

# Green Infrastructure: Green Roofs

Growing popularity of the green roof systems is just another proof to the numerous benefits that they have. Green roofs are aesthetically pleasing and can provide additional amenity space to the building users.



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## TYPES OF GREEN ROOFS

There are two types of vegetative green roofs, Intensive and Extensive.

*Intensive Green Roofs* have a deep growing medium that supports a variety of landscape material. Because of the deeper growing medium, “intensive green roofs”, are able to incorporate larger plants including shrubs and small trees. Intensive green roofs are also accessible and provide active and passive open space area for building users. Intensive green roofs require more maintenance including watering of plant material.

*Extensive green roofs* have a shallower growing medium and the landscaping and plant material are designed to be more self sustainable and require less maintenance than an intensive green roof. Extensive green roofs usually integrate a modular plant system. Modular systems are essentially trays of vegetation in growing medium that are grown off site and simply placed on the roof to achieve a certain design and coverage.

## BENEFITS

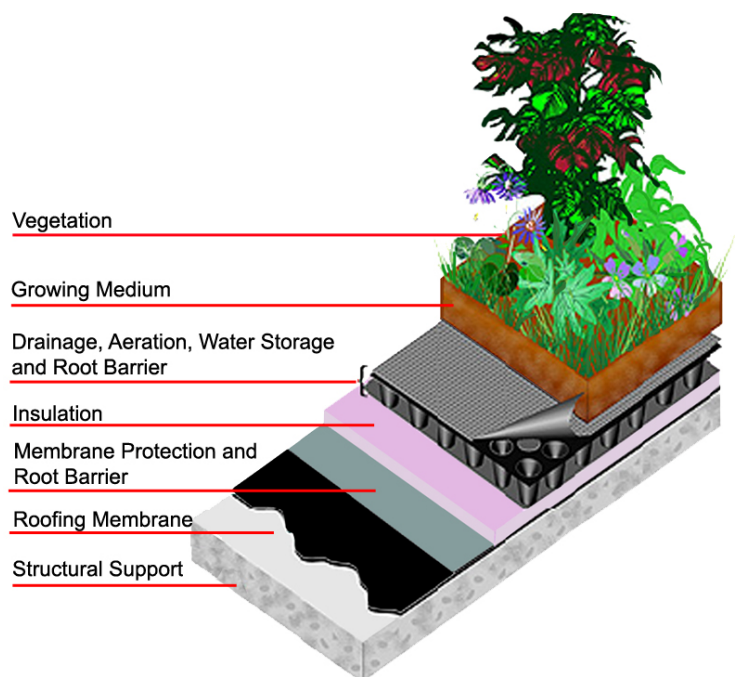
Green roofs have numerous environmental benefits, such as:

- Storm water run-off volume and rate of discharge reduction,
- Pollutants filtration,
- Carbon dioxide absorption and establishment of natural habitat.

Green roofs are also known to reduce urban heat island effect and reduce heating and cooling costs of a building.

An economic benefit is in prolonging the life of the waterproofing membrane. Some research shows that reducing surface temperature fluctuation and exposure to the sun can double or triple the life expectancy of the waterproofing membrane.

Another factor, often overlooked, is that by providing additional exposure to nature, green roofs contribute to overall increase in health and productivity of the building occupants.



Contact Duffield Associates for an initial consultation regarding the applicability of green roofs and other green infiltration techniques that can be utilized to help manage stormwater generated by your project.