

Case Study

PA TOWN DEPLOYS SMART WATER NETWORK

Located just 25 miles northwest of Pittsburgh, Monaca is a quaint community of nearly 6,000 people. And, while it may be small in numbers, its commitment to sustainability is as deep as the bordering Ohio River.

With the help of the Sustainable Pittsburgh Program, the Borough took stock of its practices and found that there was room for improvement. Borough Manager Mario Leone Jr. not only embraces sustainability enhancements but believes his community can be an example to others.

Armed with a gold star from the Southeast Pennsylvania Sustainable Community Program for his sustainability efforts, he's off to a great start.



CHALLENGE

One of the key opportunities for sustainability improvements is located in the Borough's water system. With a leak-prone, aging system, the Borough knew it needed an upgrade to new, clean technology that would help increase productivity, improve billing accuracy and save money.

The Borough began by upgrading about 20,000 feet of water lines in an attempt to reduce breaks and improve water quality and pressure. Then, they added a smart water network solution from Sensus. This involved replacing 2,438 water meters and deploying a fixed base communication network with an advanced metering infrastructure (AMI) system. The Sensus multi-application FlexNet system, coupled with Permalog leak detection, was connected to SR11 and iPERL™ water meters.



Mario Leone Jr.
Borough Manager

Borough Manager Leone said, "Leaks eventually tell you where they are, but can you afford to wait?"

The Borough of Monaca could not afford to wait for leaks to reveal themselves and set off on a search for partners and products that would help overcome five key challenges:

1. Reduce the time and expenses of labor, equipment and transportation costs
2. Reduce restoration costs by pinpointing leak locations
3. Reduce treatment costs by lowering chemical, electrical and equipment expenses
4. Reduce liability cost by minimizing chances of sinkholes, washouts, etc.
5. Improve customer confidence

The new water lines and smart water network are expected to save the Borough \$2.6 million through 2026. As Leone told a Pittsburgh Post-Gazette reporter, "I want to be a good environmental steward. I want a sustainable community for my children. But the driving factor is economic."

RESULTS

The 14th Street spring and waterfall has been a landmark for as long as anyone can remember. Located in a remote area at the top of a steep hill, the waterfall was well-known yet difficult to access or reach.

Turns out the spring was not part of nature but rather, a long-standing rupture buried under the ground; a fountain of wasted money and water unearthed by leak detection

technology. In fact, Sensus FlexNet™ with Permalog leak detection alerted the Borough to this leak and eight others within days of being deployed.

“This leak existed for years,” said Leone. “No one really knows exactly when it started but we estimate it dates back more than 20 years.”

With the leak spilling more than 200,000 gallons of water per day, Leone says the Borough lost about 1.46 billion gallons of water over those two decades. Not anymore.

The leak was fixed and water was saved but the spring was just one stop on the path towards building a more sustainable community. There were more benefits to come.

Monaca had 2,221 water accounts on record. After completing the new water meter installation, the Borough determined it actually had 2,412 water accounts, displaying a shortfall of 191 water accounts! “You can’t manage what you don’t measure and you can’t measure what you don’t manage,” said Leone.

“We truly believe this technology has paid for itself.”

With better leak detection and remote meter reads, the Borough’s utility, overtime and chemicals budgets have seen steady decline since the implementation of its smart water network.

Today, the Borough has a proven means to increase meter-reading efficiency, reduce overhead costs and enhance customer service simply, reliably and with unlimited flexibility.

But there’s always tomorrow, and always more to be done. Monaca is hoping to use its real-time meter readings as a catalyst to conservation by providing the data through an online customer portal that residents can access to monitor and manage their own water usage.

For Monaca and the communities it hopes to influence, the road to success is one of action. “In order to sustain our conservation efforts, we not only have to talk the talk in educating our municipalities, but we have to walk the walk by doing,” said Leone.



The 14th Street waterfall turned out to be a fountain of wasted money and water unearthed by leak detection technology.