

Working out the details of the program proposal to cement an agreement with the Chiefs was, itself, a major project. Because Foley had worked with the Chicago Bears' summer training camp program at the University of Wisconsin, Platteville from 1984-86, he was well-aware of the benefits the school could reap, and actively "lobbied" for the Chiefs' program. "The administration really got behind this project. Establishing a specific individual to act as liaison with the Chiefs paved the way for program success," Foley says. "Keeping that position open once the program got underway helped speed communications and eliminate the potential for problems. A small campus usually isn't geared to handle something that extensive," he adds.

"The procedure and level of care at the professional level are much more than we can manage for all the fields within a standard Class III maintenance program, but so much of the basic technology can be translated to work with a lower budget. Studying the basics behind each procedure and asking questions about choices made, really pays off," Foley explains.

Foley is no stranger to study. He earned a degree in agriculture from the University of Minnesota, with the original intent of teaching high school agriculture classes. But the lure of the Minneapolis/St. Paul area drew him to a position with the University's Urban Extension and Parks Department. In 1984, he moved on to the University of Wisconsin at Platteville. His interest in sports turf grew to unabashed enthusiasm while working with the Chicago Bears' training camp turf specialists there. His next step up was in January 1986, when he became groundskeeper at UW-River Falls. Foley served as a lead worker reporting to academic staff managers in charge of facilities. He supervised a staff of one year-round special laborer and two seasonal lawn-care workers.

Foley worked under Building and Grounds Supervisor Manville Kenney. Also supervised by Kenney—on the same management level as Foley—are the groundskeeper (landscape and ornamentals,) and the liaison to the Kansas City Chiefs' groundskeeper. Foley and Kenney feel strongly that the involvement of the UW-RF grounds crews with the Kansas City Chiefs training-camp operations has sharpened the

grounds' activity as a service unit.

The women's soccer field renovation was not part of the Chiefs' program, but rather, another step in the continual upgrade of the University facilities reflecting the overlying attitude and commitment to excellence on campus.

Kenney says, "Renovating this field and establishing it as a safe field for a contact sport is itself important. Dedicating the field from its inception as a women's soccer field represents a creative response to the cry for sex

equality in college sports programs. In an era of tightly guarded resources, one small public campus can lead constructively by providing a field for women's sports that at athlete of any gender will be proud to play on.

"We found that having the Chiefs here gave us an even greater awareness of the safety level on the playing field. Obviously, quality turf provides a safer playing field. Although our university, as all educational facilities, is facing a

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River Falls Soccer

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fiscal crunch and is under pressure to costs down, we will continue to maintain and improve athletic facilities," Kenney continues.

"It is vital to avoid as many 'crises in management' as possible by having a consistent, ongoing program. As with all viable entities in today's world, we learn to make trade-offs where we can and strive to be more inventive in our use of labor and funding," he adds.

As of April 1992, rough and uneven conditions marred the field that was designated for use by women's soccer for the fall 1993 semester. Construction of a new field, with drain tile and irrigation, was not financially feasible.

Foley says, "Because this field, which had been in use for several years, had underlying soil with decent drainage characteristics, the decision was made to renovate the field by removal of the existing clay topsoil and replacing it with a new soil mixture. Before field construction began, arrangements were made to connect a hydrant to the existing city water line, to provide quick and easy hookup for the water cannon and sprinkler irrigation that would be needed.

"In the summer of 1992, the old material was removed by grader and blade. Grading depths varied from 10 to 16 inches across the field, depending on the depth of clay topsoil. The base was then leveled in preparation for addition of the new medium.

"The new soil mix contained 265 tons of screened sand. The particle size was kept standard at 0.5 to 1.0 mm. Next was 250 tons of sand loam, the natural soil of most of the region, which was available at another campus site. To finish the root zone, the material near the surface with mixed with a Minnesota-source peat, providing organic matter and structure for plant establishment. The various components were blended to a standard consistency with a mix-member type machine. The root zone mix of 75 percent sand, 20 percent sandy loam and five percent peat extends six inches deep. Drainage throughout the new soil profile is excellent.

