



Chris Welsch/Star Tribune

**This European succulent is one of the 19,000 plants that grace the roof of the new Minneapolis Central Library.**

# High atop the library, a city rooftop blooms

**By Jim Buchta**

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If you want to learn something about "green roofs," a library is a good place to start.

Better bring a really tall ladder.

Last week crews planted more than 19,000 plants, including wispy prairie plants and spiny succulents, on the fifth-floor roof of what will become one of downtown's most celebrated public buildings when it opens next spring: The new Minneapolis Central Library, designed by noted architect Cesar Pelli.

Kit Hadley, director of the Minneapolis Public Library system, said she hopes this project will inspire other building owners to install their own green roofs. Not meant to be merely a garden, they are lauded as a way to reduce storm runoff, prolong the life of the roof and reduce heating and air-conditioning costs.

**LIBRARY continues on A11**

**IN TODAY'S HOMES SECTION:**

➤ "Green roofs" are catching on. **H1**



Chris Welsch/Star Tribune

The rooftop plantings will cut heating and cooling costs, prevent runoff by absorbing rainwater and prolong the life of the roof.

## LIBRARY from A1

# Visitors can see green roof, but not walk on it

"It should be on the top of every building," she said.

"Since we are a civic building it's particularly important for us to see ourselves as an essential part of sustainable life in Minneapolis, both in terms of our service and in this way as well," Hadley added.

She said library-goers won't be able to walk on the roof, but they'll be able to catch views of plantings on lower roofs. Planting started at the beginning of the week, but by Thursday afternoon some of the plants already were sporting blooms that eventually will nearly cover the 19,000-square-foot roof and two lower roof sections.

Early in the week, downtown commuters probably didn't notice that tower cranes on the ground were hoisting refrigerator-sized bags of a synthetic soil mixture above the roof in what

### BY THE NUMBERS

**Soil depth:** 4 inches  
**Weight:** 25 pounds per square foot  
**Number of plants:** 19,000  
**European succulents:** 13 varieties  
**Native prairie plants:** 34 varieties  
**'Green roof' cost:** \$773,700  
**Total library cost:** \$138 million  
**Estimated completion:** Spring 2006

Sources: Peter MacDonagh, Kestrel Design Group, Kit Hadley

amounted to a massive aerial landscaping project.

Meanwhile, workers from Aloha Landscaping and Rosenquist Construction were distributing an engineered soil about 4 inches deep over a rubber membrane attached to the building's concrete roof. Then workers planted the perennials — nearly 50 species obtained both locally and nationally — while traffic zoomed by more than 50 feet below.

Roof designer Peter MacDonagh of Kestrel Design in Minneapolis, who has designed

several other green roofs in Minneapolis and is an adjunct professor at the University of Minnesota's College of Landscape Architecture, said his design for the roof was inspired by the flow of the nearby Mississippi River.

He created a poetic wave pattern that will be expressed in various colors and plant heights. From spring to fall the colors, mostly pinks and purples, will shift from one end of the roof to the other.

Throughout the growing year those plants will be thirsty; they'll help absorb nearly 500,000 gallons of rainwater every summer, at a rate of 1 inch of rain during a 24-hour period. Overflow will be captured in cisterns far below the library building, and a solar-powered pump will bring the water back to the roof when needed.

The roof system will be good for the nearby Mississippi River. The city is on a mission to reduce the amount of storm water runoff that washes across oil-stained parking lots and into the storm sewers, and then the river.

The \$773,000 green roof project, which was heavily promoted by City Council Member Sandy Colvin Roy and the Green Institute in south Minneapolis,

received funding from the City to meet the Environmental Protection Agency's storm-water mandates. It also received funding from the Mississippi Watershed Management Organization, the Greystone Foundation and Xcel Energy.

The benefits already are apparent. Even in the steamy afternoon sun, standing on the living section of the roof feels substantially cooler than on the unplanted firebreak that runs around the perimeter of this high-rise garden. (When you have a prairie in the middle of a big city rooftop, you need a firebreak to protect the building.)

The project is a huge vote of confidence for green roofs, which are sprouting up throughout the Twin Cities in unlikely places, including several downtown condo buildings. But this is clearly the most high-profile.

Hadley said the whole system will provide an all-too-rare glimpse of nature for workers in high-rise buildings that surround it, she said.

"Lots of people are going to be able to see the green roof," she said. "I think they'll be inspired by its beauty and its utility."

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