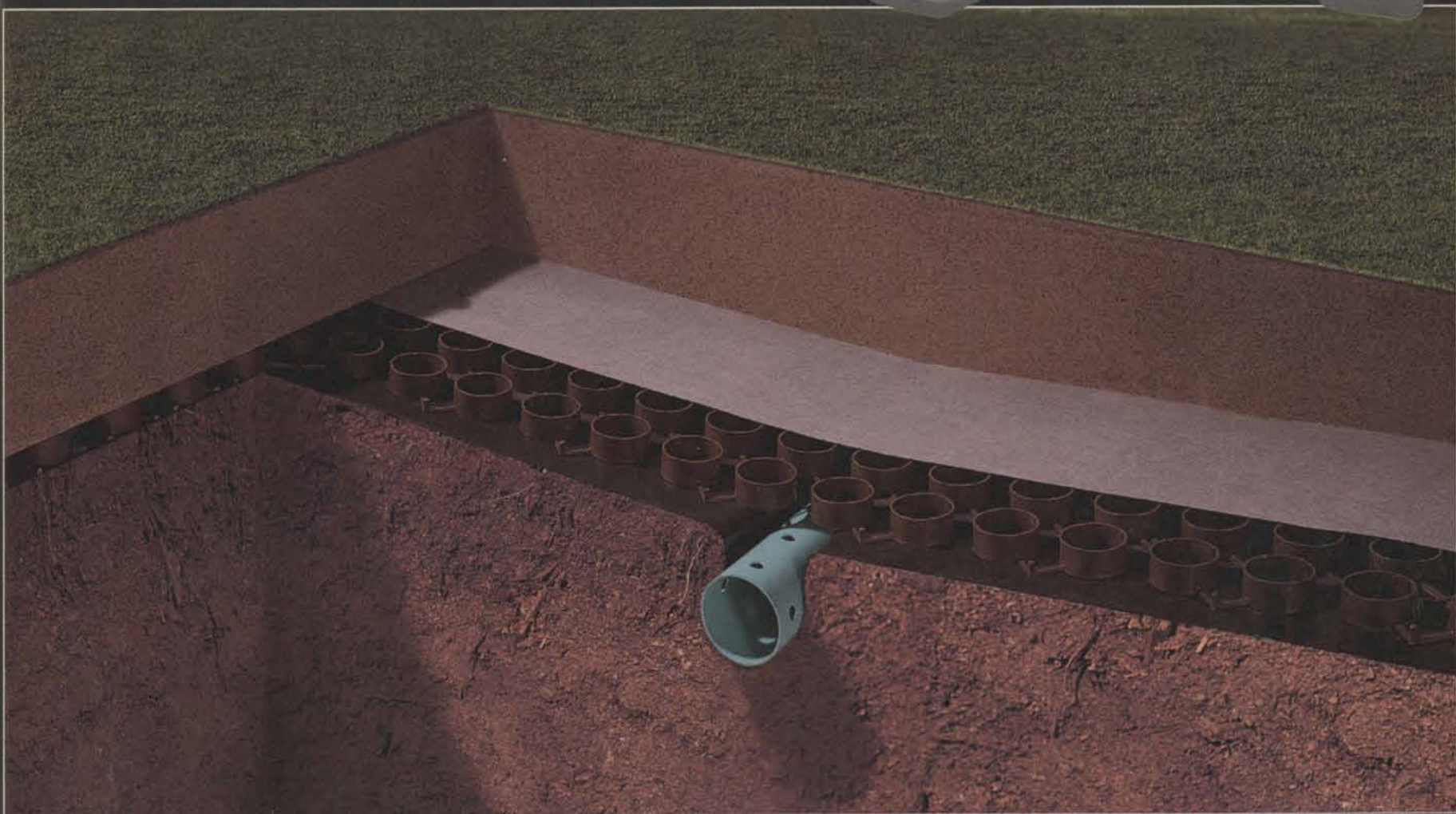


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TURF AERATOR

Classen's TA-26D roll-type aerator features a self-propelled coring machine that fits tight areas, says the company, and offers user-friendly handling and controls to lessen operator fatigue.

The unit has a 4-hp Honda engine, removable 50-lb. weight bar, a guard to keep cores, grass or leaves away from chain and sprockets, and fits through a 42-in. gate without removing the rear wheels.

