

Title Stormwater Facility Credit Calculator		Number DWW-260.2	Rev. no. 2
Responsibility People, Culture & Community Branch; Drainage and Wastewater Line of Business		Supersedes N/A	Pages 2
General Manager/CEO Signature (interim) /s/ Andrew Lee [e-signature on file]	Approval Date November 29, 2021	Effective Date November 29, 2021	

1. PURPOSE

To improve the equity of drainage charges, Seattle Public Utilities (SPU) has developed a Stormwater Facility Credit Program. This program provides credits on drainage bills to customers who have installed approved stormwater management facilities that mitigate the impact on the City's drainage system of stormwater runoff from their property. Approved stormwater management facilities must meet applicable technical design requirements described in the City's Stormwater Code ("Stormwater Code") SMC 22.800.

The revised Stormwater Code became effective on July 1, 2021 per Ordinance 126336. The General Manager/CEO of SPU has established the 2021 Stormwater Facility Credit calculator ("2021 SFC Calculator") that reflects the updated performance goals of the City's Stormwater Code, as established per Ordinance 126336. The 2021 SFC Calculator applies to facilities built according to 2021 code requirements.

The General Manager/CEO has also maintained the three preceding calculators which reflect the performance goals of the prior City Stormwater Codes. The 2016 SFC Calculator ("2016 SFC Calculator") applies to facilities constructed according to 2016 code requirements. The 2009 SFC Calculator ("2009 SFC Calculator") applies to facilities constructed according to 2009 code requirements. The 2000 SFC Calculator ("2000 SFC Calculator") applies to facilities constructed according to 2000 code requirements.

2. RULE

SPU has developed a "credit calculator" that is the formula used to calculate the percentage credit for each eligible parcel that has applied for such a credit on its drainage bill. The output of the credit calculator is a percentage credit, which may not exceed a maximum percentage, as specified in SMC 21.33.040. Credits are rounded to the nearest whole percentage, with no credit offered to calculated credits that round to less than 1 percent. The credit is then applied as a percentage discount to the customer's annual drainage bill for the parcel.

This credit calculator assigns a uniform percentage credit for each type of approved stormwater management facility, based on a weighting of the stormwater performance goals the facility satisfies and that are applicable to the appropriate drainage discharge point for that parcel. The credit calculator then considers information specific to the parcel, which is entered into the calculator by SPU, such as the percentage of the parcel's impervious surface managed by the approved facility and the parcel's drainage rate category assignment.

The 2021, 2016, 2009 and 2000 SFC Calculators include “Rate Tier Multipliers” which reflect the percentage of the drainage bill associated with runoff from impervious surface, with such multipliers used in the calculation of the final stormwater facility credit applied to a parcel’s drainage bill. The Rate Tier Multipliers vary by rate tier.

A list of all facilities that qualify as “approved stormwater management facilities” under this program is found in Table 1 (2000 SFC Calculator), Table 2 (2009 SFC Calculator), Table 3 (2016 SFC Calculator), Table 4 (2021 SFC Calculator) of Attachment A to this Director’s Rule.

3. REFERENCES

- SMC 21.33.040, Stormwater Facility Credit Program
- SMC 22.800, Stormwater Code
- Ordinance 126336, amending Stormwater Code provisions

4. ATTACHMENTS

- Attachment A - Table 1, Stormwater Facility Credit Program Credit Percentage Calculation: For facilities built according to 2000 and previous code requirements
- Attachment A -Table 2, Stormwater Facility Credit Program Credit Calculator: For facilities built according to 2009 code requirements
- Attachment A -Table 3, Stormwater Facility Credit Program Credit Calculator: For facilities built according to 2016 code requirements
- Attachment A -Table 4, Stormwater Facility Credit Program Credit Calculator: For facilities built according to 2021 code requirements

Attachment A - Table 1. Stormwater Facility Credit Program Credit Percentage Calculation: For Facilities Built According to 2000 and Previous Code Requirements

