

BEATING THE **HIGH COST** OF SPORTS FIELD IRRIGATION

Sports fields *must* have water. But the cost of watering them is becoming an issue for grounds maintenance budgets. Turfgrass sports fields require irrigation to maintain plant health and healing, so playing surfaces stand up to the pounding they get from game play. Synthetic turf fields require less water than their natural counterparts for cleaning and cooling, but they do require water nevertheless. Apart from irrigation, sports fields must also drain.

Building sports fields that can be irrigated efficiently and drain promptly is a science. Building them so they disperse, capture, store and reuse the water that nature provides them approaches art. The new softball and baseball fields at Lovett School can be described as state of the art, and feature a system to capture rainwater and reuse it for irrigation.

Eric Holland, co-owner of Precision Turf LLC, Buford, GA, explains that rainwater falling on the fields drains into 4-in. drain lines on 30-ft. centers. The fields' sand cap construction has a 6-in. rootzone over a permeable gravel base. They are turfed with Tifway 419 Bermuda-grass. Water falling on them filters through the grass and the gravel sub-base before draining into a 250,000-gal. underground cistern. Rainwater from elsewhere on the campus, including runoff

from parking areas, is also naturally filtered before it also drains into the underground cistern.

"Ever since we had the drought of 2007 and 2008, everybody is looking at alternative sources of irrigation water," says Holland, whose company installed the fields.

Irrigation consultant Bob Scott, owner of Irrigation Consultants Inc. in Conyers, GA, oversaw the project just as he has nearly everything related to irrigation at the site over the course of the decade-long campus renovation.

"Early in the process we got with engineers and other people to take a serious look at water harvesting," says Scott, past president of the American Society of Irrigation Consultants. "Everyone liked the idea of an underground cistern, but they realized athletic fields take a lot of water. The civil engineers then began developing the storm water system that empties into the underground holding cistern."

The underground cistern is connected to a 50,000-gal. storage tank located beyond the outfield fences between the baseball and softball fields. When a level control within the cylindrical metal tank indicates the tank is running low on water, a pump within the underground cistern replenishes it. During an extended dry spell, water for irrigation can also be drawn from a

0.33-acre pond located on the campus and pumped to the above-ground tank.

Previously, a pump drew water from the nearby Chattahoochee River to replenish the campus pond. Today, the captured rainwater also decreases the need for potable water from Atlanta.

Jeff Rountree, director of plant operations for Lovett, knows the importance of irrigation for providing green, healthy turfgrass and a safe playing surface for young athletes. Lovett provides sports facilities for more than 60 school teams.

Rountree, who has 42 people on his staff, says Lovett School has four main natural grass sports fields: one each for football, baseball, softball and lacrosse. A natural turf, multi-sport field is available when the turfgrass on one of the others is rested or renovated. The school is also installing a synthetic turf sports field. It will be irrigated with eight water cannons.

"Last year, we came out of a long drought. It was difficult to maintain our sports fields. If turf can't be watered and the grass dies, the ground can turn into concrete," says Rountree, who was born and raised 20 miles from the school where he has worked for 34 years. "Fortunately, we could draw water from a well, and we could maintain all of our fields with the well water. We have a 600-ft. deep well on campus. It gives us enough water so that at night when demand for irrigation is low, we can pump water and replenish our pond."

The Lovett School has an extensive irrigation system on campus, with pumping stations custom-built by WaterTronics.

Rountree says the next big improvement will be automating the campus irrigation, which means integrating the site's nine irrigation clocks.

"We hope to be able to tie them into a central control system next year to help us use water even more efficiently," he says.

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Much of the irrigation water required to irrigate Lovett School's two new sports fields comes from captured rainwater.