A single lever controls both throttle and belt tightener for smooth engagement, and the unit's front poly drum makes it easier for you to turn around as well as propel the unit when not aerating.

Classen Manufacturing/888-252-7710

For information, circle 161



CUSTOMIZED DRAINS

Nyloplast, a division of Advanced Drainage Systems, manufactures customized drainage structures. A wide variety of turf applications rely on Nyloplast drainage structures to economically and effectively provide surface drainage, the company says. Golf course architects, landscape architects, and civil engineers throughout the world specify Nyloplast drain basins and inline drains. The PVC drainage structure includes a ductile iron frame and grate, and an ASTM F-477 gasket joint connection is used extensively to provide drainage for golf courses and athletic facilities of all types.

Catalog is available.

Nyloplast/866/888-8479

For information, circle 164

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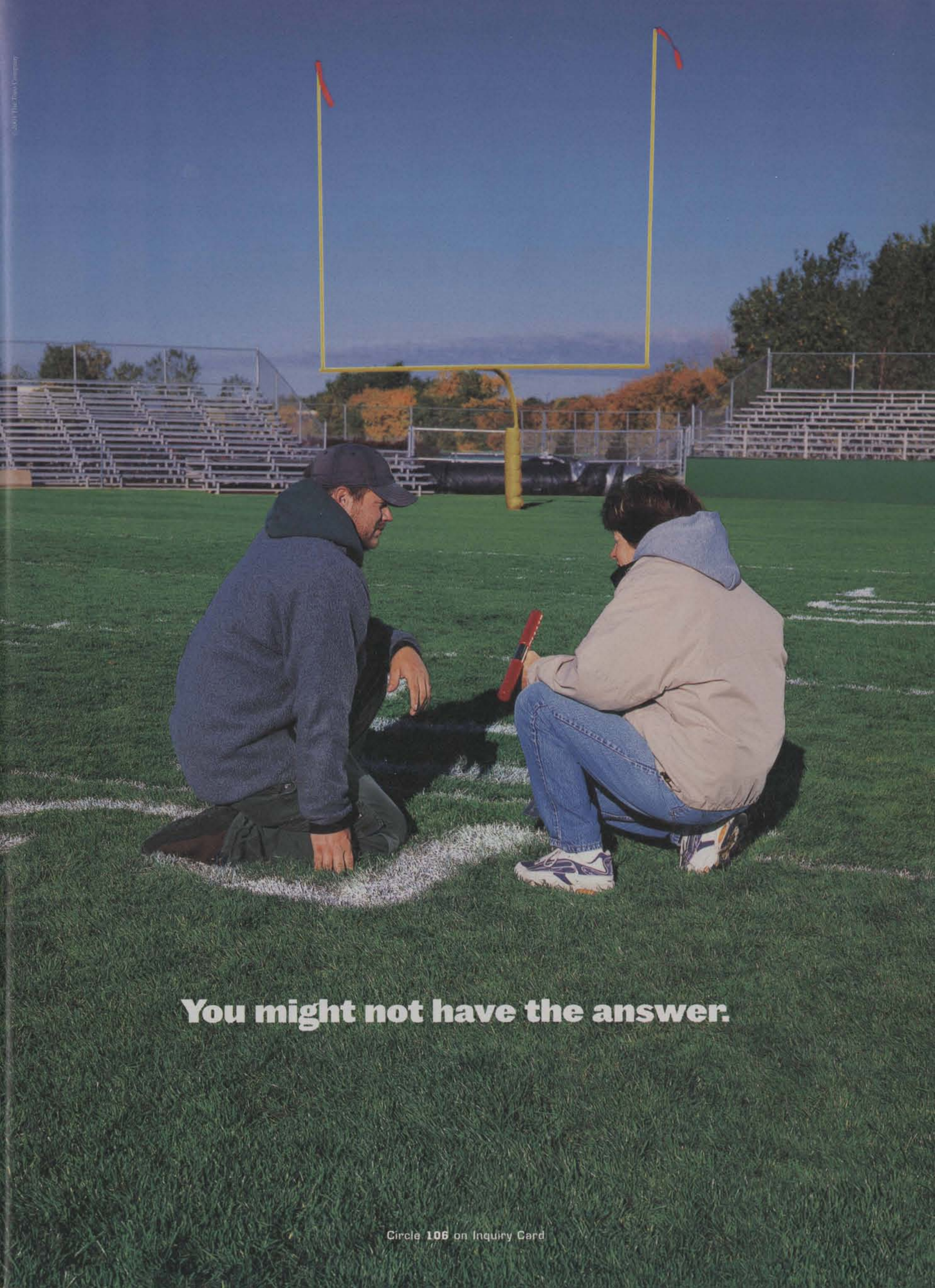
ECONOMICAL DRAINS

