General Information on Redmond's Stormwater Utility and Stormwater Billing
(Revised December 2016)

The City created the Stormwater Utility in 1988 to provide programmatic, maintenance and capital construction services to address flooding, drainage and water quality issues for the protection of the public and to comply with federal, state and regional regulations. At that time, the funding method was established that set stormwater charges based on impacts. Impacts were determined to be directly related to a property's impervious area. The definition of impervious surface in the Redmond Municipal Code reads as follows:

"Impervious surface" means those hard surfaced areas which either prevent or retard the entry of water into the soil in the manner that such water entered the soil under natural conditions preexisting any development on the property, and/or those hard surfaced areas which cause water to run off the surface in greater quantities or at an increased rate of flow from that present under natural conditions preexisting any development on the property, including, but not limited to, such surfaces as rooftops, 'green roofs', asphalt or concrete sidewalks, paving, driveways, parking lots, walkways, patio areas, storage areas, and gravel, oiled macadam, pervious asphalt or concrete or other surfaces which similarly affect the natural infiltration or runoff patterns existing prior to development.

Stormwater charge & impervious units

Monthly stormwater charges are based on the following:
- Undeveloped properties (no impervious surface) are not charged.
- Single family parcels are assumed to be approximately equivalent to 2000 SF of impervious area, which was set as one impervious unit. Single family parcels are charged the base stormwater rate.
- For all other parcels (classified as "Other Developed parcels" by the code) the stormwater fee is calculated based on the number of impervious units multiplied by the stormwater rate per unit, multiplied by a rate adjustment (coverage factor less any discounts for onsite stormwater controls):
- Each parcel's monthly stormwater charge is calculated separately and has its own stormwater account. A site covering multiple parcels will have multiple stormwater accounts.

Stormwater charge (monthly) = Base Rate X Impervious Units X Rate Adjustment

Base Rate

The current base rate of $16.56/impervious unit was initiated at the beginning of 2007. The minimum charge for any developed parcel is the base rate of $16.56

Impervious Units

1 impervious unit = 2000 square feet of impervious area
Impervious units are truncated to the nearest tenth.
If, for example, a site had 33,000 square feet of roof and pavement area the impervious unit calculation would be: 33,000/2000 = 16.5 impervious units.

Rate Adjustments

The rate adjustment increases or decreases the stormwater bill for a property to account for two factors that impact the quantity and quality of stormwater leaving a site: the Impervious Coverage Factor and Stormwater Credits.

Impervious Coverage – The percentage of land covered by impervious surfaces is called the "coverage". If, for example, a 50,000 square foot site had 33,000 square feet of roof and pavement area, the site coverage would be 33,000/55,000 = 66% and the rate adjustment (see table below) would be 1.40. The coverage factor adjustment accounts for the principal that the same square footage of impervious area from a small site has more impact than it does from a larger site and that systems serving higher density areas are more costly to maintain, repair, and replace.

For Impermeable Coverage Over	Rate Adjustment Is
30%	+1.10
40%	+1.20
50%	+1.30
60%	+1.40
70%	+1.50
80%	+1.60
90%	+1.70

Areas that drain to onsite infiltration systems receive a coverage factor of 1.0. If only a portion of a site drains to an infiltration system, the site receives a prorated coverage factor.

Stormwater Credits – Sites that have privately owned and maintained stormwater systems may qualify for stormwater credits. This is to account for the idea that these systems reduce the burden on the public stormwater system by reducing or slowing down the amount of water and/or removing pollutants from the water before it leaves the site. Credits are prorated for sites with multiple systems and for systems that only serve a portion of the site. There are two general types of credits: Flow Control and Water Quality.