% Site Impervious Managed	Basin Type	Design Standard	BMP Classification	Facility	Properties	Percent Reduction by Performance Target				Flow Credit Basis	Rate Tier (3):	
						TSS	Volume	2-yr Peak & Duration	25-yr Peak		Overall Max:	Adjusted Facility Credit (2)
Water Quality (WQ) - PGIS Area / Total Imperviousness												
Ex: Typically not CSO basins												
Weighting=						60%	40%	0%	0%			
0%	Separated System	6-month, 24-hour storm	Water Quality - Level 1	media filter, oil water separator, wetvault	no infiltration	80%	0%	NA	NA	Media filter (evaluated)	24%	0%
0%	Separated System	6-month, 24-hour storm	Water Quality - Level 2	wetponds, bioswales (basic, wet, and continuous inflow), filter strips	some infiltration (storage)	80%	15%	NA	NA	Wetpond (modeled)	27%	0%
0%	Separated System	6-month, 24-hour storm	Water Quality - Level 3	sand filter, bioretention or pervious pavement without underdrain, bioretention with underdrain	relies entirely on infiltration	95%	98%	NA	NA	Bioret w/o underdrain (modeled)	48%	0%
Flow Control 1 (FC1) (Public Combined Sewer/Capacity Constrained Basin)												
Ex: CSO with inadequate pipe conveyance and/or ditching												
Weighting=						0%	25%	40%	35%			
0%	Public Combined Sewer/Capacity Constrained Basins	2- and 25-year peak control	Detention - Level 1	vegetated roof (min. 4" soil depth)	no infiltration (some soil storage and evapotranspiration)	NA	30%	25%	20%	Professional Judgment	13%	0%
0%	Public Combined Sewer/Capacity Constrained Basins	2- and 25-year peak control	Detention - Level 2	cistern, vault, detention pipe or surface detention with impermeable liner	no infiltration	NA	0%	22%	63%	Vault (modeled)	16%	0%
0%	Public Combined Sewer/Capacity Constrained Basins	2- and 25-year peak control	Detention - Level 3	surface detention	minimal infiltration (some soil storage and evapotranspiration)	NA	5%	22%	81%	Pond (evaluated)	19%	0%
0%	Public Combined Sewer/Capacity Constrained Basins	2- and 25-year peak control	Detention - Level 4	infiltration trench, bioretention (cell or planter), or pervious pavement facility all with underdrain	some infiltration (storage)	NA	24%	79%	81%	Professional Judgment	33%	0%
0%	Public Combined Sewer/Capacity Constrained Basins	2- and 25-year peak control	Detention - Level 5	infiltration trench, dry well, bioretention (cell or planter), or pervious pavement facility all without underdrain	relies entirely on infiltration	NA	98%	99%	81%	Infiltration Trench (modeled)	46%	0%
Flow Control 2 (FC2) (Flow Critical Receiving Water Basin)												
Ex: Creeks and small lakes												
Weighting=						15%	10%	35%	40%			
0%	Flow Critical Receiving Water Basin	2-, 25- and 100-year peak control	Detention+100yr - Level 1	vegetated roof (min. 4" soil depth)	no infiltration (some soil storage and evapotranspiration)	0%	30%	25%	20%	Professional Judgment	10%	0%
0%	Flow Critical Receiving Water Basin	2-, 25- and 100-year peak control	Detention+100yr - Level 2	cistern, vault, detention pipe or surface detention with impermeable liner	no infiltration	0%	0%	25%	76%	Vault (modeled)	20%	0%
0%	Flow Critical Receiving Water Basin	2-, 25- and 100-year peak control	Detention+100yr - Level 3	surface detention	minimal infiltration (some soil storage and evapotranspiration)	8%	6%	25%	81%	Pond (modeled)	22%	0%
0%	Flow Critical Receiving Water Basin	2-, 25- and 100-year peak control	Detention+100yr - Level 4	infiltration trench, bioretention (cell or planter), or pervious pavement facility all with underdrain	some infiltration (storage)	98%	29%	99%	81%	Professional Judgment	43%	0%
0%	Flow Critical Receiving Water Basin	2-, 25- and 100-year peak control	Detention+100yr - Level 5	infiltration trench, dry well, bioretention (cell or planter), or pervious pavement facility all without underdrain	relies entirely on infiltration	98%	98%	99%	81%	Infiltration Trench (modeled)	46%	0%
Rainwater Harvesting Credit - % of Roof Area												
0%	All	Rainwater use - for Commercial Properties	NA	Tank with reuse	-	NA	NA	NA	NA	-	10%	0%
Total Adjusted Facility Credit											0%	

Final Parcel Credit Calculation	
Total Adjusted Facility Credit	0%
Rate Tier Multiplier (3)	0%
Final Parcel Credit (4)	0%

Notes:

- 1) The facility credit is the scaled weighted average of the percent reductions by performance target.
- 2) The adjusted facility credit is the facility credit multiplied by the percentage of total impervious area managed by the applicable facility.
- 3) The rate tier multiplier is the percentage of the customer's bill attributable to impervious area run-off. Credit is only offered for run-off managed which originates on impervious surface.
- 4) The Final Parcel Credit is the rate tier multiplier multiplied by the sum of a property's adjusted facility credits (i.e., the "total adjusted facility credit"). The Final Parcel Credit is capped at 50%. The Final Parcel Credit is the credit percentage applied to the customer bill.

Rate Tier Multipliers		% Impervious or Parcel Area	Tier	Multiplier (see note 4)
General Service/Large Residential	Undeveloped-Regular	0-15%	G1	30%
	Undeveloped-Low Impact	0-15%	G1L	23%
	Light-Regular	16-35%	G2	63%
	Light-Low Impact	16-35%	G2L	62%
	Moderate-Regular	36-65%	G3	83%
	Moderate-Low Impact	36-65%	G3L	79%
	Heavy	66-85%	G4	93%
	Very Heavy	86-100%	G5	99%
Small Residential	<2,000 sq ft		R1a	85%
	2,000-2,999 sq ft		R1b	84%
	3,000-4,999 sq ft		R2	79%
	5,000-6,999 sq ft		R3	78%
	7,000-9,999 sq ft		R4	74%

Attachment A - Table 2. Stormwater Facility Credit Calculator: For facilities built according to 2009 Code requirements.