TerraDrain Strip Drain is supplied in rolls. It is comprised of a 1-in. thick polystyrene core and a nonwoven geotextile completely surrounding the core. TerraDrain Strip Drains replace French and pipe drainage systems. It was used on a municipal softball field in White Plains, NY, for example, to provide better drainage at a lower cost than a traditional system. The drainage layout has a "tree" configuration. Twelve-in. high TerraDrain was used on the "trunk;" 6-in. high TerraDrain was used on the "branches."

TerraDrain Strip Drain and other geosynthetic products are available from WEBTEC, Inc. of Charlotte, NC through a nationwide network of distributors.

WEBTEC/800-438-0027

For information, circle 163



You might not have the answer.



But chances are, someone else does.

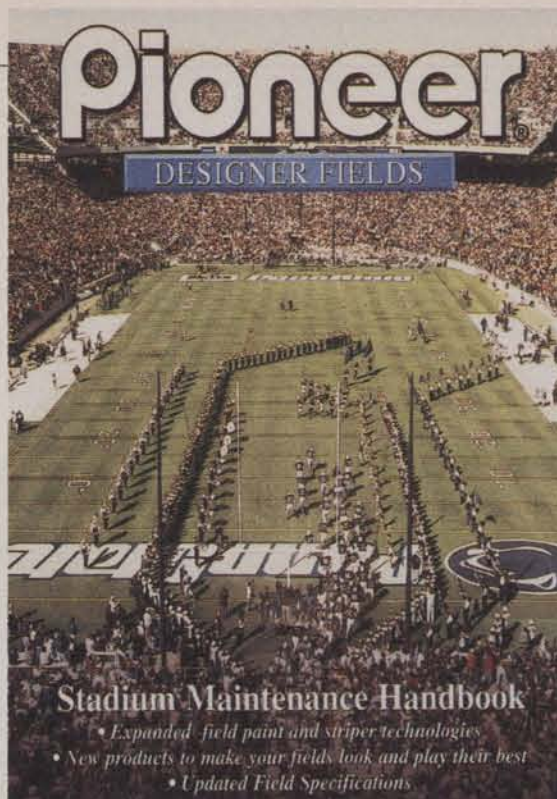
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FIELD CUSTOMIZING CATALOG

Pioneer Manufacturing says if you're looking for whiter, crisper lines on your football field, or custom logos to put your team name in the endzones, or looking for some tips on maintaining your fields, help is available through their Designer Field's catalog.

Pioneer/800-877-1500
For information, circle 165

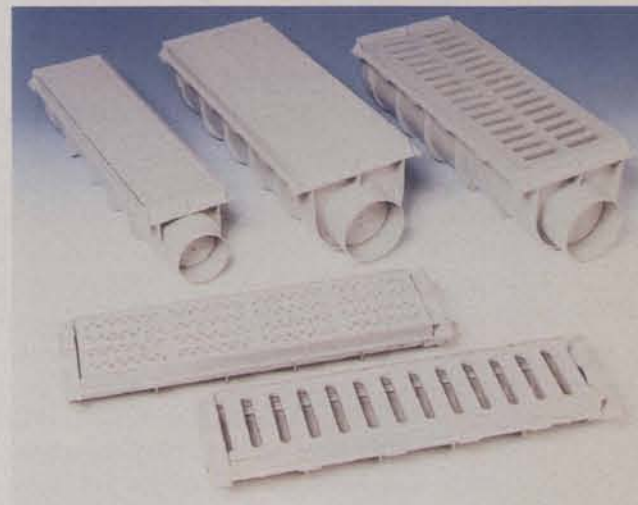
DRAIN CHANNEL SYSTEM

Canplas Inc. has introduced a new PVC drain channel system that it says won't corrode, chip, or peel. Also, all channels, grates, and components are made with UV inhibitors to prevent discoloration. The system features sections with interlocking joints that don't require couplings, allowing greater flexibility in creating a drainage system of any length.

