

APRIL 2007 Volume 32, Number 4

ASCE | *The newspaper for members of the  
American Society of Civil Engineers*

# news

## Aesthetic Approach To Storm-Water Management

By **Mark Fitzgerald**

**K**ansas City, Missouri, like many urban areas, has been searching for effective and sustainable ways of managing its storm-water runoff. Beset in recent years by drainage problems and overflow conditions, the city has launched an initiative to integrate rain gardens into its built environment. If designed properly, a rain garden, which typically is made up of native plants, can absorb large amounts of water and improve water quality by trapping and retaining the pollutants commonly found in urban runoff.

The idea arose from a city committee meeting two years ago and has quickly gained the support of Kansas City's mayor, Kay Barnes, and other local leaders. Christened 10,000 Rain Gardens, the project aims to create that number of gardens over five years on public and private property throughout Kansas City. "Sure, ten thousand seems like a large number, but you need to plant a lot of these if you want to make an impact on the overall storm-water system," explains Daniel McCarthy, p.e., m.ASCE, the president and chief executive officer of b & v Water, the water business of Black & Veatch. "The project has been touted by schools and churches and other community-based organizations as something that they see value in and as a way to build neighborhood involvement. Of course, the focus on gardens also suggests a greening of the community and a beautification effort. But the fundamental goal is to enhance storm-water management."

Last year McCarthy helped plant Kansas City's first corporate rain garden, which now graces Black & Veatch's headquarters. He has also planted a garden at his home. "The ideal garden will have nice aesthetic features but will also be able to deal with both the wet and dry weather," he adds. "I built a rain garden as part of a landscaping project for my own yard, and that seems to have worked quite well. The garden happens to be on a busy side street in the neighborhood where a lot of people can see it walking by. Cars have even slowed down to look at it. We've got a sign out there to help advertise it, and people have made some nice comments about it so far."

One of the keys to the project's popularity has been its Web site—[www.rainkc.com](http://www.rainkc.com)—which the city sponsored to offer helpful information about the benefits of rain gardens and suggest ways of designing and creating them. "We've gotten over a hundred and forty thousand hits on the Web site," notes McCarthy, who has been working closely with Kansas City's water services department to develop a comprehensive storm-water management program for the city. "Nearly two hundred rain gardens have been registered on the Web site so far, which shows that we're making good progress. When we announced that we were going to install a rain garden at our office here, about a third of our staff jumped on this right off the bat. We had over a hundred people sign up in the first couple of days to get instructions and a starter plan for a garden that they would consider at their home."

The city has also publicized the initiative through print advertisements and radio and television commercials that encourage citizens, corporations, and nonprofit organizations to join the local government in its effort to lessen the deleterious effects that storm water has on the regional watershed. "The rain gardens initiative is one way to reach out to the community and engage the public in a proactive and creative solution to some of our wet-weather problems," Barnes remarked last year at the celebration at Black & Veatch's headquarters marking the program's first corporate rain garden. "Through this effort," the mayor noted, "Kansas City is already being recognized as a national role model in public involvement."

ASCE asserted its position on the issue of storm-water management in 2004, when the Board of Direction adopted Policy 441. As part of that policy, ASCE "supports and encourages coordinated local, state, and regional programs to manage the quantity of and improve the quality of storm water entering streams, lakes, and estuaries." The

Society is also in favor of advancing “storm-water management techniques that prevent and mitigate the effects of urbanization and other land use changes on surface runoff, including detention and retention methods, innovative storm-water drainage systems, and other techniques needed to reduce, to the maximum extent practicable, the impact on ecosystems and stability of receiving water.”

By embracing a holistic approach to storm-water management, the Kansas City initiative has broadened the scope of public management and can now draw on input from civic leaders, developers, elected officials, and educators to devise and implement practices for controlling flooding, reducing sewer overflows, improving water quality, and protecting the environment. “As engineers we need to be more flexible and creative in the alternatives that we can offer,” notes McCarthy. “We can’t just always opt for concrete and steel and pipes. I think communities are looking for us to be leaders in this area, and one of the ways we can do that is to begin to think beyond just structural solutions. We need to be more willing to develop a wider range of solutions that could provide the answer.”