

turf division of the John Deere Company. Light-duty units have a payload capacity of 500 pounds or less, he says. He defines medium-duty as those vehicles with 1,000 pound capacities, and heavy-duty vehicles as those with capacities of 2,000 pounds. While these classifications are not "absolutes," they provide a basic frame of reference.

Other factors to consider include:

- Engine power, reliability, serviceability, and noise.
- Suspension system construction.
- Drive train durability.
- Body and chassis construction.
- Versatility, including implement compatibility.
- Maneuverability.
- Operability
- Safety and stability.
- Flotation tires that won't damage turf.

"There is no utility vehicle to fit all purposes," says Mike Heacock, vice president/maintenance, for American Golf Corporation. "You need to look at your needs, and match the vehicle to its intended use."

Defining Your Needs

Heacock suggests first examining what you want a particular vehicle to do, and making decisions accordingly.

"If you use a light-duty vehicle in heavy-duty conditions, you'll wear it out pretty quickly," he explains. "You have to match the vehicle to actual use in the field"

As a technical resource to American Golf's corporate management, Heacock must pay particularly close attention to utility vehicle maintenance costs. He cites the Daihatsu as the heavy-duty vehicle with the lowest annual maintenance cost in American Golf's experience ("The last time I calculated it, we were spending \$50 a year per vehicle, and we have 90 Daihatsus."), but also maintains several national accounts, which include E-Z-GO/Textron and John Deere.

"The vehicles in those lines provide us with the versatility we need," he says.

Heacock suggests other factors to consider when buying including the terrain of the course and price.

"Price variance is 100 percent," notes the former golf course superintendent. "Certainly, the choices have improved quite a bit since I first got into the business. I think what Toro has done [with the newly introduced 3000 Series heavy-duty model], building a 'world beater' machine from the ground up is indicative of what's going on in the market. But there are so many good choices—the Club Car Carryall is a good vehicle, and we've also had good luck with the five-wheel John Deere machine."

A light-duty vehicle will "burn out" in

short order under heavy-duty use. Conversely, if you pay for a heavy-duty vehicle, then use it only in a light-duty situation, you may be overspending, as Gary Wimberly, superintendent of Dad Miller Golf Course in Anaheim, CA, points out.

"We use Columbia Par Cars to fill our transportation needs—that means getting people from point to point," he explains. "Price is definitely a factor. With a vehicle used for just moving people, there's no need to pay for all the multi-use extras you'd find on a heavy-duty utility vehicle."

As Heacock says, knowing how your field personnel will treat and operate a piece of equipment should play a role in your decision."

Manufacturers and distributors will happily provide you with detailed literature on specific vehicles.

Tom Vogel, superintendent of Portage Country Club in Akron, OH, has been converting many of the course's utility vehicles to "easy to operate" models, such as the Club Car Carryall II. The main reason, he says, is to increase safety.

"Less complicated vehicles that require no gear shifting are easier to operate, so people are less likely to make mistakes," he says. "Of course, you still need heavy-duty vehicles for heavier work."

Evolution Of A Product

What drives a manufacturer to release a new unit? Market competition and end-user demands are the two prime movers.

Such is the case of the Yamahauler G11. New enough not to have any end-user field evaluations outside of those performed by the company, the lightweight, 500-pound payload capacity vehicle was developed in response to dealer demand. The unit uses the same o.h.v. engine and belt-drive Constant-Velocity Transmission in the G8 model. However, Curtis Schmidler, senior product planning manager at Yamaha, emphasizes that it is not a "golf car with a box on the back."

"Our Georgia engineers made more than a few heavy-duty design modifications to create the G11," he notes. "We didn't want to build another 'me too' product, so we asked ourselves, 'Why can't we build a flatbed and box into one unique unit?'"

The result, says Schmidler, is a vehicle that can be converted, without tools, from cargo box to flat bed, or vice versa within 90 seconds."

