

Infrared Helps Solve the Case of the Thirsty Fountain

When the final phase of a several-acre shopping mall complex outside of Birmingham, AL was completed about five years ago, the developer installed a 400,000 gallon fountain to set off the beautiful surrounding scenery provided by its landscape. Since then, they started paying around ten thousand dollars a month more than their expected water bill for this addition, which they assumed was a result of evaporation from the fountain spray, since the fountain water itself is re-circulated.

But when the fountain went down for repairs about a year ago, the water bill stayed almost the same. So they called in a leak detection service, which ran statistics research on the meters and flow valves only to come to the conclusion that the mall was losing the water around the clock, and not just during fountain operation hours. These tests cost the mall thousands of dollars, but provided no conclusive evidence as to where the loss was occurring.

Birmingham-based LeakTite Consultants, Inc. (dparker@lcicorp.net) was then asked to investigate the massive water loss. Using its FLIR ThermaCAM® B-1 infrared camera in a little over 5 hours, they were able to detect temperatures variances in the sod overlay, and confirm that the wet areas were coming from either ground water, or from city-supplied sources,

Using a simple, hardware store pool chemical testing kit, LeakTite was then able to identify the areas with high chlorine content and thus isolate the water coming from the city. They immediately dug in those areas and found that a 1-inch reserve supply line to the fountain had never been connected during construction, and water had been flowing freely for the past five years.

The end of the reserve supply line was connected it to the fountain with six feet of sch-40 pvc pipe and 2 compression couplings, then the area was back-filled and the landscaping restored. Total repair cost was less than \$1000.

The use of the B-1 to identify the problem saved the cost of having to dig up all of the supply lines – at a savings of over \$100,000 in excavating, re-paving and re-landscaping costs. And, of course, the elimination of the problem is now saving the mall over \$120,000 per year on their water bill.