

A Good Role Model



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Cities switch to smart irrigation systems to set a good example for their residents

The city of Carmel, Ind., is an affluent, water-rich community where homeowners often have their own irrigation systems. However, city leaders understand that an abundance of water today doesn't guarantee availability in the future, so Carmel has taken the initiative to set an example for its residents by switching to a smart irrigation system.

PHOTOS COURTESY OF SPRINGFIELD, MO., PUBLIC WORKS DEPARTMENT.



Ash trees along the Trafficway in Springfield, Mo., thrive with smart irrigation.

Carmel is unique in that its public lands don't include ball fields or parks, popular locations for smart irrigation in other communities. Instead, the smart irrigation is used on median strips and roundabouts in approximately 30 locations throughout the city. These areas have heavy automobile traffic, according to Sue Maki, manager of customer relations and education for City of Carmel Utilities. Keeping water off the street is vital, and the smart meters are one way to make sure there is no extra runoff.

According to Jeff Reising, irrigation specialist, the concern was having a cost-effective way to water the median strips and roundabouts while controlling the water usage. The city uses the Weathermatic Smartline controller on-site weather station. There is also no aboveground irrigation. "There is never any excess water running out into the streets," says Reising. This is the fourth year the city has used smart irrigation, and the hope is to increase the number of locations to 50 by 2011.

"Some surrounding communities have water restrictions," says Maki. "We have plenty of water right now, so we don't need the restrictions, but we still want residents to be more thoughtful about their landscape water use." As the community increases its own use of smart technology, it can be a better model for the residents on how to improve the irrigation on their own properties.

In Springfield, Mo., rainfall is feast or famine, says Joe Payne, who works with the city of Springfield's public works department. "We've had lots of rain in 2008 and 2009, but in 2006, water conservation was enacted. The reservoir was down by 50 percent. We were having widespread plant damage," he says. "By then, we were already three years into the drought."

Springfield began installing smart irrigation 18 months ago, using a Rainbird system. There are nine ET stations, but 19 irrigation sites are set up. Already, Payne says, he is beginning to see a significant amount of water savings. What has been helpful is taking advantage of the controller's scheduling system, which manages the needs of the different locations. "That, in itself, saves a lot of water," says Payne.

However, since the smart irrigation system was installed, the weather in Missouri began to get wetter, and that could be skewing the readings. "We've had very wet springs this year and last year," says Payne. "I would like to enter a few dry months just to see how well this works to preserve water."

The benefits of the flow sensors, however, aren't dependent on rainfall. The flow sensors on the system alert Payne to leaks in the irrigation system quickly. Irrigation is often set up in areas that are not checked more than once a week, Payne says, and even then, the hoses might be nestled deep into flower beds, so leaks would otherwise be undetected for days or weeks, wasting an untold amount of water. With the smart system, the leaks are found and repaired in a timely manner.

"Another example is we were able to find where a rodent had chewed through a drip line," Payne says.

The recent drought has shown Payne the importance of having a good irrigation

system and plan in place to keep landscaping lush while preserving water. While Springfield doesn't have water regulations in place, the city code does have water crisis management that is dictated by the water level in the reservoir.

"Our water management is on a proactive system," says Payne. "The city tries to set an example as good water stewards. Smart irrigation definitely puts us in a position to be better stewards, there is probably a lot more work that could be done."

Aqua Engineering had a very different challenge with its irrigation job at the Abraham Lincoln National Cemetery in Elwood, Ill. The company needed to ensure that the ground didn't become oversaturated while keeping the turf a lush green.

The cemetery is operated through the Department of Veteran Affairs (VA). "The VA is passionate about green turf," says Bob Beccard. However, because of the way the caskets are buried, water can easily collect. "Also, the soil in the cemetery holds a lot of water."

The smart irrigation system that Aqua Engineer installed in the cemetery uses wells as its water source, but Beccard points out, well water, while less expensive and plentiful, isn't a never-ending source. "We have to be careful about our water use." To that end, a detention pond is being built on-site.

In the Midwest, potable water is plentiful, thanks to the many lakes and rivers in the region. What Beccard would like to see utilized more often in irrigation is recycled water, but he admits that's not always an easy solution. It can be expensive, especially when there are other easily accessible water sources available.

Beccard says a water audit will be done on the cemetery site, using a catch-can test, per Irrigation Association guidelines. The audit will allow Aqua Engineering to determine how to program features like cycle and soak and make recommendations based on soil conditions. Also, each controller will have a tipping bucket rain sensor to gauge moisture levels.

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