

Appendix I – Rogue Valley Sewer Services Stormwater Credits

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Appendix I - Rogue Valley Sewer Services Stormwater Credits

INTRODUCTION

Rogue Valley Sewer Services (RVSS) collects a monthly stormwater quality management fee of \$1 for a single family residence. Multi-family residences, commercial, and industrial uses are charged \$1 per 3,000 square feet of impervious area. RVSS code specifies that properties that take measures above and beyond the minimum requirements to protect water quality are entitled to a reduction in the monthly stormwater quality management fee. Two methods for earning credits are described below. The onus of demonstrating that a property is entitled to stormwater credit is on the property owner and is subject to review and approval by RVSS. Stormwater credits cannot reduce the monthly rate below the base rate for a single family home. Stormwater credits do not negate the need for Retention or Treatment per Section 2.4.

In addition to Stormwater credits on the monthly fee, incentive funding is available to cover engineering and construction costs associated with going above and beyond the requirements of the Rogue Valley Stormwater Quality Design Manual (Design Manual). Information on incentive funding can be found on RVSS' website.

VOLUME CONTROL

The Rogue Valley Stormwater Quality Design manual requires flow control measures to prevent an increase in the *peak runoff* from a property. The Design Manual does not require limitations on the *total volume* of stormwater runoff from a property. However, credit for volume control can be earned by reducing the total volume of stormwater that flows off of the subject property. This can be done for the total volume of runoff through Retention, as defined in the Design Manual, or Detention. To qualify for this credit, the applicant must show the calculated peak runoff both with and without volume control measures. The total credit is equal to the percentage reduction in runoff volume over 24-hours using the 10-year event design storm, Section 2.5.

Example 1: A 10-acre commercial facility has 5-acres of impervious surface area. The monthly charge would be \$72.60 with no volume control. The calculated total runoff during a water quality design storm is 38,738 cubic feet in 24-hours. The property owner designs the stormwater system to retain and infiltrate 10,000 cubic feet per day which reduces the total runoff volume by 25.8%. The reduced monthly fee is $\$72.60 \times (1 - 0.258)$, or \$53.87.

Example 2: The same 10-acre commercial facility instead decides to install an extended detention basin with a maximum outflow of 0.30-cfs. The average daily runoff for the property is 0.45-cfs. The extended detention basin is therefore a 66.6% reduction in runoff over 24-hours which qualifies the project for a credit equal to 33.3% of the monthly charge. The total monthly charge would therefore be $\$72.60 \times (1 - 0.333)$, or \$48.42.

TREES

The amount of impervious surface area used to calculate the monthly fee can be reduced through protection of some existing tree cover and by planting new trees. Tree credits can amount to a maximum of 25% of the total impervious surface area. Calculations for determining the impervious area reduction associated with trees are shown in the worksheet below.

Example 3: A 2-acre commercial facility will have 60,000 square feet of impervious surface area, which would result in a \$20 per month service charge. As part of their development plan they are able to preserve 10,000 square feet of existing tree canopy, all within 30-feet of the impervious surface. They are also planting 30 evergreen trees and 30 deciduous trees as part of their landscaping plans. The reduction in impervious area calculated for the fee is as follows:

Area of Protected Existing Tree Canopy $10,000 \text{ SF} \div 2 = 5,000 \text{ SF}$

Number of new Deciduous Trees	$30 \times 100 \text{ SF} = 3,000 \text{ SF}$
Number of new Evergreen Trees	$30 \times 200 \text{ SF} = 6,000 \text{ SF}$
Total Area Reduction for Tree Credit	$= 14,000 \text{ SF}$

The full Stormwater credit applies since the calculated tree credit area (14,000 SF) is less than 25% of the total impervious surface area.

$$(60,000 \text{ SF} * 0.25 = 15,000 \text{ SF}),.$$

The impervious surface used to calculate the monthly fee will be:

$$60,000 \text{ SF} - 14,000 \text{ SF} = 46,000 \text{ SF}$$

The total monthly fee would be \$15.33.

$$\$1 * (46,000 \text{ SF} / 3,000 \text{ SF}) = \$15.33 .$$

COMBINED CREDIT

Both volume control credit and tree credit can apply to the same property. When this happens, each credit is calculated independently and is added together for the total credit.

Example 4: A 5-acre development has 3-acres (130,680 SF) of impervious surface, which creates 22,000 cubic feet per day of runoff during a 10-year storm. The standard monthly stormwater quality fee would be \$43.56.

$$\$1 * (130,680 \text{ SF} / 3,000 \text{ SF}) = \$43.56$$

The project uses an extended detention basin with a maximum outflow of 0.17 cubic feet per second, which is 66.6% of the average daily runoff. The assessed impervious area would be reduced by 33.3%, or 43,516 SF. The project also preserves existing trees and plants new trees, as in Example 3, for a tree credit area reduction of 14,000 SF. The total assessed area is calculated below:

Impervious Surface Area	130,680 SF
Volume Control credit	- 43,560 SF
Tree credit	<u>14,000 SF</u>
Assessed Impervious Surface Area	73,120 SF

By taking these measures, the monthly stormwater quality fee would be reduced from \$43.56 to \$24.37 ($\$1 * (73,120 \text{ SF} / 3,000 \text{ SF})$), a monthly savings of \$19.19.

RVSS STORMWATER QUALITY MANAGEMENT FEE CREDIT WORKSHEET

The standard stormwater quality management fee is \$1 per 3,000 square feet of impervious surface on the site. This fee may be reduced by limiting the volume of stormwater that leaves the site in 24-hours or by planting new trees and protecting existing tree canopy. NOTE: Units are in square feet (SF) and cubic feet per day (CF/DAY).

- A. Total Site Area _____ SF
- B. Total Impervious Area _____ SF
- C. Monthly Stormwater Base Rate $B \times \$1 \div 3,000 \text{ SF} =$ \$ _____

VOLUME CONTROL CREDIT

- D. Calculated Runoff with no Volume Control _____ CF/DAY
- E. Calculated Runoff with Volume Control _____ CF/DAY
- F. Percent Reduction from Volume Control $E \div D =$ _____ %
- G. Assessed Impervious Surface Reduction $B \times (1 - F) =$ _____ SF

TREE CREDIT

- H. Area of Protected Existing Tree Canopy _____ SF $\div 2 =$ _____ SF
- I. Number of new Deciduous Trees _____ $\times 100 \text{ SF} =$ _____ SF
- J. Number of new Evergreen Trees _____ $\times 200 \text{ SF} =$ _____ SF
- K. Total Area for Tree Credit $H + I + J =$ _____ SF
- L. Maximum Credit Allowable $B \times 0.25 =$ _____ SF
- L. Smaller of K or J _____ SF

TOTAL STORMWATER CREDIT

- M. Total Impervious Area (B) _____ SF
- N. Volume Control Credit (G) _____ SF
- O. Tree Credit (L) _____ SF
- P. Assessed Impervious Area $M - N - O =$ _____ SF
- Q. Adjusted Stormwater Fee $P \times \$1 \div 3,000 \text{ SF} =$ \$ _____