The sections are then solvent-cemented together; you can choose from a variety of channel widths and depths, grate styles, combination end caps/knockout outlets, frames, and corners. Channels are available in 5- and 8-in. widths and in shallow and high (deep) configurations. High-profile channels are for where heavy flows are expected.

Three styles of grates are available: standard slotted, perforated, and solid cover. All grates have non-slip surfaces.

Canplas Inc./888-461-5307
For information, circle 166




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NO NEED TO GRADE PIPE

The Turf Drain Siphon System is the first drainage system that allows the installation of drainage without the need to grade pipe. The system that has been used in difficult drainage areas on many of America's most famous golf courses since 1990 is also increasingly being used on athletic fields. The system is ideal for fields where difficult soil conditions require deeper drainage to effectively firm the playing surface, says the company. It's also the perfect answer when "there is nowhere to take the water." The Turf Drain Siphon system can take water over or through obstructions, such as bleachers and running tracks.

Andrew Mack, city engineer with the City of Pembroke Pines, FL, says "Prior to installation of the Turf Drain Siphon System our ball fields were unplayable after an afternoon rain storm, but since we installed the system our fields are ready shortly after the rain stops."

Turf Drainage Co. of America/800-999-2794

For information, circle 169

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VALVE-MOUNTED CONTROLLER

A battery-powered, valve-mounted controller that provides automated valve operation without hard wiring or outside power requirements is available from Irritrol Systems. For use in areas where a hard-wire connection is impractical, the IBOC100 also can be used to convert existing manual or electric valves to independent battery operation. Irritrol says the unit is easy to install, requires no trenching or field wiring, and is hand-programmable.

Station run times are programmed in real time from 6 sec. to 23 hrs, 59 mins. Four irrigation cycle options, a default program, and a delay-start feature add flexibility.

Irritrol Systems/909-785-3623

For information, circle 167

TURF BLANKETS

Turf Defender™ turf blankets promote germination and growth while protecting from winterkill, says manufacturer Typar Turf Blankets. Made of woven polypropylene fibers, these blankets have UV stabilizers to resist sunlight. A 2-in. hem along the edge gives extra strength.

The blankets serve as a physical barrier to winter winds, small animals, and egg-laying insects while not inhibiting sunlight, moisture, or nutrients from penetrating

through so soil conditions can remain healthy.

Use by rolling the blanket over the turf and pin every 3 ft. over the surface of the entire blanket with U-shaped #9 wire pins; for especially windy areas, place #3 rebar around the perimeter.

