of all capital improvements being allocated over the total number of ELNDT calculated at built-out of the UGB. The 2010 Canby Transportation System Plan provides the most current estimate of total trips resulting in an estimate of 198,000 ELNDT for the average weekday at build-out.

The Stormwater Improvement Fee per trip is the total estimated cost of the CIP projects listed above divided by the total number of average weekday ELNDT. The Improvement Fee cost per trip is:

SDC Improvement Fee = (Total CIP Estimate) / (Total ELNDT)

SDC Improvement Fee = (\$3,960,000) / (198,000 Trips)

SDC Improvement Fee = \$20 per ELNDT

The single family residential Improvement Fee calculation per EDU is:

SDC Improvement Fee = (Cost per ELNDT) * (9.52 ELNDT/EDU)

SDC Improvement Fee = (\$20 per ELNDT) / (9.52 ELNDT/EDU)

SDC Improvement Fee = \$190 per EDU

SD-VI. STORMWATER SYSTEM REIMBURSEMENT FEE

The Reimbursement Fee is intended to quantify the replacement value of existing improvements with capacity to benefit future users. The following table is an inventory of stormwater projects funded by the City:

CITY OF CANBY STORM DRAINAGE SYSTEM REIMBURSEMENT FEE VALUE OF EXISTING IMPROVEMENTS

ENR CCI 10,277

No	PROJECT DESCRIPTION (YEAR)	CURRENT VALUE
1	DEQ WPCF Permit	\$40,000
2	Stormwater Master Plan (13)	106,000
3	Stormwater UIC Assessment (15)	7,500
4	Stormwater UIC Monitoring Plan (15)	12,000
5	Stormwater Management Plan (15)	7,500

6	N Baker Drive DW Decommissioning	25,000
7	SE Hazeldell Way Swale Construction	10,000
8	UIC E8 & E11 Decommissioning (16)	10,000
9	NW 13th Ave, Ash to Birch DW (16)	30,000
10	NW 9th Ave, Ash to Cedar Pipeline (16)	45,000
11	S Pine Street & S 2nd Ave DW (16)	30,000
12	Vine St & 19th Avenue Storm (16)	8,500
13	Laurelwood Loop DW (16)	30,000
14	KBR & Holly Street DW (16)	30,000
15	W Territorial Road DW (17)	60,000
16	Redwood Storm (98) (City Allocation)	240,000
17	34th Ave Outfall Improvements	45,000
18	Collection System Oversizing	
	- 15" Storm, 400 LF @ \$15 / LF	6,000
	- 20" Storm, 2,480 lf @ \$40 / LF	99,200
	TOTAL REIMBURSEMENT VALUE	\$841,700

SD - VII. STORMWATER SDC REIMBURSEMENT FEE CALCULATION

The value of Stormwater Reimbursement Fee is the total replacement value of improvements funded by the City divided by the number of ELNDT at buildout of the UGB:

Reimbursement Fee per ELNDT = Reimbursement Value) / (Total ELNDT)

Reimbursement Fee per ELNDT = (\$841,700) / (198,000 ELNDT)

Reimbursement Fee per ELNDT = \$4.25 per ELNDT

The residential Reimbursement fee calculation per EDU is:

Reimbursement Fee per EDU = (Cost per ELNDT) * (9.52 ELNDT/EDU)

Reimbursement Fee per EDU = (\$4.25 per ELNDT) / (9.52 ELNDT/EDU)

Reimbursement Fee per EDU = \$40 per EDU

SD - VIII. STORMWATER SDC FEE SUMMARY

All single family residential units are assigned one EDU per dwelling unit, which is based on an ITE published average of 9.52 ELNDT. Multi-family, Commercial and industrial developments

are assessed SDC charges based on a cost per trip times the number of trips estimated by the ITE Trip Generation Manual and the linked trip factor established by the City of Canby. All SDC costs also include a charge of 2.5% for program administration.

CITY OF CANBY STORM DRAINAGE SDC FEE SUMMARY

April, 2017

LAND USE	Units	IMPROVEMENT FEE			TOTAL SDC		
Single Family Residential SDC Per Dwelling Unit:							
SF Residential	EDU	\$190	\$40	\$6	\$ 236 / EDU		
Multi-Family/Commercial/Industrial SDC Per ELNDT:							
Multi-Family	ELNDT	\$20	\$4.25	\$0.50	\$ 24.75 / ELNDT		
Com / Indus	ELNDT	\$20	\$4.25	\$0.50	\$ 24.75 / ELNDT		

For multi-family, commercial and industrial developments, the number of ELNDT is determined by the current ITE Trip Generation manual and the bypass and length trip factors that were adopted by the City of Canby in the most recent Transportation SDC Update. The following table is a listing of the current ITE trip rates, with the trip factors taken from the 2013 Transportation SDC.