Rate Tier:		Performance Factors							Maximum Facility Credit	Adjusted Facility Credit	Notes
% Impervious Surface Managed	BMP Type	WQ/FC Classification	Stormwater Facility Type	TSS	Volume	2-yr Peak & Duration	25-yr Peak	Flow Credit Basis	Facility Credit (1)	Facility Credit (2)	
Water Quality (WQ) Treatment PGIS Area/Total Impervious (5)											
Design Standard: Treatment of the water quality design storm volume or flow rate											
Basin types: Basins requiring basic, enhanced, phosphorus, or oil treatment											
				Weighting=	60%	40%	0%	0%			
0%	Traditional stormwater infrastructure (non-infiltrating facilities)	WQ- Level 1	Media filter Oil/water separator Wet vault	80%	0%	NA	NA	Media filter (evaluated)	24%	0%	Flow modeling not needed. Water quality performance based on Ecology's General Use Level Designation (GULD) basic treatment (TSS removal) goal.
0%	Traditional stormwater infrastructure (minimal evaporation)	WQ- Level 2	Detention/wet pond Detention/stormwater wetland Bioswales (basic, wet, and continuous inflow) Filter strips	80%	0%	NA	NA	Wetpond (modeled)	24%	0%	Flow modeling not needed. Water quality performance based on basic treatment goal in the Stormwater Management Manual for Western Washington (Ecology 2005).
0%	Infiltration and reuse facilities	WQ- Level 3	Bioretention cell (without underdrain) Permeable pavement facility (without underdrain)	95%	91%	NA	NA	Bioret w/o underdrain (modeled)	47%	0%	Flow modeling not needed. Water quality performance estimated based on professional judgment.
Flow Control #1 (FC#1) - Green Stormwater Infrastructure to the Maximum Extent Feasible Only											
Design Standard: 91 percent infiltration or 91 percent reduction for 1-year peak flow											
Basin types: All											
				Weighting=	0%	50%	50%	0%			
0%	Non-infiltrating facilities	FC#1- Level 1	Bioretention (cell or planter with underdrains) Permeable pavement facility (with underdrain)	NA	0%	20%	NA	Bioret w/ underdrain (modeled)	5%	0%	Flow modeled using WWHM3 Pro.
0%	Impervious surface reduction methods	FC#1- Level 2	Green roof	NA	22%	44%	NA	Green Roof (modeled)	17%	0%	Flow modeled using WWHM3 Pro.
0%	Runoff reduction methods	FC#1- Level 3	Dispersion	NA	54%	85%	NA	Dispersion (modeled)	35%	0%	Flow modeled using WWHM3 Pro.
0%	Infiltration and reuse facilities	FC#1- Level 4	Bioretention (cell or planter without underdrains) Permeable pavement facility (without underdrain)	NA	91%	58%	NA	Bioret w/o underdrain (modeled)	37%	0%	Flow modeled using WWHM3 Pro.
0%	Infiltration and reuse facilities	FC#1- Level 5	Rainwater harvesting	NA	NA	NA	NA	Professional Judgment	50%	0%	Credit based on professional judgment.
Flow Control #3 (FC#3) - Pre-developed Forest											
Design Standard: Match half 2-year to 50-year flow duration to forest condition											
Basin types: Some creek basins											
				Weighting=	15%	30%	30%	25%			
0%	Impervious surface reduction methods	FC#3- Level 1	Green roof	0%	25%	47%	68%	Professional Judgment	19%	0%	Flow and water quality performance evaluated based on results for pre-developed pasture and professional judgment.
0%	Traditional stormwater infrastructure (non-infiltrating facilities)	FC#3- Level 2	Detention cistern Detention vault Detention pipe Detention pond (with impermeable liner)	0%	0%	83%	98%	Professional Judgment	25%	0%	Flow and water quality performance evaluated based on results for pre-developed pasture and professional judgment.
0%	Traditional stormwater infrastructure (small-scale/distributed infiltrating facilities)	FC#3- Level 3	Infiltration trench Dry well	100%	100%	100%	33%	Professional Judgment	42%	0%	Flow and water quality performance evaluated based on results for pre-developed pasture and professional judgment.
0%	Infiltration and reuse facilities	FC#3- Level 4	Bioretention (cell or planter without underdrains) Permeable pavement facility (without underdrain)	100%	100%	100%	33%	Professional Judgment	42%	0%	Flow and water quality performance evaluated based on results for pre-developed pasture and professional judgment.
0%	Infiltration and reuse facilities	FC#3- Level 5	Rainwater harvesting	NA	NA	NA	NA	Professional Judgment	50%	0%	Credit based on professional judgment.
Flow Control #4 (FC#4) - Pre-developed Pasture											
Design Standard: Match half 2-year to 2-year flow duration to pasture condition											
Basin types: Some creek basins											
				Weighting=	15%	30%	45%	10%			
0%	Impervious surface reduction methods	FC#4- Level 1	Green roof	0%	22%	44%	65%	Green Roof (modeled)	17%	0%	Flow modeled using WWHM3 Pro. Water quality performance estimated based on professional judgment.
0%	Traditional stormwater infrastructure (non-infiltrating facilities)	FC#4- Level 2	Detention cistern Detention vault Detention pipe Detention pond (with impermeable liner)	0%	0%	80%	95%	Vault (modeled)	23%	0%	Sized using SPU Vault spreadsheet. Flow control modeled using WWHM3 Pro. Water quality performance based on professional judgment.
0%	Traditional stormwater infrastructure (small-scale/distributed infiltrating facilities)	FC#4- Level 3	Infiltration trench Dry well	98%	98%	99%	30%	Infiltration Trench (modeled)	46%	0%	Flow modeled using WWHM3 Pro. Water quality performance based on volume reduction (% infiltration).
0%	Infiltration and reuse facilities	FC#4- Level 4	Bioretention (cell or planter without underdrains) Permeable pavement facility (without underdrain)	98%	98%	99%	30%	Infiltration Trench (modeled)	46%	0%	Flow modeled using WWHM3 Pro. Water quality performance based on volume reduction (% infiltration).
0%	Infiltration and reuse facilities	FC#4- Level 5	Rainwater harvesting	NA	NA	NA	NA	Professional Judgment	50%	0%	Credit based on professional judgment.
Flow Control #5 (FC#5) - Peak Flow Control											
Design Standard: 2- and 25-year peak control											
Basin types: Public combined sewer, capacity-constrained, small lakes											
				Weighting=	0%	25%	40%	35%			
0%	Traditional stormwater infrastructure (non-infiltrating facilities)	FC#5- Level 1	Detention cistern Detention vault Detention pipe Detention pond (with impermeable liner)	NA	0%	48%	63%	Vault (modeled)	21%	0%	Sized using SPU Vault spreadsheet. Flow modeled using WWHM3 Pro.
0%	Impervious surface reduction methods	FC#5- Level 2	Green roof	NA	22%	44%	65%	Green Roof (modeled)	23%	0%	Flow modeled using WWHM3 Pro.
0%	Non-infiltrating facilities	FC#5- Level 3	Bioretention (cell or planter with underdrains) Permeable pavement facility (with underdrain)	NA	0%	75%	80%	Bioret w/ underdrain (modeled)	29%	0%	Flow modeled using WWHM3 Pro.
0%	Traditional stormwater infrastructure (small-scale/distributed infiltrating facilities)	FC#5- Level 4	Infiltration trench Dry well	NA	98%	100%	64%	Infiltration Trench (modeled)	44%	0%	Flow modeled using WWHM3 Pro.
0%	Infiltration and reuse facilities	FC#5- Level 5	Bioretention (cell or planter without underdrains) Permeable pavement facility (without underdrain)	NA	98%	100%	64%	Infiltration Trench (modeled)	44%	0%	Flow modeled using WWHM3 Pro.