Typar Turf Blankets/800-455-3392

For information, circle 168



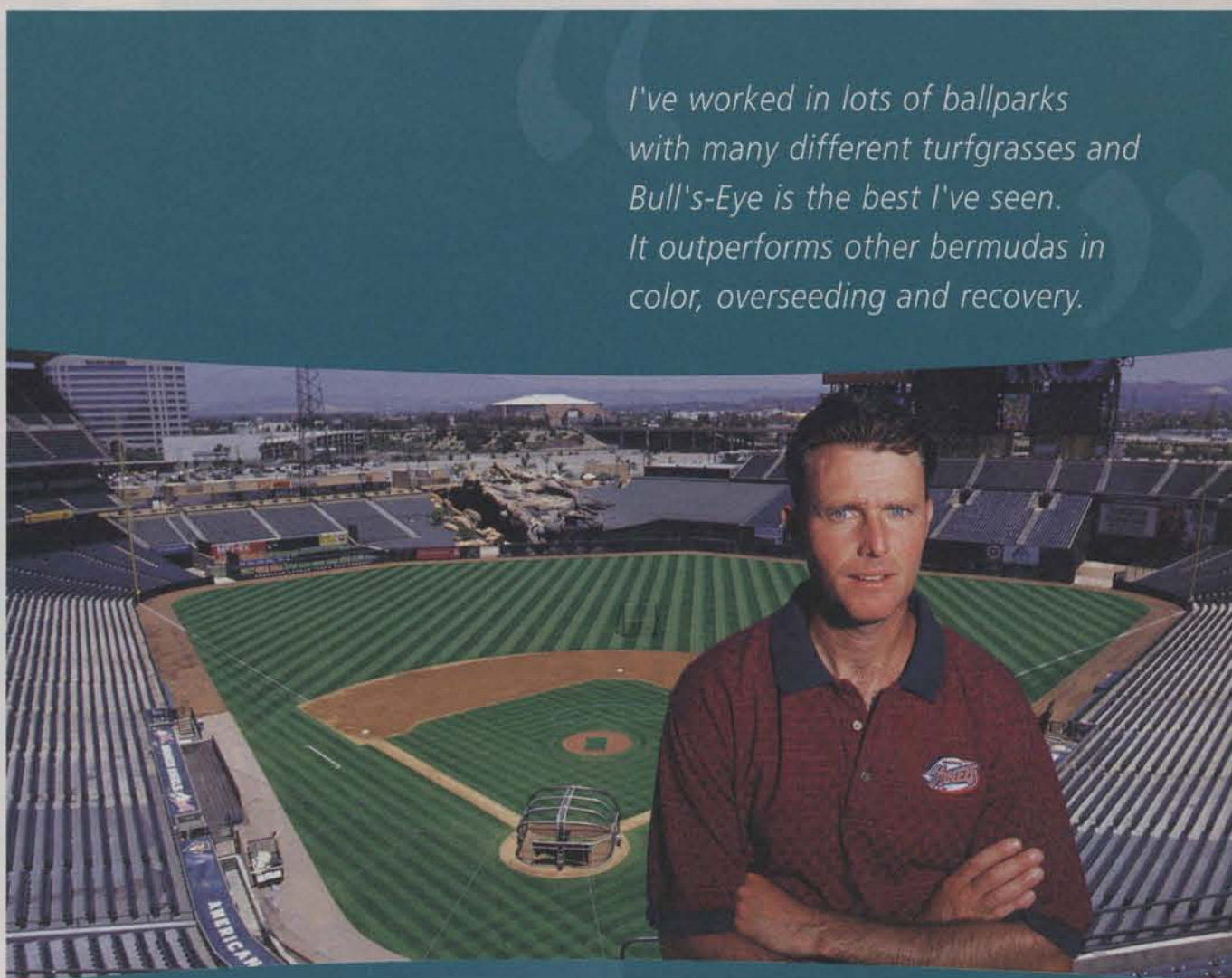
CARRY IT WITH YOU

The Station Master Pro Model 24A is a portable, battery-operated diagnostic tester that combines both a solenoid activation and wire identification for irrigation systems.

Functions of this unit: activates solenoids; tests for good, open and short valve connections; sends tone to identify wires; measures clock voltage and warns of low battery. It's housed in a high-impact ABC plastic case, and operates on two 9-volt alkaline batteries.

The test leads come equipped with premium "bed-of-nails" and piercing-pin/bent-nose clips for use on insulated wires without cutting or stripping.

Progressive Electronics
For information, circle 162



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—Barney Lopas
Field Manager
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Controlling the information stream:

a key tool for successful field management

BY STEVE AND SUZ TRUSTY

Effective sports turf management requires coordinating multiple factors over the long term. The sports turf manager must: establish standards and develop a maintenance program to meet them despite highly variable conditions and circumstances; train staff to carry out the program; track the various components of the program; monitor and control field use; document program results; and incorporate all of the data collected to adjust the program as needed to produce positive results.

Managing the information stream necessary to produce and administer a comprehensive field maintenance program is as important a tool as performing field maintenance procedures in reaching the ultimate goal—providing safe, playable fields.

To achieve a goal, everyone working in the program must have a clear definition of what that goal is. Bill Whirty, park operations supervisor for the City of Fort Collins, CO, says, "Our program is dedicated to providing our field users with safe ballfields which play consistently well from park to park." This sets the basic standard for the field maintenance program. The program's other elements focus on meeting and maintaining that standard.

The paper trail

For programs with multiple fields at multiple sites and crews operating independently at those sites, a paper-based system can communicate maintenance details as well as provide a method of tracking them.

