



This living wall in London is spruced up for the season.



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City roofs have a new color—green.

by Alison Pearce Stevens

It's
a

Jungle Up There

School's just let out and you're waiting by the flag pole for your best friend. Leaves rustle on the walls as kids run through the doors. Butterflies flutter among the flowers blooming above one of the windows. You finally spot your friend. She's up on the school roof! Her class was studying the meadow that grows up there.

Although your school probably doesn't look like this, one day it might. Green roofs and living walls are popping up in cities all over the world. These plant-covered buildings are cool to look at, turning the city into a jungle of sorts, and cool to live around, by keeping temperatures from soaring. And that's just the beginning of what these city jungles can do.

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This worker tends the green roof on City Hall in Chicago.

Living walls, like this one on a building in Canada, can provide food for animals, including bees and other pollinators.

This just-planted wall is ready to start growing.

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Going Green

Greening a building isn't as easy as slapping some plants on a wall. Landscape architects—people who design gardens—have a lot of work to do before the plants can bloom.

First comes a waterproofing layer and padding to protect the building. Next comes a layer to channel water, so heavy rains don't drown the plants. Green walls are fitted with tubes that carry water and nutrients right to the plants' roots. Finally comes dirt for them to grow in. Ordinary dirt is too heavy, so green roofs and walls use special soil that is light and holds water well.

Now, finally, it's time for the plants. Roof and wall gardeners choose their plants very carefully. The plants must be able to stand



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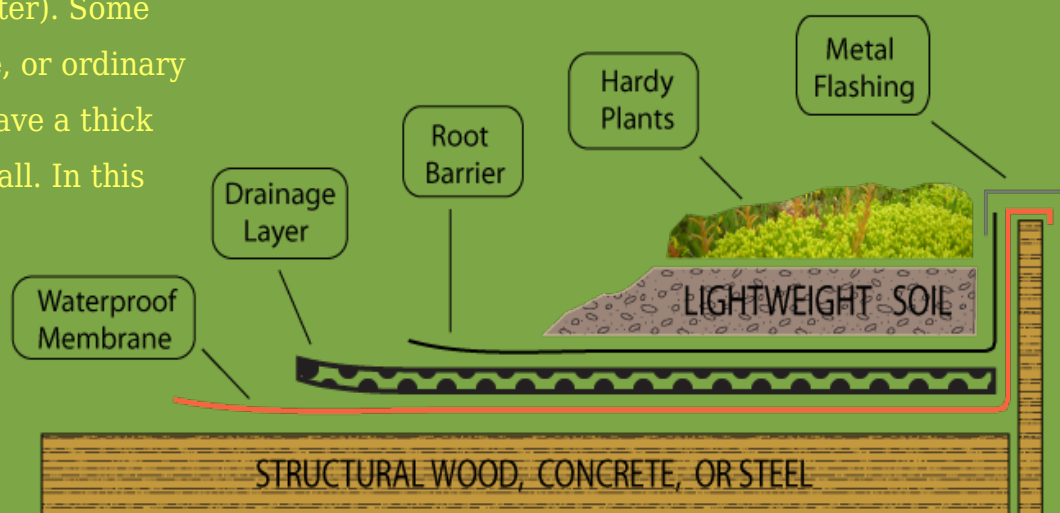
Low-growing plants are well suited for the green roof on this building in Arlington, Virginia.

heat, cold, and high winds, and they should suit the local climate. Most green roofs are planted with wildflowers and hardy plants that can go a long time without rain. One rooftop favorite is sedum, which has thick leaves that store water.

What plants are best for a wall? It depends on where the wall is. For sunny walls, petunias or herbs like oregano might be good. Shady walls do better with

Soil-free Gardening?

In a typical garden, soil provides nitrogen and minerals to plants. But ordinary dirt is too heavy for roof gardens. Instead, green roofs get a mixture of light-weight rock (such as pumice) and compost (decayed plant matter). Some green walls also use this mixture, or ordinary potting soil. Other green walls have a thick felt-like material with no soil at all. In this kind of wall, plants get their nutrients from the water, which has fertilizers mixed into it.





begonias, ferns, and even lettuce. The possibilities are almost endless: a green wall can support hundreds of types of plants.

City Buffet

All that extra green attracts birds, bees, butterflies, and other wildlife. In fact, some

green roofs shelter threatened species found almost nowhere else. Even snails have been found up on rooftops.

Green walls and roofs can even grow food for people! Imagine buying food that was grown just down the street on a local rooftop. That food would be super-fresh, and it would also help the environment because it wouldn't have to be driven long distances in big trucks.

Putting Nature to Work

City jungles are useful in other ways, too. Green roofs trap rainwater, so less flows into the city's sewer system. Storm pipes can overflow during heavy rains—by sucking up extra water, green roofs can help prevent floods. As rainwater sits on the green roof, plants and other organisms also naturally clean the water. Plants make oxygen for us to breathe and clean the air. And a nice thick layer of leaves on the outside of a building can

even fight noise pollution, making that wailing ambulance seem a lot quieter.

Cities can get extra hot in summer. Glass and concrete bounce the sun's rays around, driving up the temperature. But plants release water into the air, which cools things down. It's like when you sweat—as water evaporates, it takes some heat with it.

In fact, the air outside a building with living walls can be as much as 18° F (8° C) cooler than the air outside a normal building. Green roofs have an even bigger impact. A green roof is usually about the same temperature as the air. Compare that to a regular rooftop, where temperatures can get up to 70° F (21° C) hotter.

With all the benefits a city jungle has to offer, it's only a matter of time before one sprouts up near you.

A colorfully planted wall adorns the library in Surrey, British Columbia, Canada.

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