



# LOCAL GOVERNMENT

## The City of Greensburg

### Greensburg, Kentucky

#### Challenge:

The City of Greensburg, located in central Kentucky, has approximately 2,200 residents. The city faced a challenge with aging and inaccurate water meter infrastructure and increasing facility energy costs.

Due to these existing issues, Greensburg's officials sought to make the city more energy efficient and cost effective. They issued a request for proposal (RFP) on a guaranteed energy savings project. After receiving proposals, Harshaw Trane was selected to implement their guaranteed energy savings project.

#### Solution:

##### **Water Metering**

A major issue facing Greensburg officials was the aged water meter infrastructure serving the city. Of the city's 1,272 water meters, roughly 90 percent of them were over 10 years old, and approximately 300 of these meters were located on old meter setters. The city was replacing meters as they failed while also attempting to update the setters. Due to the labor intensity of setter replacements, the city's maintenance staff was only able to tackle approximately ten setters a year.

As part of the guaranteed energy savings project, Harshaw Trane tested a random sample of meters that were recently replaced by the city. Test results showed an inaccuracy ranging from 3.5 percent to 24.4 percent. Not only was the city missing out on potential revenue due to inaccuracy, all of the city's water meters were being read manually. This required numerous man-hours for reading and re-reading, not to mention dealing with maintenance issues associated with the age of the meters. It was clear that the city's water meter infrastructure was in desperate need of replacement.

On a city-wide scale, the 300 aged setters were replaced and 1,272 water meters were replaced by new meters with mobile automated meter reading (AMR) technology, a wireless technology that allows the meters to be read by a data collector. In this case, the data collector is located in the vehicle of the person doing the meter reading. As the reader drives by, the meter will power on and transfer the data to the collector. This has greatly cut down on the amount of time it takes the city to read and re-read the meters. Not to mention, the

#### Executive Summary

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- Harshaw Trane implemented various solutions to improve the conditions at the Micro Park facility, including new rooftop units, a new building automation system, as well as lighting upgrades.
- Lighting upgrades were also completed in four additional city-owned properties.

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new AMR meters provide better leak detection, improved billing accuracy and improved customer service. All of these upgrades were done by the City of Greensburg to bring increased operational efficiency and comfort to building inhabitants while saving energy and being cost efficient for the community.

### **Building System Optimization**

Energy audits were also performed on several of the city's buildings, including City Hall, the Micro Park, fire department, housing authority/police department/911 building, water plant, waste water plant and the maintenance garage. It was found that there were lighting and HVAC controls opportunities. These energy conservation measures were bundled with upgrades of the meters and setters into the guaranteed energy savings project.

The city had transformed a Fruit of the Loom plant into a small business incubator Micro Park that was being inadequately served by its aged HVAC units. Only one third of the rooftop units were in working condition while the other units were being used for spare parts. The capability of the existing HVAC controls system to perform energy management strategies was limited which resulted in tenant comfort issues. Also, inefficient lighting remained from a renovation that took place in 1988.

Harshaw Trane implemented various solutions to improve the conditions at the Micro Park facility, including new rooftop units, a new building automation system, as well as lighting upgrades. Two of the existing, non-functional rooftop units at the Micro Park were replaced with two new Trane Intellipak units. The controls of the new and existing HVAC units were upgraded to a web-based controls system so that the city can take advantage of scheduling, setbacks and set points. These upgrades improved the reliability of the equipment while also enhancing thermal

comfort for the start-up companies occupying the building.

### **Lighting Optimization**

Lighting upgrades were completed for the interior and exterior of the Micro Park building, including retrofitting all interior light fixtures with energy efficient lamps and ballasts and installing motion sensors throughout the warehouse area. Part of the warehouse space is lightly used and the sensors allow these areas to keep the lights off when the space is not being used. Exterior fixtures were replaced with a mixture of LED, compact fluorescent and induction technologies. Lighting upgrades were also completed in four additional city-owned properties. These upgrades included the installation of new exterior fixtures and retrofitting interior fixtures with new lamps and ballasts. City Hall, the new senior center and the new fire station had web-based controls installed which allow the city to manage these properties more efficiently.

### **About Harshaw Trane**

Harshaw Trane creates and sustains high performing, efficient and secure facility environments. An intelligent building technology and energy services provider, the company employs 300 highly-trained associates including Certified Energy Managers and LEED® Accredited Professionals, is a founding member of the Kentucky U.S. Green Building Council and an ENERGY STAR® Services and Product Provider and a 2013 and 2014 Kentucky Best Places to work honoree. Harshaw Trane is headquartered in Louisville, Kentucky and has offices in Lexington and Bowling Green, Kentucky and Evansville, Indiana.

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