0%	Infiltration and reuse facilities	FC#5- Level 6	Rainwater harvesting	NA	NA	NA	NA	Professional Judgment	50%	0%	Credit based on professional judgment.
Rainwater Harvesting Credit for Commercial Properties -% of Roof Area											
0%	Infiltration and reuse facilities	NA	Rainwater harvesting (commercial)	NA	NA	NA	NA	--	10%	0%	Commercial properties only
Total Adjusted Facility Credit										0.0%	

Final Parcel Credit Calculation	
Total Adjusted Facility Credit	0%
Rate Tier Multiplier (3)	0%
Final Parcel Credit (4)	0%

Notes:

- The facility credit is the scaled weighted average of the percent reductions by performance target.
- The adjusted facility credit is the facility credit multiplied by the percentage of total impervious area managed by the applicable facility.
- The rate tier multiplier is the percentage of the customer's bill attributable to impervious area runoff. Credit is only offered for runoff managed which originates on impervious surface.
- The final parcel credit is the rate tier multiplier multiplied by the sum of a property's adjusted facility credits (i.e., the "total adjusted facility credit"). The final parcel credit is capped at 50%. The final parcel credit is the credit percentage applied to the customer bill.
- For the water quality treatment PGIS/impervious area, enter PGIS as a percent of the total impervious area.
- Where flow control is provided, it is estimated that 75% of the total impervious surface is managed. This is based upon past business inspections.
- Fractional credits are not offered - note that no credit will be offered for credits that are calculated to round to less than 1%.
- FC1 applies to all parcels. Possible basin combinations include:

WQ only	WQ and FC3	FC3 and FC5
FC1 only	WQ and FC4	FC4 and FC5
FC3 only	WQ and FC5	
FC4 only	WQ and FC3 and FC5	
FC5 only	WQ and FC4 and FC5	
- Flow Control 2 (FC2) - Wetland Protection requirements may also apply. A separate credit will be calculated outside of this calculator if necessary.
- A separate credit will be calculated for infiltration basins (or other traditional stormwater infrastructure) outside of this calculator if necessary.
- Applicable standards will depend on project type, size, and drainage basin (see Vol III, Section 2.5.3)
- TSS is used as an indicator of water quality treatment; Volume is used as an indicator of volume reduction via infiltration or reuse.