Whirty used a safety checklist for each type of field to develop a routine maintenance schedule. This is combined as a "Safety and Maintenance Checklist" and gives the on-field staff a written reminder of each facet of the program. The checklist

reduces the risk of a crew neglecting a task or only partially completing one. Each line item on the checklist has a box to be checked "no" or "yes" if repairs are needed.

The staff member making the inspection records when repairs are necessary. Problems are then classified according to their impact on field safety and playability. The checklist makes it easy for the inspector to mark specific inspection line items: one asterisk indicates a priority safety improvement repair, while double asterisks mean a dangerous condition that requires immediate attention. On the checklist form, a blank at the end of each inspection line item provides a spot to record the scheduled repair date and then the actual repair date.

A separate form lists the "Specific Field Maintenance Program" for the year for each field. This form lists maintenance procedures and provides a space for comments, followed by a series of spaces in which the date is to be recorded each time the procedure is performed. This form can be tailored for each field within the program and for the specific maintenance procedures each crew would generally perform. Whirty's form includes the following general headings: mowing, aerification, fertilization, fertilization, overseeding, sodding, pesticides, and other. Subheads under mowing list: height, frequency, mower type, and crew hours.

Whirty's program also includes a "Field Maintenance Request Form" that shows a diagram of the field, and provides blanks designated to list the field location and number, the date, and who reports the problem. Boxes are provided on each side of the perimeter of the field layout diagram to note the compass directions (north, south, east, west). The staffer circles the problem area on the field diagram and writes a brief problem description.

Whirly notes that the inspection frequency for each area depends on how intensely the athletic facility is used. Obviously, increased use will require increased inspection and maintenance and the number of checklists used for each field will document this as well.

All the data gathered on these forms provide a day-by-day record of the maintenance program. That information needs to be compiled and analyzed in order to fine-tune the program for the next year. This can be done with additional paper forms or on a computer system.

Tracking on the computer

Tim Moore, CSFM, ballfield coordinator for the Maryland National Capital Park & Planning Commission, Silver Spring, notes that using the computer to store information is much like using a storage building. Information is entered into a database and stored for later use.

Information from paper-based maintenance checklists can be entered into the database by a crewmember, supervisor, or office staff personnel, whichever best fits the facility's overall system. Additional information can be added to the same database, or stored in a different but compatible database, to provide more comprehensive information. Moore recommends tracking degree-days, daily temperatures, humidity, rainfall amounts, and any other weather-related data that will be beneficial in developing and carrying out the maintenance program.

Equipment and material use and labor hours expended also can be tracked within a computer database.

An inventory control database could be as basic as recording materials received, such as fertilizer, pesticides, soil amendments, or irrigation parts, and noting when those items were removed from inventory for use. A more detailed program would tie material use to specific fields. This could be set up as part of the basic inventory control program, requiring that materials be allocated to individual fields when released for use. Or, it could be tied to specific fields by including the information in a specific field maintenance reporting form.

The same form also could record the types of equipment and the amount of time each piece of equipment was used at each specific

field. Labor hours expended, further broken down to the number of hours expended by each individual, also could be recorded for each specific field.

By entering the costs of materials, equipment use per hour or minute, and the direct salary and additional support costs associated with each of the staff, the computer can be used further to track these maintenance components. This could be done for individual line items, for example (20-10-5 fertilizer from a single

manufacturer or supplier); with the cost (xx cents per lb.).

The information, once stored, could be retrieved in various forms to fine-tune the program. Group line times (such as all fertilizers) could be developed to compare the amount of fertilizer used overall, the amount used per type of field (baseball, softball, football, soccer, etc.), the amount used per specific field, and the costs related to each of the categories. Use and costs of equipment, materials, and labor with in-house field maintenance could