"Major renovation was completed early September 1992," says Foley. "The field was then seeded with the Northrup King Athletic Pro II blend of bluegrasses and perennial ryegrasses at a rate of three pounds per thousand square feet.



Tom Foley at women's soccer field.

Anderson's 12-24-12 starter fertilizer was applied at the standard, labelled rate. Adequate rainfall led to fairly even germination."

Coping With Setbacks

The excellent start met with tough times. Foley says, "Although cold winters and heavy snowfall are normal for Wisconsin, January 1993 brought a warm spell and driving rains. Cold temperatures quickly settled back in, leaving the turf coated with a heavy layer of ice that lasted until late March. Once coated, grass plants couldn't breathe. Early April warm-up was followed by a frost and another late freeze.

"By late April 1993, it appeared that the resulting ice layers had killed large areas of the new seedling. (In addition to contending with ice crystals, established turf on some of the other fields also experienced snow mold problems.) Continued cool weather delayed a second seeding and fertilization until May 15. At that point, Athletic Pro II was again slit-seeded in two directions at the rate of three pounds per 1,000 square feet. Additional starter fertilizer was broadcast.

"Because the soccer season was fast approaching, it was necessary to do everything possible to get establishment. The entire field was pin-spiked to enhance seed-to-soil contact. Germination was excellent.

"Equipment used by the contractor to apply the seed and handle follow-up irrigation had created 'channels' or 'ridges' in the field. These had to be eliminated," says Foley. "We arranged to borrow a small pull-behind roller

from the Chiefs' 'arsenal' to tackle the job."

On June 7, 1993, a maintenance schedule began based on soil analyses prepared by the University of Minnesota. A secondary goal of the program was to combine nutritional products obtained from local agricultural sources with those from turf supply companies. As a result, potassium sulfate (0-0-66) and granular urea (46-0-0) were used through the summer. It takes more expertise to apply and monitor these materials correctly. When they are used properly they can provide good results. For the last fertilization in October, Par Ex 24-4-12 was applied at a rate of two pounds per 1,000 square feet.

"Although water is metered separately, record rainfall made irrigation unnecessary. Broadleaf-weed control was applied as necessary to eliminate those weeds that crept in during the early spring setback.

"Maintenance labor costs for the women's soccer field were budgeted at one person for eight hours a week for 24 weeks," Foley explains.

Special Maintenance Challenges

"Soccer fields have no need for a crown greater than 0.5 percent," says Foley. To attain this level surface, the Kansas City Chiefs' groundskeeper allowed us to borrow his roller for use over a three-day period. To paint soccer field lines with less frequency, the growth regulator Primo was mixed with field paint."

In July 1994 the Women's Soccer Field at UW-RF was "looking gorgeous," according to Kenney. "We're maintaining the turf at 2 to 2.5 inches during the summer months. The grass is developing a

deeper root system, needs less irrigation, and is shading out invading weeds. We'll gradually reduce turf height to 1.25 to 1.5 inches for the playing season. Although it's still necessary to irrigate with the more labor-intensive water cannon and sprinkler setup, good water management and timely rainfall continued to interact with the established maintenance program to sustain the thick stand of grass."

Scheduling Activities

During the first year of use, all soccer physical education classes used the field. The first class "hit the field" at 11 a.m. On weekdays, the women's soccer team practiced from 4 p.m. to 6 p.m. This gave the grounds crew adequate morning hours for irrigation and field preparation. Although weekday activity was steady during those hours, the field help up well.

Women's soccer attains varsity status at the start of the 1994 season. At the university level, sports move from intramural status through intermediary club status to prove themselves able to achieve enough sustained interest and player participation to achieve varsity status. The fall varsity soccer program begins in late August and extends to early or mid-November, depending on how far the team advances in tournament competition.

In January 1994, Tom Foley moved up to the position of grounds crew chief at the University of Wisconsin, Whitewater, located south of Madison and west of Milwaukee. Football is the premium sport at Whitewater. The stadium hosts the university's football games, regional high school football games, summer high school football camps, a drum and bugle corps regional competition, and soccer playoffs. "We need to work stadium maintenance procedures around a heavy schedule," says Foley. "But it's such a great facility. It needs to be used."