Rate Tier Multipliers	% Impervious or Parcel Area	Tier	Multiplier (3)	
General Service/Large Residential	Undeveloped-Regular	0-15%	G1	30%
	Undeveloped-Low Impact	0-15%	G1L	23%
	Light-Regular	16-35%	G2	63%
	Light-Low Impact	16-35%	G2L	62%
	Moderate-Regular	36-65%	G3	83%
	Moderate-Low Impact	36-65%	G3L	79%
	Heavy	66-85%	G4	93%
	Very Heavy	86-100%	G5	99%
Small Residential	<2,000 sq ft		R1a	85%
	2,000-2,999 sq ft		R1b	84%
	3,000-4,999 sq ft		R2	79%
	5,000-6,999 sq ft		R3	78%
	7,000-9,999 sq ft		R4	74%

Color Key:

- 20%** Ranges for customer/applicant data entry regarding Rate Tier and % impervious or PGIS area managed.
- 65%** Maximum goal-based credit percentage for impervious area served by each BMP Classification.
- 10%** Credit contributions by BMP Classification, for applying facility's BMPs of impervious area.
- Mult** Lookup Table to convert impervious area impacts of facility to composite Rate Credit Percentage.
- 15.0%** Rate Credit percentage that will appear on and modify bills, reflecting applicant facilities, their sizes and the Rate Tier of the applying parcel.

Attachment A - Table 3 . Stormwater Facility Credit Program (SFCP) Credit Calculator: For Facilities Built According to 2016 Seattle Code Requirements

Drainage Rate Tier:		Performance Factors				Facility Credit				
% Hard Surface Area Managed (see note 1)	WQ/FC Classification	Stormwater Facility Type	TSS Reduction	Runoff Volume Reduction	2-yr Peak Flow & Duration Reduction	25-yr Peak Flow Reduction	Facility Credit (see note 2)	Adjusted Facility Credit (see note 3)		
Water Quality (WQ)										
Design Standard: Treatment of the water quality design storm volume or flow rate										
Basin types: Basins requiring basic, enhanced, or phosphorus treatment										
			Weighting Factor=	60%	40%	0%	0%			
0%	WQ- Level 1	<ul style="list-style-type: none"> Non-infiltrating bioretention Biofiltration swale (basic, wet, continuous inflow, or compost amended) Filter strip (basic or compost amended) Media filter drain 	<ul style="list-style-type: none"> Basic or large sand filter basin Sand filter vault Linear sand filter Wet pond Wet vault 	<ul style="list-style-type: none"> Stormwater treatment wetland Detention/wet pond Detention/wet vault Detention/stormwater wetland Proprietary BMPs 	81%	20%	NA	NA	29%	0%
0%	WQ- Level 2	<ul style="list-style-type: none"> Infiltration trench Infiltrating bioretention (with or without underdrain) Permeable pavement facility 	<ul style="list-style-type: none"> Permeable pavement surface Infiltration basin Infiltration chamber 	<ul style="list-style-type: none"> Splashblock, trench, sheet flow, or concentrated flow dispersion meeting basic filter strip requirements 	94%	94%	NA	NA	47%	0%
Flow Control #1 (FC#1) - On-site Stormwater Management										
Design Standard: On-site Performance Standard or On-site List Approach										
Basin types: All										
			Weighting Factor=	15%	35%	40%	10%			
0%	FC#1- Level 1	<ul style="list-style-type: none"> Single-family residential cistern Perforated stub-out connection 							7%	0%
0%	FC#1- Level 2	<ul style="list-style-type: none"> Vegetated roof Sheet flow dispersion 	<ul style="list-style-type: none"> Concentrated flow dispersion Splashblock downspout dispersion 	<ul style="list-style-type: none"> Trench downspout dispersion Non-infiltrating bioretention 	58%	25%	60%	70%	24%	0%
0%	FC#1- Level 3	<ul style="list-style-type: none"> Rain garden Infiltrating bioretention (with or without underdrain) 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	<ul style="list-style-type: none"> Rainwater harvesting 	95%	90%	83%	28%	41%	0%
0%	FC#1- Level 4	<ul style="list-style-type: none"> Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Dry well 		98%	93%	89%	52%	44%	0%
Flow Control #2 (FC#2) - Wetland Protection										
Design Standard: Total runoff volume within 20 percent of the pre-project volume during a single event and within 15 percent on a monthly basis.										
Basin types: Wetlands										
			Weighting Factor=	15%	30%	30%	25%			
0%	FC#2- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	0%	57%	82%	23%	0%
0%	FC#2- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	96%	84%	89%	40%	38%	0%
0%	FC#2- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention (without underdrain) Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Dry well Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	99%	99%	96%	61%	45%	0%
Flow Control #3 (FC#3) - Pre-developed Forested										
Design Standard: Match half 2-year to 50-year flow duration to forested condition										
Basin types: Creek basins										
			Weighting Factor=	15%	30%	30%	25%			
0%	FC#3- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	3%	46%	93%	23%	0%
0%	FC#3- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	94%	82%	87%	40%	38%	0%
0%	FC#3- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention (without underdrain) Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Dry well Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	100%	100%	97%	77%	47%	0%
Flow Control #4 (FC#4) - Pre-developed Pasture										
Design Standard: Match half 2-year to 2-year flow duration to pasture condition										
Basin types: Creek basins										
			Weighting Factor=	15%	30%	45%	10%			
0%	FC#4- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	0%	57%	82%	21%	0%
0%	FC#4- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	96%	84%	89%	40%	42%	0%
0%	FC#4- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention (without underdrain) Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Dry well Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	99%	99%	96%	61%	47%	0%

