

Extensive Green “Vegetated” Roof

What are Extensive Green Roofs?

A green roof is a vegetative layer grown on a rooftop. Green roofs have a layer of living plants on top of the structure and the waterproofing elements.

Green roofs can be installed on a wide range of buildings, from industrial facilities to private residences. They can be as simple as a 2-inch covering of hardy groundcover requiring minimal maintenance (extensive) or as complex as a fully accessible park complete with trees (intensive).

Philadelphia Free Library



Mayor Michael A. Nutter visited Parkway Central on Monday, September 29, 2008 to officially unveil the Library’s new green roof demonstration project. Encompassing 5,000 square feet on the south side of Parkway Central, the space holds 100 cubic feet of soil and more than 5,400 plants. The green roof project, which is a part of the Mayor’s initiative to make Philadelphia one of the greenest cities in the country, is the first green roof on a city-owned building.

Benefits of Green Roofs

- Reduce roof stormwater runoff. In some cases this can help reduce the size of stormwater pipes, and the amount of stormwater that needs to be treated by municipal water treatment. They also filter pollutants from rainfall.
- Protect the roof membrane from sunlight, which breaks down the roofing material. Having even a couple inches of soil helps to greatly extend the life of the roof, and a longer lifespan means less material ends up in landfills from reroofing buildings after the membranes have failed.
- Reduced energy use: Green roofs absorb heat and act as insulators for buildings, reducing energy needed to provide cooling and heating.
- Provides a source of oxygen and habitat for some birds and insects.
- Reduced air pollution and greenhouse gas emissions: by lowering air conditioning demand, green roofs can decrease the production of associated air pollution and greenhouse gas emissions. Vegetation can also remove air pollutants and greenhouse gas emissions through dry deposition and carbon sequestration and storage.

Cost

While the initial costs of installing a green roof are greater than a conventional roof system, the long-term benefits and the energy savings outweigh the original investment (E.g. increased longevity of the roof and savings on energy expenditures).

The costs of your green roof will depend upon the design of the green roof such as the type (extensive or intensive), climate, and plant selection. Building owners can help offset the difference through reduced energy and stormwater management costs, and potentially by the longer lifespan of green roofs compared with conventional roofing materials.

Resources

Environmental Protection Agency
<http://www.epa.gov/heatisland/mitigation/greenroofs.htm>

Roofmeadow
<http://www.roofmeadow.com/>

Apex Green Roofs
<http://www.apexgreenroofs.com/green-roof-benefits.html>

The Resource Portal for Green Roofs
<http://www.greenroofs.com/>

www.dcnr.state.pa.us



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