Typically, Foley is enthusiastic about the new position and calls the whole experience "stimulating." Although he knows it will take time to assimilate background on conditions as they are now, develop a master action plan, and begin the implementation of that plan, his enthusiasm is contagious.

There's that Foley magnetism again. He draws in new information, integrates it into usable patterns with his own store of knowledge, and then attracts the interests and cooperation of those around him.

Foley spreads his enthusiasm to both the national and chapter levels of the

Sports Turf Managers Association. "There's a wealth of excellent information available through the STMA and so many members who are willing to share their knowledge and experience. There's so much to be gained by attending seminars and workshops and getting involved.

"I really appreciate the people who gave—and continue to give—their time and effort in making sports turf a viable career path," Foley says.

Foley takes an active role in that as well. He was thrilled to provide

encouragement and serve as a reference for a student who is planning to make sports turf management his career choice. "I feel that STMA has so much to offer," Foley says. "The whole field is a 'sleeping giant' just awakening." □

Bob Tracinski is the manager of public relations for the John Deere Company in Raleigh, NC. He is also public relations chair for the STMA.



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ARE YOU IMPROVING DRAINAGE OR JUST BURYING YOUR MONEY?



Trench drains installed on a football practice field at the University of Tennessee.

By Charles R. Dixon

Landscape architects, as well as contractors working on renovation or design projects, usually have to address surface drainage and runoff. On steep slopes, drainage swales and retaining walls are usually installed. Catch basins are strategically placed to channel surface water away.

On gentle slopes such as parks, public athletic fields and commercial landscapes, there is usually the consideration of drain trenches with plastic drain pipe to route water from the area. We have been asked to consult on applications from residential

turf to professional sports fields about installing drainage trenches. We usually find that the client has one of two basic ideas in mind. One idea often presented to us is to scrape the topsoil back and lay a gravel blanket over trenches containing drain pipe. The other idea is to cut in trenches and fill with pipe and gravel, and then cover the gravel with the soil removed from the trench. On the surface it sounds reasonable. In practice, it usually is as effective as taking a wad of dollar bills and burying it in the ground.

Most soils that need modifying with drainage are poorly drained, have low permeability and poor internal soil

structure. Placing drainage under the surface without creating a path for water to reach the tile or gravel is a total waste of money. On steep slopes, gravity will move water to drains. The main concerns should be erosion and soil stabilization. On relatively flat areas, the water has to move along the surface contour or vertically downward. Trenches and contours are designed to address soil drainage during periods of high rainfall or saturated flow conditions. The primary driving force moving water during saturated flow is gravity. The rate at which water flows is dependent on slope and the pore size of the soil or

media it is moving through. Soils that are heavier in texture than a loamy sand usually have slower rates of movement. Quite often we see loams used to backfill trenches that render the gravel drainage totally ineffective.

Parks and public sports fields have to have enough surface contour to cause water to move toward drainage grates or catch basins. Ideally, soccer fields should be flat for play. To have a flat field, the growing medium will have to be sand, not native soils. Sports fields with low budgets will have to put up with crowned fields to remove water.

The next level of improvement is the installation of drain trenches. The rationale for trenches is to decrease the distance that water travels before it is rapidly removed. The key to a drain is to make sure water can reach the gravel. This means that the trench should be backfilled to the surface with sand and not native soil. It is also a good idea to create a sand cap over

The trench should be backfilled to the surface with sand and not native soil.

the area to maintain permeability and to reduce the potential for adjacent topsoil from sealing the trench. We call it plating. Golf courses are using the idea to drain fairways that are poorly drained. The closer the trenches, the shorter the distance water travels until it is removed. The trench concept is viable for many applications such as parks, commercial grounds, sports fields and golf courses.