Attachment A - Table 3 . Stormwater Facility Credit Program (SFCP) Credit Calculator: For Facilities Built According to 2016 Seattle Code Requirements

Drainage Rate Tier:		Performance Factors				Facility Credit				
% Hard Surface Area Managed (see note 1)	WQ/FC Classification	Stormwater Facility Type	TSS Reduction	Runoff Volume Reduction	2-yr Peak Flow & Duration Reduction	25-yr Peak Flow Reduction	Facility Credit (see note 2)	Adjusted Facility Credit (see note 3)		
Flow Control #5 (FC#5) - Peak Control										
Design Standard: 2- and 25-year peak control										
Basin types: Public combined sewer, capacity-constrained, small lakes										
			Weighting=	0%	25%	40%	35%			
0%	FC#5- Level 1	<ul style="list-style-type: none"> Detention cistern Detention vault Detention pipe 	<ul style="list-style-type: none"> Detention pond (with impermeable liner) Detention/ wet pond Detention/ wet vault 	<ul style="list-style-type: none"> Detention/ stormwater wetland Non-infiltrating bioretention Vegetated roofs 	NA	2%	90%	80%	33%	0%
0%	FC#5- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	NA	85%	85%	52%	37%	0%
0%	FC#5- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention (with or without underdrain) Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Dry well Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	NA	100%	100%	89%	48%	0%
Total Adjusted Facility Credit									0.0%	

Final Parcel Credit Calculation	
Total Facility Credit	0%
Rate Tier Multiplier (see note 4)	0%
Final Parcel Credit (see note 5)	0%

Drainage Rate Category	% Impervious or Parcel Area	Drainage Rate Tier	Drainage Rate Multiplier (see note 4)	
General Service/Large Residential	Undeveloped-Regular	0-15%	G1	30%
	Undeveloped-Low Impact	0-15%	G1L	23%
	Light-Regular	16-35%	G2	63%
	Light-Low Impact	16-35%	G2L	62%
	Moderate-Regular	36-65%	G3	83%
	Moderate-Low Impact	36-65%	G3L	79%
Small Residential	Heavy	66-85%	G4	93%
	Very Heavy	86-100%	G5	99%
	<2,000 sq ft		R1a	85%
	2,000-2,999 sq ft		R1b	84%
	3,000-4,999 sq ft		R2	79%
	5,000-6,999 sq ft		R3	78%
	7,000-9,999 sq ft		R4	74%

Notes:

- For the water quality standard, enter PGHS treated as a percent of the total hard surface area. For the flow control standard(s), enter hard surface area managed as a percent of the total hard surface area.
- The "Facility Credit" a scaled weighted average of the performance factors for a given facility and performance standard. "Weighting Factors" assign greater or lesser weight to each performance factor relative to the environmental priorities for the type of basin in which the project is located.
- The "Adjusted Facility Credit" is the "Facility Credit" multiplied by the "% Hard Surface Managed" by the facility.
- The "Drainage Rate Tier Multiplier" is the percentage of the customer's bill attributable to hard surface area runoff. Credit is only offered for runoff managed which originates on hard surface.
- The "Final Parcel Credit" is the "Drainage Rate Tier Multiplier" multiplied by the sum of a property's "Adjusted Facility Credits" (i.e., the "Total Adjusted Facility Credit"). The final parcel credit is capped at 50%. The "Final Parcel Credit" is the credit percentage applied to the customer bill.
- Fractional credits are not offered - no credit will be offered for credits that are calculated to round to less than 1%.
- Applicable standards will depend on project type, size, and drainage basin (see Volume I, Chapter 4 and 5).
- TSS is used as an indicator of water quality treatment; Volume is used as an indicator of volume reduction via infiltration or reuse.
- If multiple flow control standards apply to a project, the largest applicable credit is applied (e.g., if an area is mitigated for FC#1, FC#4 and FC#5, enter the % hard surface managed under the flow control standard that provides the highest credit for the facility used).
- If both flow control and water quality standards apply to a project, credit will be given for both (e.g., if an area meets both treatment and flow control standards, enter the % hard surface managed under both the water quality and flow control standards- the resulting "% Hard Surface Managed" may exceed 100%).

Color Key:

- 20% Customer/applicant data entry (Rate Tier and % impervious or PGHS area managed).
- 10% Stormwater Facility Credit
- Tier/% Lookup Table to convert impervious area impacts of facility to composite Rate Credit Percentage.
- 15% Rate Credit that will appear on and modify bills, reflecting stormwater facilities and Rate Tier.

