Ecoroofs can out last conventional roofs by twenty years or more

ECOROOFS

(extensive roof or green roof)

An ecoroof is a lightweight vegetated roof system used in place of a conventional roof. Ecoroofs are typically made of a waterproof membrane, drainage material, a lightweight layer of soil, and a cover of plants. Choose species appropriate for a rooftop environment - dry and hot in summer, wet in winter. Ecoroofs are not intended to be accessed except for maintenance, unless walkways or plazas are incorporated into the design.

Benefits

An ecoroof can capture and retain 60% of the annual precipitation that falls on it. Nearly all of the rainfall is absorbed during warm weather storm events and stormwater detention and peak attenuation is also notable during saturated winter months. This reduces the runoff flow rate, volume and temperature of roof runoff. Ecoroofs can outlast conventional roofs by twenty years or more. An ecoroof also filters air pollutants; reduces outdoor air temperatures and the resulting urban heat island effect; increases wildlife habitat and urban green space; insulates the building and lowers heating and cooling costs; and is visually attractive. Buildings in the Central City that have City-certified ecoroofs can receive from one to three square feet of additional floor area ratio (FAR) for each square foot of ecoroof.

Vegetation

There are many options for ecoroof plantings. Choose drought tolerant species such as sedums, succulents, or hardy perennials. Plants should be low maintenance, able to tolerate shallow soil, and be self-sustaining without fertilizers or pesticides and minimum summer irrigation.

Maintenance

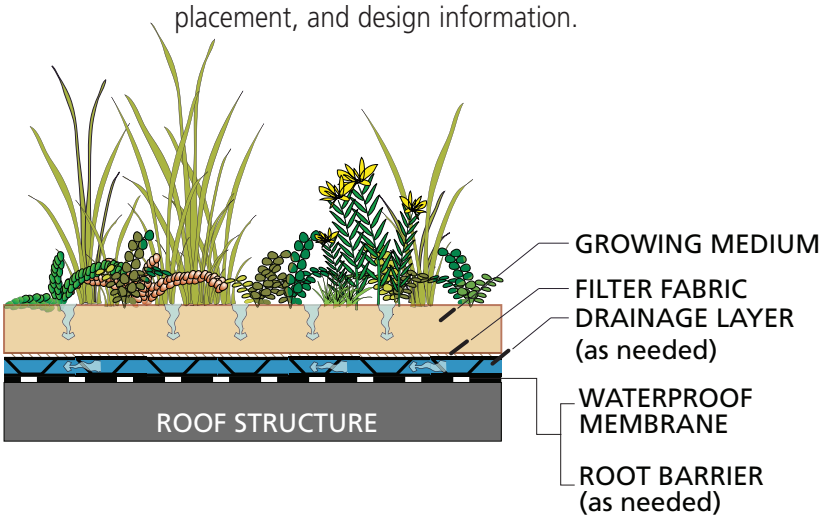
Like a conventional roof, an ecoroof requires some care to maintain optimum function. This may include occasional summer watering, weeding, and mulching, particularly during the plant establishment period. If the roof includes grasses or other annual plants, occasionally cut and remove dry vegetation to ensure that combustible material does not accumulate. Inspect the roof regularly to check drainage and vegetation. Some additional plantings may be needed to fill in bare soil areas.

Cost

An ecoroof initially costs more than a conventional roof, but typically lasts twice as long (about 40 years). Costs range from $10 to $15 per square foot for new construction and $15 to $25 per square foot for re-roofing. Long-term savings from deferred repair and replacement, lower heating and cooling costs, and reduced maintenance help offset the short-term capital costs. As the ecoroof industry develops, costs may decrease.

Safety and Siting Requirements

- Consult a design professional
- Locate ecoroofs on flat or pitched structures up to a slope of 25%.
- Roof strength must be adequate to hold 10-25 pounds per square foot above the requirements for a basic roof.
- Choose the area and depth of the ecoroof based on your water-retention goals, structure, and planting requirements. Thicker ecoroofs provide more flow control and allow for more vegetation options, but require additional structural support.
- Include overflow structures such as drains or downspouts.
- Refer to Portland's Stormwater Management Manual for detailed sizing, placement, and design information.



Permits

- Ecoroofs usually require certification from a structural engineer to receive City approval.
- Ecoroofs may require alteration of downspouts or other piping, requiring a plumbing permit from the Bureau of Development Services.
- If applying for the Floor Area Ratio (FAR) bonus program, an ecoroof design is subject to Environmental Services review and the City Design Review.

Examples

Jean Vollum Natural Capital Center,
721 NW 9th Avenue

Hawthorne Hostel,
3031 SE Hawthorne Blvd.

Multnomah County building,
501 SE Hawthorne Blvd.

Metro Regional Headquarters
600 NE Grand Avenue

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For Clean River Rewards information www.CleanRiverRewards.com or 503-823-1371

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