In the last few years, new types of materials are available that incorporate plastic and geotextile. No matter what you choose to construct the drain field, keep in mind a few

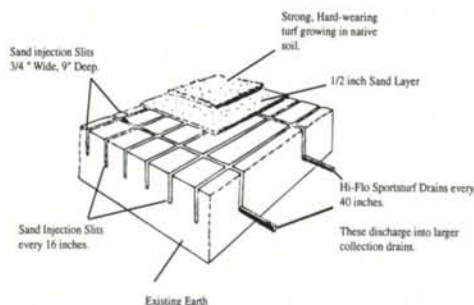
concepts in design: 1. If you cannot afford to install proper trenches, use the money to create surface contour and install catch basins. 2. Do not try to improve poorly drained soils by incorporating sand. It usually creates a more compacted surface and reduces drainage. It takes at least an 80-percent sand mixture to achieve enough bridging to positively impact drainage. 3. If drainage is to be installed, make sure that surface water can permeate to the tile or water-conducting materials. French drains are usually effective. Consider sand to backfill the trench to the surface. Consider a sand plate to maintain continuity to the trench. Make sure the drain system drains to proper receptacles such as surface water. Many towns will not allow drains to be tied into storm drains. Make sure you are in compliance with local regulations and codes.

Charles R. Dixon is the president of technical operations for Turf Diagnostics & Designs Inc. of Olathe, KS.

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Powell Named "Researcher of the Year"



Mike Robinson, left, president of Seed Research of Oregon, and Dr. Leah A. Brilman, right, research director, presented the award to Dr. Powell at the last GCSAA International Golf Course Conference and Show in Dallas.

Dr. A. J. Powell Jr., Extension Turfgrass Management specialist with the Department of Agronomy at the University of Kentucky, Lexington, was named "Researcher of the Year" for 1993 by Seed Research of Oregon Inc. Dr. Powell was recognized for his many years of turf research serving the industry and the consumer, especially in the transitional zone environment.

PGMS Conference Set for November

Registration is now being accepted for the Professional Grounds Management Society annual conference in St. Louis, November 13-17.

According to PGMS President Robert F. Rubel, the 1994 Conference will be slanted to the needs of grounds managers and have a balanced program to be equally valuable to everyone.

Topics to be discussed include pesticide concerns, air quality considerations, water scapes, lighting, fertilization, equipment, computer applications, and drug- and alcohol-testing procedures. Also included is the Society's annual luncheon and business meeting on November 14; and the Grounds Maintenance Awards Banquet on the evening of November 15.

Also covered in the registration fee is admission to the Green Industry Expo, which will be at the America's Center Convention Hall.

New York Approves Primo

The New York Department of Environmental Conservation has registered Primo, a turfgrass growth management tool, for use on turf in the state of New York.

The growth management substance from Ciba is registered for use on a variety of turf including golf courses and other commercial areas. When used at standard rates, it can reduce turf growth and clippings by as much as 50 percent for four weeks during prime growing periods.

Edel Gets the Hat Trick

Edel Grass America, a full-service playing-surface company, landed three installations in less than a month, bringing its number of North American fields to six in just over one year of operation. The Charlotte, NC headquarters is the North American office of Netherlands-based Edel Carpet.

The project at Wilfrid Laurier will make history twice: It is the company's first foray into Canada; and the material composition of the field is making its debut into North America as well. The field is made of a new fiber called SPF-4400Dtx, developed by TTC of Nijverdal, the Netherlands. The fiber is a combination of polypropylene and polyester, and is specially designed for knitting and resistance to pile crushing.

Washed Sod Steals the Show

The Arneson River Theater in San Antonio, TX is an outdoor facility with stage and seating areas divided by the San Antonio River. Constructed in 1939, it is one of the distinguishing landmarks of The Alamo City.

It also became a mud bowl each season due to compaction, poor drainage and heavy daily use during the summer season. Regular resodding was necessary. The maintenance staff believed that high-quality turf was unattainable in this dense traffic area.

Thomas Bros. Grass installed Bayr Root washed turf, with a Netlon reinforced root zone in the seating area. The result was a quick-rooting, more wear-tolerant surface with great drainage that is expected to withstand the intense summer traffic.

Kelty Promoted by Scotts

Dr. Michael P. Kelty was recently promoted to senior vice president of technology and operations of The Scotts Company.