2021 Stormwater Facility Credit Program (SFCP) Credit Calculator: For Facilities Built According to 2021 Seattle Code Requirements

Version: 07-23-21

Drainage Rate Tier:						Performance Factors				Facility Credit	
% Hard Surface Area Managed (see note 1)	WQ/FC Classification	Stormwater Facility Type		TSS Reduction	Runoff Volume Reduction	2-yr Peak Flow & Duration Reduction	25-yr Peak Flow Reduction	Weighted Performance Factor (see note 2)	Facility Credit (see note 3)	Adjusted Facility Credit (see note 4)	
Facility Credit Scaling Factor= 50%											
Water Quality (WQ) (see note 12)											
Design Standard: Treatment of the water quality design storm volume or flow rate											
Basin types: Basins requiring basic, enhanced, or phosphorus treatment											
				Weighting Factor=				60%	40%	0%	0%
0%	WQ- Level 1	<ul style="list-style-type: none"> Non-infiltrating bioretention Biofiltration swale (basic, wet, continuous inflow, or compost amended) Filter strip (basic or compost amended) Media filter drain 	<ul style="list-style-type: none"> Basic or large sand filter basin Sand filter vault Linear sand filter Wet pond Wet vault 	<ul style="list-style-type: none"> Stormwater treatment wetland Detention/wet pond Detention/wet vault Detention/stormwater wetland Proprietary BMPs 	81%	20%	NA	NA	57%	29%	0%
0%	WQ- Level 2	<ul style="list-style-type: none"> Infiltration trench Infiltrating bioretention Permeable pavement facility 	<ul style="list-style-type: none"> Permeable pavement surface Infiltration basin Infiltration chamber 	<ul style="list-style-type: none"> Splashblock, trench, sheet flow, or concentrated flow dispersion meeting basic filter strip requirements 	94%	94%	NA	NA	94%	47%	0%
Flow Control #1 (FC#1) - On-site Stormwater Management											
Design Standard: On-site Performance Standard or On-site List Approach											
Basin types: All											
				Weighting Factor=				15%	35%	40%	10%
0%	FC#1- Level 1	<ul style="list-style-type: none"> Single-family residential cistern Perforated stub-out connection 			13%	10%	11%	27%	13%	7%	0%
0%	FC#1- Level 2	<ul style="list-style-type: none"> Vegetated roof Non-infiltrating bioretention 	<ul style="list-style-type: none"> Rainwater harvesting (Runoff Volume Reduction of 25% or more, On-site List Category 4) 		36%	15%	27%	41%	26%	13%	0%
0%	FC#1- Level 3	<ul style="list-style-type: none"> Trench downspout dispersion Sheet flow dispersion 	<ul style="list-style-type: none"> Concentrated flow dispersion Splashblock downspout dispersion 		91%	55%	86%	77%	75%	38%	0%
0%	FC#1- Level 4 (see note 13)	<ul style="list-style-type: none"> Rain garden Infiltrating bioretention 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	<ul style="list-style-type: none"> Rainwater harvesting (On-site Performance Standard, On-site List Category 2) 	95%	90%	83%	27%	82%	41%	0%
0%	FC#1- Level 5	<ul style="list-style-type: none"> Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Drywell 		98%	93%	89%	51%	88%	44%	0%
Flow Control #2A (FC#2A) - Wetland Protection Method 1: Monitoring and Wetland Stage Modeling											
Design Standard: Comply with I-C.4, Wetland Hydroperiod Protection, presented in Appendix I-C of Ecology's Stormwater Management Manual for Western Washington (Ecology 2019)											
Basin types: Wetlands											
				Weighting Factor=				15%	30%	30%	25%
0%	FC#2A- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	3%	46%	93%	46%	23%	0%
0%	FC#2A- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	93%	81%	87%	37%	74%	37%	0%
0%	FC#2A- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Drywell Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	100%	100%	97%	75%	93%	47%	0%
Flow Control #2B (FC#2B) - Wetland Protection Method 2: Site Discharge Modeling											
Design Standard: Total runoff volume within 20 percent of the pre-project volume during a single event and within 15 percent on a monthly basis											
Basin types: Wetlands											
				Weighting Factor=				15%	30%	30%	25%
0%	FC#2B- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	0%	57%	82%	46%	23%	0%
0%	FC#2B- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	96%	84%	89%	38%	76%	38%	0%
0%	FC#2B- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Drywell Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	99%	99%	96%	61%	89%	45%	0%
Flow Control #3 (FC#3) - Pre-developed Forested											
Design Standard: Match half 2-year to 50-year flow duration to forested condition											
Basin types: Creek basins											
				Weighting Factor=				15%	30%	30%	25%
0%	FC#3- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	3%	46%	93%	46%	23%	0%
0%	FC#3- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	93%	81%	87%	37%	74%	37%	0%
0%	FC#3- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Drywell Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	100%	100%	97%	75%	93%	47%	0%
Flow Control #4 (FC#4) - Pre-developed Pasture											
Design Standard: Match half 2-year to 2-year flow duration to pasture condition											
Basin types: Creek basins											
				Weighting Factor=				15%	30%	30%	25%
0%	FC#4- Level 1	<ul style="list-style-type: none"> Vegetated roofs Detention cistern Detention vault 	<ul style="list-style-type: none"> Detention pipe Detention pond (with impermeable liner) 	<ul style="list-style-type: none"> Detention/ wet pond Detention/ wet vault Detention/ stormwater wetland 	55%	0%	57%	82%	46%	23%	0%
0%	FC#4- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	96%	84%	89%	38%	76%	38%	0%
0%	FC#4- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Drywell Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	99%	99%	96%	61%	89%	45%	0%

