

General Information on Redmond's Stormwater Utility and Stormwater Billing

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, asphalt or concrete sidewalks, paving, driveways, parking lots, walkways, patio areas, storage areas, and gravel, oiled macadam 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):

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 three factors that impact the quantity and quality of stormwater leaving a site: Impervious Coverage Factor, Flow Control Factor, and Treatment Factor.

• <u>Impervious Coverage</u> – 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 idea that the same square footage of impervious area has more impact on a small site than it does on a larger site.

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

Impervious Coverage Factor

- <u>Flow Control</u> measures 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;
 - Regional Facility: properties that have paid the City for connecting to a City maintained regional stormwater facility; and
 - Infiltration: stormwater is infiltrated into the ground by means of ponds, pipes, or dry wells.

Fees are reduced for these features and the amount of reduction depends on the size of storm which can be handled by the facilities (see Tables below).

Flow Control Factor (Detention, Direct Discharge, Regional Facilities)						
	Design Storm Frequency					
Facility Type	< 10 Year	≥10 Year	≥25 Year	≥100 Year		
On-Site Detention	0	-0.15	-0.20	025		
Direct Discharge	0	-0.25	-0.30	-0.35		
Regional Facility	0	-0.08	-0.10	-0.13		

For infiltration, the impervious coverage also impacts the amount of the fee reduction.

Flow Control Factor (Infiltration)					
Coverage Percent	Design Storm				
	<10 yr.	≥10 yr.	≥25 yr.	≥100 yr.	
<30	1.00	0.50	0.40	0.30	
≥30	1.10	0.59	0.49	0.39	
≥40	1.20	0.62	0.52	0.42	
≥50	1.30	0.65	0.55	0.45	
≥60	1.40	0.69	0.59	0.49	
≥70	1.50	0.72	0.62	0.52	
≥80	1.60	0.75	0.65	0.55	
≥90	1.70	0.79	0.69	0.59	

- <u>**Treatment.**</u> The presence or absence of stormwater treatment facilities can either increase or decrease the fee. There are four categories of stormwater treatment within the City code:
 - No measures: A site doesn't have any of the measures described below.
 - Standard floatables separator: A standard floatables separator is a downturned elbow that provides for a minimum level of spill control before stormwater leaves a site.
 - Special measures: Water quality treatment systems such as bioswales, ponds, or treatment vaults are engineered to treat a certain size storm. A credit is issued based on the size of storm for which the system was designed.
 - Regional facility: properties that have paid the City for connecting to a City maintained regional stormwater facility that provides water quality treatment

Treatment Factor						
	Design Storm					
Facility Type	<10 yr.	≥10 yr.	≥25 yr.	≥100 yr.		
No standard or special measures	<u>+0.20</u>	<u>+0.20</u>	<u>+0.20</u>	<u>+0.20</u>		
Standard floatables separator	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		
Special measures	<u>-0.20</u>	<u>-0.25</u>	<u>-0.30</u>	<u>-0.35</u>		
Regional facility	<u>-0.10</u>	<u>-0.13</u>	<u>-0.15</u>	<u>-0.18</u>		

These factors are combined by adding and subtracting each applicable factor to obtain the Rate Adjustment.

Rate Adjustment = Impervious Coverage Factor + Flow Control Factor + Treatment Factor

For example, using the 50,000 square foot site described above with:

(a) on-site detention sized for a ten-year storm; and(b) a biofilter sized for a two-year storm

The Rate Adjustment would be calculated with the following: Impervious Coverage Factor = +1.40Flow Control Factor = -0.15 (on-site detention, ten-year design storm) Treatment Factor = -0.20 (on-site biofilter, two-year storm). The Rate Adjustment would be 1.40 - 0.15 - 0.20 = 1.05.

For the example site, the bill would be: $16.56 \times 16.5 \text{ IU} \times 1.05 = 286.90/\text{month}$