Kelty is responsible for research, development, engineering and quality assurance. In addition, he heads direction of all manufacturing of fertilizers, seed, organics and soils.

Kelty joined Scotts in 1979 as a regulatory affairs adviser, and later became the director of advanced technology.

Burlingham Seed Celebrates 80 Years

Burlingham Seed celebrates 80 years of operation to the seed trade industry this year. The company was founded in 1914 by Earnest Frank Burlingham as a seed store serving the local farm trade near Portland, OR. At that time, the seed trade was driven by farm and forage seeds for grazing and food production.

Surviving the Great Depression and two world wars, the Burlingham's brought on the first turf grass seed harvest to Oregon's Willamette Valley in the late 1940s. Sales increased during the post-war era due to the reconstruction of Europe and Asia. During this time new lawn and forage seeds were introduced to European and Asian customers.

In the mid-1970s, the company introduced the first family of proprietary bluegrasses to the world, such as Bonnieblue, Majestic, Birka and Sydsport.

Old Tires and Compost Brings New Turf

It was the first major renovation of Carson Park Football Stadium since its construction in the late 1930s. The playing surface had poor drainage, soil compaction and an uneven playing surface.

Renovation came about through an unlikely connection—old tires and compost, marketed as Rebound. Using a grant funded by Wisconsin's \$2-per-tire fee collected with new-vehicle registration, the City of Eau Claire was able to get new turf put into the stadium and keep 11,600 used tires out of landfills.

The renovation included soil analysis, surveying the stadium, establishing the grade and installing the soil amendment. In addition to the tires, the project used 260 cubic yards of compost—saving 1,000 cubic yards of landfill space.

PORTABLE PUMPS PERFORM IN A PINCH



A hand pump solves many small drainage problems.
Photo courtesy: Kuranda, U.S.A.



Portable motorized pumps speed up removal and can deliver water through hoses to nearby drains.
Photo courtesy: Otterbine/Barebo.

By Bruce Shank

Sports turf managers have a strange assortment of specialized tools tucked away in their maintenance buildings. Each tool has a unique purpose and isn't easily obtained from a local rental shop in case of emergency. They include touch-up paint and stencils, rolls of cord marked for specific distances, a transit, a nail drag, bags of absorbent, bolt cutter, small plastic flags, various nets and goals, bases, fuses, extra bulbs, and a soil sampler. The totally prepared manager has one more item of importance, a portable pump in case weather or a broken sprinkler or pipe floods part of a field. This odd collection of supplies makes you look like a hero during emergencies.

Water can destroy the playability of a field faster than insects and diseases combined. Playing on a wet surface causes damage that can take weeks to correct. After trying so hard to get conditions right, months of work can literally go down the drain. A little insurance in the form of a pump seems wise.

Of course, a pump is no substitute for a sensible drainage system and tarps. Runoff from surrounding features, such as bleachers and buildings, should always be directed away from any field. In-field subsurface drains should be augmented with perimeter French drains and catch basins. Have your mowing crew remove any debris on top of drainage grates regularly.

Wise sports turf managers are compulsive about weather. They watch the

Weather Channel, scan radio stations for weather reports, and know the person at the local weather bureau by name. They know the various types of clouds, the likely result of changing winds, and how long it will take a storm to reach their facility and leave. They also run percolation tests on key fields every year.

When a storm departs, tarps should be emptied carefully toward the perimeter drains. In fact, one of the major uses of pumps is to remove water dumped from tarps. Many tarps consist of two or more pieces. Water can run off at the seams between the tarps and flood areas. The problem can be solved in minutes with a pump and application of calcined clay. Veteran grounds crews have the routine down pat.

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Portable Pumps

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Horsepower or Manpower

Hand pumps are both portable and simple. They operate in reverse of a bicycle pump. Water is drawn into the base of the cylinder and pumped out the hose. The hose can be placed in a bucket or a larger tank on a trailer. Small puddles can be eliminated quickly. If rain is common in your region and emergencies occur regularly, you might want to invest in powered pumps.

