

VERSION 1.0

Stormwater Solutions for Residential Sites

Section 9 – Green Roofs

Prepared for

EcoWater Solutions

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9.1 Introduction

A green roof is a roof system that incorporates soil and plants to minimise the impacts of the covered structure. The idea of the green roof is to mimic the natural environment by filtering rain through the soil while capturing some to be evapotranspired later. The infiltration and filtering of rain helps to limit the decreases in the time of concentration that normally occur when a roof structure is built.

9.2 Description

A green roof is a roof system consisting of waterproofing material covered with a thin protective layer of soil and vegetation. A green roof, also known as an “eco-roof”, can be used in place of a traditional roof. It is capable of capturing and evaporating between 10 and 100% of precipitation. The effectiveness is dependant on the soil type, soil thickness and vegetation. The season can also have an impact on the performance.

Figure 9-1 shows the conceptual design of a green roof. Green roof designs must be specific to the structure being considered. This detail is provided to illustrate the green roof option only.

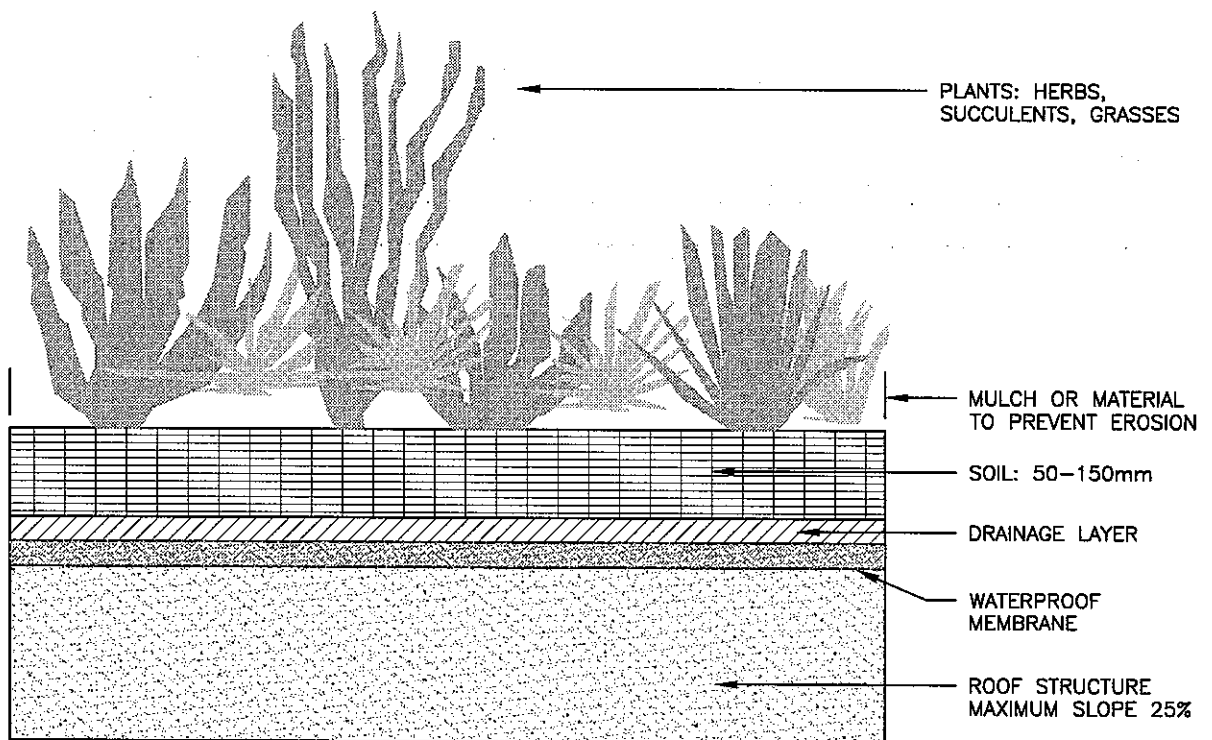
9.3 Considerations

Adequate plant coverage needs to be established and maintained. Irrigation may be required during the summer months and to aid in establishment.

The additional weight of the soil and water needs to be considered in the structural design of the roof.

The slope of the roof should not exceed 25% unless additional runoff control measures are incorporated.

A registered Professional Engineer should be consulted in the design and construction of a green roof system.



NOTE:

THIS IS A GENERAL DETAIL FOR A GREEN ROOF.

THE DETAILED DESIGN OF A GREEN ROOF SHOULD INCLUDE CONSIDERATIONS FOR ADDITIONAL LOADING ON THE STRUCTURE AND MAINTENANCE AND SUSTAINABILITY OF THE SYSTEM AFTER INSTALLATION.

DETAILED DESIGN SHOULD INCLUDE AN EVALUATION OF APPROPRIATE VEGETATION.