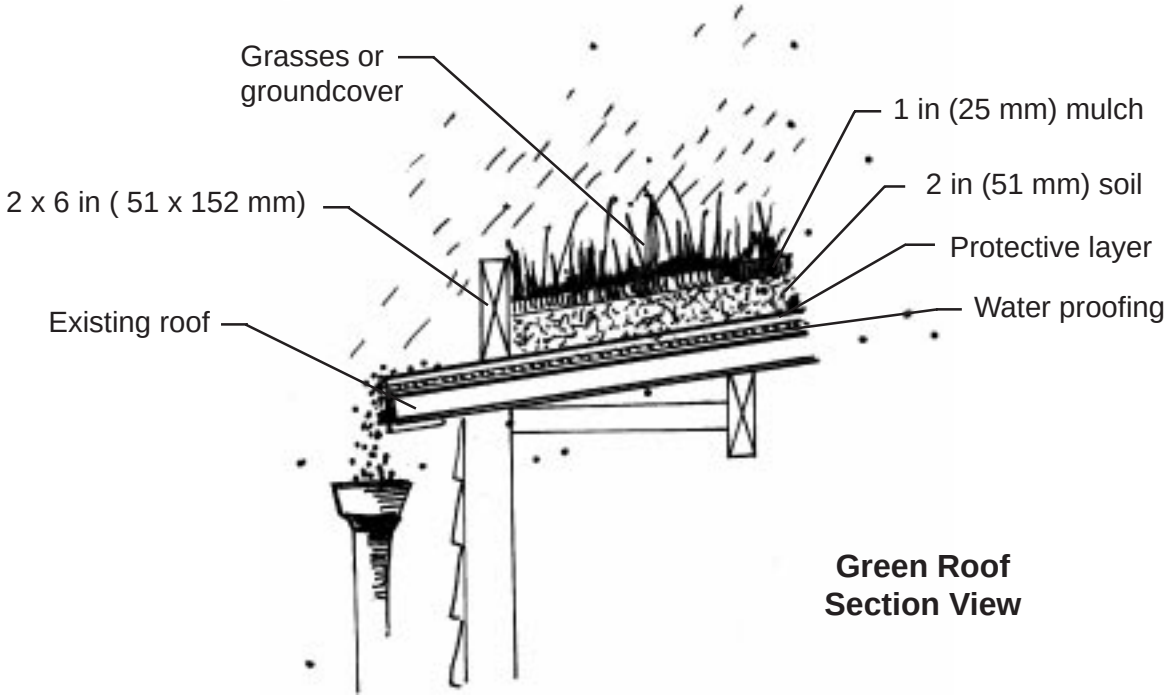
PRIMARY USE: To control stormwater peak flows; to reduce stormwater runoff.
ADDITIONAL USES: To improve stormwater quality.

GREEN ROOFS

What is it? Green roofs are comprised of an impermeable membrane or similar structure which supports a lightweight soil medium and living vegetation, e.g, grass or groundcover, placed on all or part of building roofs.

Purpose

Green roofs are a means of replacing the impermeable surfaces of building roofs to reduce stormwater runoff volume, control stormwater peak flows, to improve stormwater quality, and to reduce stormwater runoff temperature. They also have many non-stormwater related benefits, such as providing thermal and sound insulation and reducing urban "heat island" effect. Experiences with green roofs in Europe show them to be cost-effective. A German study shows an absorption rate of 75% of rain falling on a green roof and runoff reduction of up to 25% of normal levels.



Green Roof Section View

Limitations

Green roofs are a novel BMP, and their use has been limited primarily to a few European countries (Denmark, Holland, Belgium, Germany, and Switzerland).

Materials

Manufacturers in Europe are primarily sources of the impermeable materials for supporting soil and plant mediums, and for protection of sub-surfaces of roofs, interiors, and other portions of buildings. However, similar materials are probably available in the United States.

Installation

Existing structures can be retrofitted with green roof structures. Regardless of whether the construction is existing or new, an appropriate design consultant should be retained to ensure proper installation. Existing structures can be retrofitted with green roof structures.

Source: Integrating Stormwater into the Urban Fabric, ASLA Oregon Chapter.