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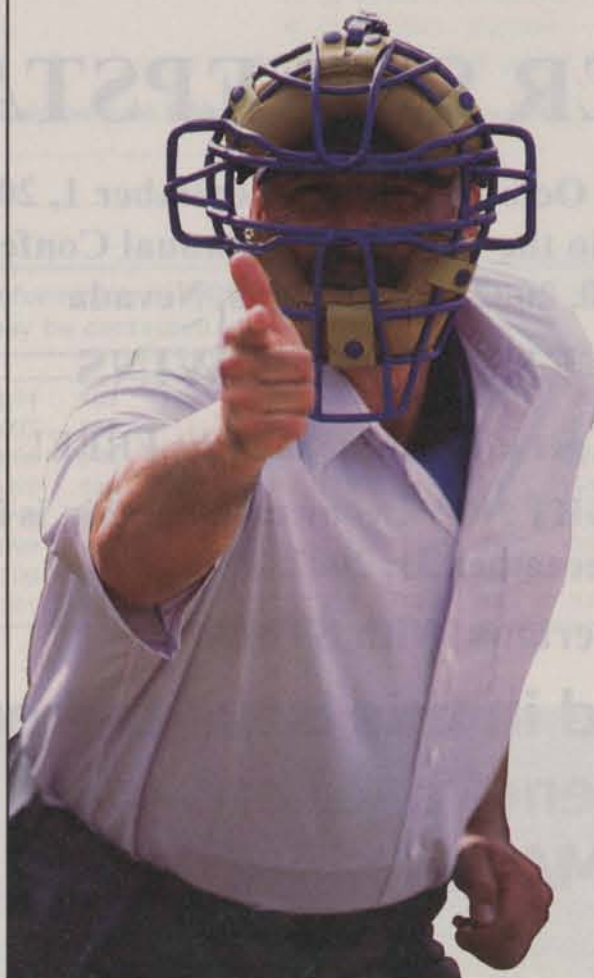
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be compared to same components and costs for contracted field maintenance.

Special projects, such as field construction or renovation, could be set up as separate databases or incorporated as group line items in the master database.

The computer then becomes a tool for tracking your budget. Enter the expenditure information in the established categories to track actual costs against budgeted costs. Moore notes the computer can generate weekly, monthly, quarterly, and/or year-end reports that provide credible, realistic data to use in justifying your maintenance program, budgeting, and asking for future funding.

Moore also points out the value of the computer as a diagnostic tool on turf maintenance issues. All the maintenance procedure information and the meteorological information stored in a database for current and previous years provides the ammunition to help in problem diagnosis or to develop an IPM strategy to ward off a turf disease or weed pest.

Going digital

Tracking the information flow can go to yet another level by using photography. A recent behind-the-scenes tour of Invesco Field at Mile High in Denver, conducted by Ross Kurcab, CSFM, and Abby McNeal, CSFM, revealed how effectively high-quality digital cameras and well-defined computer tracking systems can become investigative research, documentation, and management tools.

Every step of the Invesco Field at Mile High construction and development project and the ongoing maintenance program are captured in digital images and catalogued for retrieval. With so many high-tech components incorporated in the field design, this background information is a valuable asset in everything from developing the daily and weekly maintenance program to moving back through the as-built stages of construction for problem-solving.

With this tool, they can pull up on screen or print out a specific segment of any on-field event for review and track the condition of a specific area of the field. Digital

images are taken before an event from various angles to show overall field condition and field condition in those areas most likely to be impacted by the event.

An on-field concert will be tracked from the moment the first piece of equipment moves through the tunnel until the last piece of equipment has been removed. The digital shots document such details as where the forklifts and cranes entered the field, how the protective system was set up for this, and where the movement took place. Also tracked with data are the timing aspects of each of these details by day and hour and the specific data of the equipment used and the materials being moved. All this is augmented by specific details of the maintenance practices and of the weather conditions before, during, and after the event.

When possible, the turf management team also will take or track down digital images of the entertainer's previous stadium-site performances and discuss the event with the sports turf manager of that facility (or facilities) to better prepare.

The digital documentation is a great problem-solver. For example, a defined-area surface moisture problem can be more quickly tracked to a sprinkler connection leak through review of the digital images of the construction as-builts in that area. The details necessary to program the winter bench area set up requirements were better defined through review of the digital images of the set up at the old stadium.

Digital images track the steps of each maintenance procedure and the field condition before and after each procedure. Safety and playability are the prime goals, so the gathering of digital images continues not only before and after, but also throughout each game, for review of the field response to the player action.

The management of the information stream segment of the art and science of sports turf management continues to move ahead-with the profession—to an ever—higher level.

ST

Steve Trusty is executive director of the Sports Turf Managers Association; Suz Trusty is director of communications for STMA.



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