**BMP L602.a - Roof Downspout Infiltration Trench Sizing for Minimum Requirement #5 – The List Approach**

# The minimum trench length is based upon the soil type in the location of the infiltration trench. The soils report will provide the USDA Soil Type. The table below provides the minimum trench length per 1,000 ft2 of contributing roof area. Roof downspout infiltration trenches shall be designed in accordance with the SWMM and Green Stormwater Infrastructure Typical Detail Figure 001 – Downspout Infiltration Trench. The minimum bottom width shall be 24”. If alternative widths and lengths are proposed, a Washington State Licensed Professional Engineer must model the proposed infiltration trench using an Ecology approved continuous simulation model (assuming a 15-minute timestep) and the LID Performance Standard must be used if the facility is proposed to be installed to meet Minimum Requirement #5: Onsite Stormwater Management.

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| USDA Soil Type | Minimum Trench Length (ft) per 1,000 ft2 of Roof Area |
| “Coarse Sand” (more than 50% of sand fraction remains on #4 sieve) | 20 |
| “Medium Sand” (more than 50% of sand fraction remains on #40 sieve) | 30 |
| Loamy Sand | 75 |
| Sandy Loam | 125 |
| Loam | 190 |
| Silt Loam | 275 |
| Fill (only per SWMM requirements) | 60 |

$$Trench Length Required \left(ft\right)= \frac{Roof Area (ft^{2})}{1000 (ft^{2})}\*(minimum trench length from table above(ft))$$

# Roof Area Requiring Mitigation (ft2): Click here to enter text.

# USDA Soil Type per Soils Report: Click here to enter text.

# Trench Length Required: Click here to enter text.

# \*Constructed Trench Lengths cannot exceed 100 feet. If trench length required exceeds 100 feet, multiple trenches will be required to be constructed.

# Number of Trenches: Click here to enter text.

# Length of Each Trench: Click here to enter text.