Drainage Rate Tier:		Performance Factors							Facility Credit		
% Hard Surface Area Managed (see note 1)	WQ/FC Classification	Stormwater Facility Type	TSS Reduction	Runoff Volume Reduction	2-yr Peak Flow & Duration Reduction	25-yr Peak Flow Reduction	Weighted Performance Factor (see note 2)	Facility Credit (see note 3)	Adjusted Facility Credit (see note 4)		
Facility Credit Scaling Factor= 50%											
Flow Control #5 (FC#5) - Peak Control											
Design Standard: 2- and 25-year peak control											
Basin types: Public combined sewer, capacity-constrained, small lakes											
			Weighting=				0%	25%	40%	35%	
0%	FC#5- Level 1	<ul style="list-style-type: none"> Detention cistern Detention vault Detention pipe 	<ul style="list-style-type: none"> Detention pond (with impermeable liner) Detention/ wet pond Detention/ wet vault 	<ul style="list-style-type: none"> Detention/ stormwater wetland Vegetated roofs 	NA	3%	94%	92%	71%	36%	0%
0%	FC#5- Level 2	<ul style="list-style-type: none"> Sheet flow dispersion Concentrated flow dispersion 	<ul style="list-style-type: none"> Splashblock downspout dispersion Trench downspout dispersion 	<ul style="list-style-type: none"> Permeable pavement facility Permeable pavement surface 	NA	85%	85%	59%	76%	38%	0%
0%	FC#5- Level 3	<ul style="list-style-type: none"> Infiltrating bioretention Full dispersion Infiltration trench 	<ul style="list-style-type: none"> Drywell Infiltration chamber 	<ul style="list-style-type: none"> Infiltration basin Rainwater harvesting 	NA	99%	100%	89%	96%	48%	0%
Total Adjusted Facility Credit											
0.0%											

Final Parcel Credit Calculation	
Total Facility Credit	0%
Drainage Rate Tier Multiplier (see note 5)	0%
Final Parcel Credit (see note 6)	0%

- Notes:**
- For the water quality standard, enter PGHS treated as a percent of the total hard surface area. For the flow control standard(s), enter hard surface area managed as a percent of the total hard surface area.
 - The "Weighted Performance Factor" is the weighted average of the performance factors for a given facility and performance standard. "Weighting Factors" assign greater or lesser weight to each performance factor relative to the environmental priorities for the type of basin in which the project is located.
 - The "Facility Credit" is the "Weighted Performance Factor" multiplied by the Facility Credit Scaling Factor of 50%.
 - The "Adjusted Facility Credit" is the "Facility Credit" multiplied by the "% Hard Surface Managed" by the facility.
 - The "Drainage Rate Tier Multiplier" is the percentage of the customer's bill attributable to hard surface area runoff. Credit is only offered for runoff managed which originates on hard surface.
 - The "Final Parcel Credit" is the "Drainage Rate Tier Multiplier" multiplied by the sum of a property's "Adjusted Facility Credits" (i.e., the "Total Adjusted Facility Credit").
The final parcel credit is capped at 50%. The "Final Parcel Credit" is the credit percentage applied to the customer bill.
 - Fractional credits are not offered - no credit will be offered for credits that are calculated to round to less than 1%.
 - Applicable standards will depend on project type, size, and drainage basin (see Volume 1, Chapters 4 and 5).
 - TSS is used as an indicator of water quality treatment; Volume is used as an indicator of volume reduction via infiltration or reuse.
 - If multiple flow control standards apply to a project, the largest applicable credit is applied (e.g., if an area is mitigated for FC#1, FC#4 and FC#5, enter the % hard surface managed under the flow control standard that provides the highest credit for the facility used).
 - If both flow control and water quality standards apply to a project, credit will be given for both (e.g., if an area meets both treatment and flow control standards, enter the % hard surface managed under both the water quality and flow control standards - the resulting "% Hard Surface Managed" may exceed 100%).
 - Landscape Management Plan areas do not receive Water Quality treatment credit because no stormwater facility is installed.
 - Sidewalk/Trail Compost-Amended Strip does not receive On-site Stormwater Management credit because it is not a facility and is equivalent to soil amendment required for all projects.

Drainage Rate Category	% Impervious or Parcel Area	Drainage Rate Tier	Drainage Rate Tier Multiplier (see note 5)
General Service/Large Residential	Undeveloped-Regular	0-15%	G1 30%
	Undeveloped-Low Impact	0-15%	G1L 23%
	Light-Regular	16-35%	G2 63%
	Light-Low Impact	16-35%	G2L 62%
	Moderate-Regular	36-65%	G3 83%
	Moderate-Low Impact	36-65%	G3L 79%
	Heavy	66-85%	G4 93%
Small Residential	Very Heavy	86-100%	G5 99%
	<2,000 sq ft		R1a 85%
	2,000-2,999 sq ft		R1b 84%
	3,000-4,999 sq ft		R2 79%
	5,000-6,999 sq ft		R3 78%
	7,000-9,999 sq ft		R4 74%

Color Key:

- 20% Customer/applicant data entry (Drainage Rate Tier and % impervious or PGHS area managed).
- 10% Stormwater Facility Credit
- Tier/% Lookup Table to convert impervious area impacts of facility to composite Rate Credit Percentage.
- 15% Rate Credit that will appear on and modify bills, reflecting stormwater facilities and Rate Tier.