Larger drainage problems require the assistance of a motor. Small gasoline-powered pumps, designed to handle muddy water, can move hundreds of gallons per minute through a hose to a catch basin. No buckets or containers are required. Nevertheless, the pumps are small and light enough to move easily between different problem spots on a field.

For large areas with standing water, there are specialized rollers that utilize drum-shaped sponges to pick up water. They were developed initially to dry off synthetic turf surfaces. Walk-behind units and large riding units are available.

**Nobody likes to wait very long
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Handy Secondary Uses

Newer sports have increased the need for water removal machinery. Beach volleyball and roller hockey present new challenges for drainage. Sand pits for volleyball are like bunkers on golf courses. Without sufficient sub-drainage, they become lakes. The only way to remove water is with a pump. Outdoor roller hockey rinks are like hard-surface tennis courts. They must be squeegeed and pumped because of the boards on the side.

Then there are always dugouts built below grade that collect runoff during storms. Buried utility and valve boxes are unpleasant to address when full of water. Making irrigation repairs is much more convenient if you have a way to remove water as the pipe drains.

Nobody likes cancellations. And nobody likes to wait very long after the rain stops to get back on your fields. By adding a pump to your bag of tricks you can stay a hero in any weather. □

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FIELD COVERS, THE FOUL WEATHER PLAYER



The Covermaster AFC Raincover in use at CNE Stadium in Toronto, Canada.

By Barbara Augsdorfer

During every baseball game they are there, waiting along the warning track somewhere between home plate and first or third base. Major League Baseball rules state that they must be at every game. The National Football League also requires that stadiums have them on hand. No, we aren't talking about referees. We're talking about field covers.

These foul-weather friends earn their keep by saving games from cancellation and by protecting players and the playing surface from damage. However, ingenuity has enabled them to do much more. They can speed up germination of seed, accelerate grow-in, and even advertise the favorite team.

"Covers are as exotic as the grasses and turf they protect," says Joan Koza, executive vice president of M. Putterman & Co. in Chicago, IL. "Essentially all covers, whether they are vinyl or polyethylene, will keep a field dry," Koza continues. "What you want to

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Cover by Reef Industries in use at Cameron Field at Rice University.



Field Covers

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consider are durability, strength and life-expectancy." A field cover used only to protect from rain will be much different from a cover that will protect a field from snow and ice. "Covers meant to

protect from snow and ice must be able to not only keep the turf dry, but also sustain the wear and tear of people and equipment on top who will scrape ice and shovel snow before rolling the cover for storage," Koza explains.

Established in 1920, Putterman

covers put engineering applications first. There are six engineers on staff who design and construct the desired cover from the ground up. "We recommend a cover that suits the sport, the climate, workers, equipment and budget," Koza says. Putterman makes sure its customers

get the cover that will protect the customer's specific field, be easy for their staffs to handle, support their equipment, and be within their budget.

Customizing is big within the industry of field-cover manufacturing. "We customize every cover, because every field is just a little bit different," Koza said. "We can even customize handling accessories."

The unique aspect of Putterman field covers is their interlocking closure system for its covers. The Ziploc-like zippers make the covers air- and watertight and prevents puddling on top. Putterman has provided field covers for many professional sports organizations such as the Los Angeles Dodgers, Kansas City Royals, Florida Marlins, Chicago Bears, New England Patriots, Green Bay Packers and San Diego Chargers.

Of course, there are some dangers in using a field cover too much. "You really want to avoid having the tarp on the grass too long," says Steve Wightman, turf manager at Jack Murphy Stadium in San Diego, CA. "Depending on the color of the cover, you can burn the turf in as little as 10 minutes."

In Southern California, where turf managers must be on guard against everything from occasional frost to a tropical storm from Mexico, preparation is the key. "We have a direct phone line to the National Weather Service," Wightman continues. "If there is even a chance of rain or frost, we'll have the staff there to get the field covered." The three covers

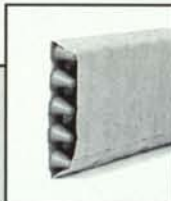


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