Case Study

St. Paul’s Episcopal Church, Old Town Alexandria, Virginia. A cooling tower out of control and no warning from the water utility.

Project Background

In July of 2011 St. Paul’s Episcopal Church found themselves with an acute and inexplicable increase in water consumption. Whereas quarterly water charges were typically in $1,000 range, the water bill dated 6/30/11 was for a total of $7,401. Naturally, this created quite a surprise impact on the utility budget. The staff inspected all water fixtures but found no leaks.

Remedial Actions

By talking with the church staff we quickly determined that the building had a water-based air conditioning system. Inspecting the system, we found in the cooling tower a water inlet valve stuck in the open position. Water was continuously flowing into the cooling tower and down the drain. Clearly this was the cause of the excessive water consumption. Upon being advised of the situation, the church had the valve replaced, and water consumption returned to normal. Clearly, the faulty valve was the cause of the excessive water consumption and subsequent high water bill.
Additional Measures

In addition to locating the cause of the problem, Water Cents installed a water meter on the water line to the cooling tower. The water consumption data recorded by the water meter is now continuously transmitted to Water Cents. There the data is monitored and analyzed so as to rapidly detect a valve malfunction and initiate remedial action in a timely manner. In addition, by monitoring the daily water consumption, it was determined that the cooling tower (even when the valve was working properly) was using more water than necessary. The daily water consumption data provided the necessary information to tune the system so as to consume water more efficiently.

Water Cents did such a great job. I don’t have to worry about any surprises every month.