<u>Flow Control Credits:</u> These credits are given to systems that reduce or slow the volume of stormwater leaving the site. Types of systems that qualify for flow control credit include:

- On-site detention: ponds, vaults, or tanks that hold stormwater during rain events and slowly release it from the site;
- Direct discharge: piped systems that directly connect to Lake Sammamish or the Sammamish River;
- Infiltration: ponds, pipes, dry wells or other systems that infiltrate stormwater into the ground

The city offers 4 levels of flow control credits. Flow control credits are relative and proportionate to the ability of the system to control higher volumes of runoff. (See table below)

	Description	Examples	Discount
High Performance	Designed systems that prevent the majority of runoff from leaving the site.	*Rainwater Harvesting and Reuse* *Full infiltration or dispersion* *LID Performance Standard + Flow Control*	-0.40
Full Control	Designed systems that control the majority of runoff from the site.	*Detention (2001 Standard)* *Private Direct Discharge* *Infiltration (91% annual runoff volume)*	-0.20
Partial Control	Designed systems that partially control the runoff from the site.	*Detention (1992 Standard)* *Rainwater Harvesting (State Definition)*	-0.10
Other Controls	Designed systems that reduce or control runoff in some manner but do not meet the criteria above. Typically older systems.	*Other designed flow control* *Other designed infiltration* *LID Performance Standard*	-0.05

<u>Water Quality Credits:</u> These credits are given to systems that remove pollution such as sediment, metals, and other chemicals from stormwater. Credit is also given to systems that infiltrate or reuse runoff from surfaces that do not require water quality treatment. Greater credit is given to systems that provide a higher level of water quality treatment.

Types of systems include bioswales, wet ponds and vaults, bioretention, rain gardens, Filterra units, and oil water separators. A credit is issued based on the level of treatment the system was designed to provide. The city offers 4 levels of water quality credits (See table below)

	Description	Examples	Discount
Advanced	Designed system that separates runoff from non pollution generating surfaces.	Infiltration of non pollution generating surfaces Rainwater Harvesting and Reuse	-0.20
Enhanced	Designed system that removes sediment, metals, and/or phosphorus to current ecology standard.	Enhanced Treatment	-0.15
Basic	Designed system that removes sediment to current ecology standard.	Basic Treatment	-0.10
Other	Designed systems that improve or monitor water quality in some manner but do not meet the criteria above.	State or City Required Monitoring Oil/Water Separator Other designed water quality	-0.05

The rate adjustment is calculated by adding each applicable credit to the coverage factor.

Rate Adjustment =

Impervious Coverage Factor + Flow Control Credit + Water Quality Credit

Examples:

Examples using the 50,000 square foot site described above (66% impervious with 16.5 impervious units)

Example 1: Flow control with water quality

This parcel has a pond designed to the 1992 standard and a bioswale that provides basic treatment

The rate adjustment would be calculated with the following:
Impervious coverage factor = 1.4
Flow Control Credit = -.10
Water Quality Credit = -.10
The rate adjustment would be 1.4 - .10 - .10 = 1.2

The monthly bill would be:
$16.56 (Base Rate) X 16.5 (Impervious Units) X 1.2 (Rate Adjustment) = $327.88

Example 2: Infiltration with water quality

This site has an infiltration trench designed to manage 100% of the annual stormwater runoff and a wet pond that provides basic treatment prior to infiltration.

The rate adjustment would be calculated with the following:
Impervious coverage factor = 1
Flow Control Credit = -.40
Water Quality Credit = -.10
The rate adjustment would be 1.0 - .40 - .10 = 0.5

The monthly bill would be:
$16.56 (Base Rate) X 16.5 (Impervious Units) X 0.5 (Rate Adjustment) = $136.62

Example 3: Infiltration with water quality (80% of the site drains to the stormwater system)

This site has an infiltration trench designed to manage 100% of the annual stormwater runoff and a bioswale that provides basic treatment prior to infiltration, however only 80% of the site drains to these systems. The rest of the site does not receive any credits.

In this case each portion of the parcel is calculated separately and then prorated to arrive at a rate adjustment for the whole site.

For the area that drains to the stormwater system:
The rate adjustment would be calculated with the following:
Impervious coverage factor = 1
Flow Control Credit = -.40
Water Quality Credit = -.10
The rate adjustment would be 1.0 - .40 - .10 = 0.5

For the area NOT managed by a stormwater system:
The rate adjustment would be calculated with the following:
Impervious coverage factor = 1.4
Since there are no flow control or water question credits, the rate adjustment would be 1.4

To arrive at a rate adjustment for the parcel, each portion is prorated and combined:
0.5 X .8 + 1.4 X .2 = .68

The monthly bill would be:
$16.56 (Base Rate) X 16.5 (Impervious Units) X .68 (Rate Adjustment) = $185.80