Living roofs, or green roofs, are becoming increasingly common on top of buildings, especially in cities. They have many benefits. Standard roofs are hot and hard, and contribute to making cities hotter. This is the **ASLA Green Roof,** which sits on top of the headquarters of the **American Society of Landscape Architects,** the publisher of this magazine, in Washington, DC.

BIG OR SMALL

Green roofs can sit on top of any size building. The ASLA Green Roof sits three stories above the street in the Chinatown neighborhood of Washington.

HOLD THE RAINWATER

One important purpose of green roofs is to capture and hold rainwater. Otherwise, rainwater usually drains off roofs, runs into streets and sewers, and, during big storms, can overwhelm streams and cause pollution and erosion. When erosion occurs, trees may collapse and die, causing even more erosion. Green roofs can stop this cycle of damage. When it rains an inch, this roof and its plants can hold 75 percent of that water. The rest can be stored in an underground tank, or cistern, for later use.

COOLER TEMPERATURES

In the height of summer, when roofs are hot, the ASLA Green Roof keeps things cool—as much as 59 degrees cooler than ordinary black roofs nearby. The roof also acts as insulation in winter. Through the year, this roof reduces heating and cooling costs for the building it covers by as much as 15 percent.

SURPRISE MEADOW

Almost the entire roof is covered with plants. There are two kinds of plantings. The roof has tough, low-growing plants called *Sedum* that can grow in shallow soil. These plants are covered by steel grates that form the walking surface for the roof. It also has "intensive" plantings that thrive in deeper soils—including sumac trees. Two large mounds or "waves" were constructed to hold meadow plants and cacti that bloom and attract pollinating birds and bees.

CONSTANT MONITORING

A major benefit of the green roof is that it allows ASLA to monitor the amounts of rainfall it captures and holds. These results are taken from rain gauges and sensors that track the flow of water through the roof. Improvements to water quality can also be measured by testing the captured water to find out what substances it keeps from running into the sewers and the watershed, which flows to the Anacostia and Potomac Rivers and eventually to the Chesapeake Bay. So even a small roof helps environmental health.

MICHAEL VAN VALKENBURGH ASSOCIATES

MEET THE DESIGNER

THE ASLA GREEN ROOF WAS DESIGNED BY THE LANDSCAPE ARCHITECT **MICHAEL VAN VALKENBURGH** OF MICHAEL VAN VALKENBURGH ASSOCIATES IN BROOKLYN, NEW YORK.