CITY OF CANBY
ITE TRIP FACTORS FOR SELECTED LAND USE

April, 2017

ITE LAND USE CATEGORY	TSP TRIP RATE	BYPASS FACTOR (%)	LENGTH FACTOR (%)	NET TRIP RATE	Units*
110 General Light Industrial	7.0	100.0	100.0	7.0	/T.S.F.G.F.A.
120 General Heavy Industrial	1.5	100.0	100.0	1.5	/T.S.F.G.F.A.
150 Warehouse	5.0	100.0	100.0	5.0	/T.S.F.G.F.A.
151 Mini-Warehouse	2.5	100	100	2.5	/T.S.F.G.F.A.
210 Single Family Dwelling	9.52	100.0	100.0	9.52	/dwelling unit
220 Multifamily	6.7	100.0	100.0	6.7	/dwelling unit
520 Elementary School (Public)	1.3	100.0	40.0	0.5	/per student
560 Church	9.1	100.0	75.0	6.8	/T.S.F.G.F.A.
565 Day Care Center/Preschool	4.5	100.0	40.0	1.8	/student
630 Clinic	31.5	100.0	106.0	33.4	/T.S.F.G.F.A.
710 General Office Building	11.0	100.0	100.0	11.0	/T.S.F.G.F.A.
720 Medical-Dental Office					
Building	36.1	100.0	100.0	36.1	/T.S.F.G.F.A.
814 Specialty Retail Center	44.3	44.0	84.0	16.4	/T.S.F.G.L.A.
820 Shopping Center	42.9	44.0	84.0	15.9	/T.S.F.G.L.A.

850 Supermarket	102.2	64.0	84.0	54.9	/T.S.F.G.F.A.
853 Convenience Market	738.0	39.0	42.0	120.9	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	90.1	51.0	84.0	38.6	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	156.5	53.0	84.0	69.7	/T.S.F.G.F.A.
931 Quality Restaurant	90.0	57.0	50.0	25.7	/T.S.F.G.F.A.
934 Fast Food Restaurant	496.1	43.0	50.0	106.7	/T.S.F.G.F.A.
942 Automobile Care Center	40.1	44.0	84.0	14.8	/T.S.F.G.L.A.
944 Gasoline/Service Station	168.6	43.0	42.0	30.4	/V.F.P.

T.S.F.G.F.A. - Thousand Square Feet Gross Floor Area T.S.F.G.L.A. - Thousand Square Feet Gross Leasable Area

Stormwater SDC fees for typical land uses are listed in the following table:

CITY OF CANBY STORMWATER SDC FEES FOR SELECTED LAND USE April, 2017

ITE LAND USE CATEGORY	ELNDT	SDC FEE	Building Units*
110 General Light Industrial	7.0	\$173	/T.S.F.G.F.A.
120 General Heavy Industrial	1.5	\$37	/T.S.F.G.F.A.
150 Warehouse	5.0	\$124	/T.S.F.G.F.A.
151 Mini-Warehouse	2.5	\$62	/T.S.F.G.F.A.
210 Single Family Dwelling	9.52	\$236	/dwelling unit
220 Multifamily	6.7	\$166	/dwelling unit
520 Elementary School (Public)	0.5	\$12	/per student
560 Church	6.8	\$168	/T.S.F.G.F.A.
565 Day Care Center/Preschool	1.8	\$45	/student
630 Clinic	33.4	\$827	/T.S.F.G.F.A.
710 General Office Building	11.0	\$272	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.1	\$893	/T.S.F.G.F.A.
814 Specialty Retail Center	16.4	\$406	/T.S.F.G.L.A.
820 Shopping Center	15.9	\$394	/T.S.F.G.L.A.
850 Supermarket	54.9	\$1,359	/T.S.F.G.F.A.
853 Convenience Market	120.9	\$2,992	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	38.6	\$955	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	69.7	\$1,725	/T.S.F.G.F.A.
931 Quality Restaurant	25.7	\$636	/T.S.F.G.F.A.
934 Fast Food Restaurant	106.7	\$2,641	/T.S.F.G.F.A.
942 Automobile Care Center	14.8	\$366	/T.S.F.G.L.A.
944 Gasoline/Service Station	30.4	\$752	/V.F.P.

^{*} T.S.F.G.F.A. - Thousand Square Feet Gross Floor Area T.S.F.G.L.A. - Thousand Square Feet Gross Leasable Area V.F.P. - Vehicle Fueling Position

V.F.P. - Vehicle Fueling Position