Olsen Field
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naments in August. The baseball season ends in early October with the Aggies' 30-day fall practice. All these events are played on the Tifway bermudagrass.

In a typical season, Olsen Field hosts nearly 60 games and all the practices for the university. "I'd love to have a practice facility for baseball," says Goertz. When he is not taking care of the stadium, Goertz is helping Ray with the girls softball field, the practice football field and the track complex. The girls have been national fast-pitch softball champions for three out of the past eight years.

Kyle Field, the university's football stadium, is artificial turf. When the baseball team needs to practice on artificial turf, it borrows the football stadium for a few days. A $7-million indoor practice facility will be constructed within the next five years.

But Goertz has grown up with Olsen Field and natural turf. "I've been lucky to start out on a new field and stay with it," he says. Experience has taught him how to adjust the Toro hydraulic irrigation system during the season for both ryegrass and bermudagrass. He may change the irrigation schedule for the 23 stations from week to week.

Each station has an average of three heads that run about 20 minutes every three days. There are five quick couplers on the field to which hoses are connected for wetting down the infield dirt, bullpens and warning tracks. The first is behind the pitcher's mound. Two more are located next to the bullpens and the final two are located in the outfield. "If we had a power failure in the middle of a hot spell, we could still irrigate the field with the quick couplers," states Goertz.

Beside saline water, Goertz has other concerns that require extra attention. Purple nutsedge invades the bermudagrass in the summer. Applications of MSMA kill the existing nutsedge foliage but not the nut below the surface. This summer Goertz will try a new product called Image that controls the nut as well as the foliage. Three or four times every year the warning tracks are sprayed with Roundup to kill any emerging weeds.

Annual bluegrass is a problem in the overseeded field. He also had an outbreak of brown patch and dollar spot two years ago shortly after overseeding. This year he plans to apply Rubigan, a fungicide that controls both diseases in addition to having a supressing effect on annual bluegrass. "It helps to have some of the leading agronomists in the country on campus," says Goertz.

While Olsen Field does have a minor mole cricket infestation, Goertz has had no problem keeping it under control. It's the fire ants that drive him crazy. They've stayed off the field so far, but keeping them off is a constant battle. The perimeter of the stadium is treated with fire ant baits. At the first sign of a mound, it is knocked down and sprayed with a product called Eliminator. "You can't let them get a foothold," Goertz warns.

With his degree completed, he remains at Olsen Field. He travels on road trips with the Aggies when he can, to see other fields around the country. "I'm not saying that just because somebody else does something one way, that it is the right way to do it, but rather that maybe you might take that idea and develop it to suit your field," says Goertz. "Many of the things that we do here at Texas A&M we have picked up from other people."

Only one out his four student managers is majoring in turf. His name is Chet Bunch and his goal in life is to become a golf course superintendent. Another is studying to be a dentist. If the right opportunity came along, maybe they too would alter the course of their careers for the lure of the diamond.

Channel Drains

A revolution in turf and landscape drainage is quietly taking place. For lack of a better name, we'll call the products causing this revolution channel drains. They use a variety of different products to achieve a similar result: a deep, narrow channel in the soil which carries water away from a site.

The channel shape of the drains relieves some of the problems with achieving an exact slope to make water flow properly. For example, a four-inch pipe buried beneath the surface has only a four-inch tolerance in slope to make sure water will flow properly. Water and silt will collect in any low spot in the drain line. In agriculture, and in large sports turf installations, laser- guided trenchers use expensive instrumentation to provide the precise slope necessary for the drain.

The problem is that many facilities with poor drainage are reluctant to install drainpipe, for fear of the high cost of installation or problems with slope if they do the work themselves. Two solutions were devised to help open up in-house installation to a greater number of institutions and to contractors who do not have the sophisticated equipment.

The first was to install a channel of rock, pea gravel or sand in the trench above the pipe to increase the tolerance of the slope. This also improved the downward percolation of water to the pipe and assisted the horizontal movement of water above the pipe. This type of installation is termed a French drain.

British sports turf contractors took the channel concept one step further. They utilized a series of vibrating blades to open up narrow slits in the top foot of soccer pitches, inserted a small perforated pipe, and then backfilled the slits with sand to the surface. Water flowed in the sand channels much more effectively than through heavy soils.

The advantage of this system, called the Cambridge System, was minimal surface disturbance. Adding a layer of sand to the surface of the area being drained increased water movement to the sand slits in what is termed a "wicking action."

The next problem was preventing waterborne silt from plugging both the drainpipe and the rock or sand above the pipe. Geotextile fabrics were wrapped around the pipe, and in some cases the rock as well, to keep silt out of the space available for the water.

Wrapped channel drain is easily installed. Photo courtesy: Burcan Industries.

In 1969, tests at the University of Connecticut in Storrs, showed that a waffle-like piece of plastic wrapped in filter fabric, could provide a tall, open space for water to travel beneath the surface. Later, an open geomatrix was used by one manufacturer as a substitute for the plastic core. Once water passes through the filter fabric, it flows along the core or matrix, even with variations in the overall downward grade. By increasing the height of the thin core, the tolerance to slope could be made greater than with conventional drainpipe. Furthermore, the actual space available to water flow could be greater than with rocks or sand.

The advantage of the prefabricated drainage channels was that they could be installed with a small walk-behind trencher cutting a narrow trench. If the sod above the trenches was cut and removed before trenching, and replaced after the trenches were backfilled, surface disturbance was minimized. The small trencher also removed less dirt that had to be transported off the site.

Some manufacturers adapted the channel concept to simplify installation of solid drainpipe connected to surfaces grates and catch basins. The tall, narrow channels benefited from a greater tolerance of slope just as the perforated versions did.

While a variety of methods exist today to take advantage of the benefits of channels over pipes, they all provide improved long-term drainage and simplify installation. As a result, correcting drainage problems is practical to a wider number of businesses and institutions.