Application-Specific Selection

"When I bought my fleet of utility vehicles, price was around third or fourth on my list, but dependability was number one," states Alan Andreasen, superintendent of the new, soon-to-open Cypress Golf Club in Cypress, CA.

Andreasen is in an enviable position. Because his course is well-funded, he was able to build a "wish list" of utility vehicles. The fleet includes 12 Jacobsen 810 units, two Cushman Turf Trucksters with the fifth wheel package, three Mitsubishi's, one E-Z-GO gas golf cart, and one Cushman GT America. Still, the thinking behind each selection was the same as it would be for a course or sports field with more limited funds.

"My section men needed something, lightweight, so I went with the Jacobsen 810 models," he explains. "The noise factor was another reason for our selection of the 810s. Their Fuji four-cylinder engines are really quiet."

"The Cushmans are used to tow a GA-60 aerifier and for spraying. They were purchased for our heavier hauling requirements," he continues. "The E-Z-GO golf cart is my transportation vehicle, and the Cushman GT is my assistant's cart."

Andreasen outfitted each of the three Mitsubishi's differently. One has a bed that rises straight up in the air, "like a platform." It is used for tree trimming work.

"I got another one for the gardener to haul plants, tools, and sand," he says. "And I have one with what I call a 'plumbers box' for our irrigation man to carry his repair parts. Two of them also have cabs, so we can drive around in the rain."

Application-specific selection can be narrowed even further. For example, Henry Wetzell, superintendent of St. David's Golf Club outside of Philadelphia, PA, uses his Smithco Red Rider to transport walk-behind mowers from green to green. "The vehicle is low to the ground, which makes loading and unloading easier," he says.

Perhaps the most application-specific units that fall under the utility vehicle umbrella are the dedicated sprayers, such as the Toro Multi-Pro

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Utility Vehicles

continued from page 11

1100 and 5200. (Hahn manufactures the units for Toro and they are sold under the Toro name.)

"Having the Raven computer on-board [the sprayer] is a plus," explains Chris Carlson, superintendent of Echo Lake Country Club in Springfield, NJ. "Basically, it allows you to adjust your application rate and volume per square feet."

Final Decisions

Once you've narrowed your decision, take the time to talk with your local distributor or manufacturer. The distributor is your lifeline when it comes to parts and service.

Manufacturers and distributors will happily provide you with detailed literature on specific vehicles. And don't hesitate to contact other superintendents and sport field managers in your area for advice.

"People think that golf courses work against each other, but we really work together," says Mitch Clendenin, superintendent of Walnut Woods Country Club in Greensboro, NC. "Folks in the golf course business will pass along, by word of mouth, what's good and what's not good out there." □

UTILITY VEHICLES: A DAZZLING ARRAY

A machine for every purpose, and a purpose for every machine—that's the bottom-line on utility vehicles. Here's a few manufacturers who may be able to help fill your needs.

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Cushman

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Deere & Co.

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E-Z-GO Textron

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EXPLORING EQUIPMENT

Employee Safety Education Program Provides Lasting Benefits

By Rick Rodier

In one year, more than 75,000 turf maintenance-related accident victims were admitted to hospital emergency rooms, as reported by the U.S. Consumer Products Safety Commission in 1990. Operator familiarity with basic safety principles can help decrease the number and severity of accidents.

Most employers, sports turf managers, and golf course superintendents are aware of their responsibility regarding turf maintenance equipment safety training for employees. Unfortunately, not all are aware of the harsh consequences associated with neglecting to implement a comprehensive operator safety education program. In addition to serious injury and loss of human life, there are sobering economic and legal repercussions for employers.

One study by the St. Paul Fire and Marine Insurance Company revealed that more than 25 percent of workers' compensation claims by golf course maintenance employees are mower-related. This results in an average workers' compensation claim of \$3,600, according to St. Paul Fire and Marine Insurance Company claim data from 1986-1991.

In certain states, employers found grossly negligent in employee safety training can be held liable for on-the-job accidents above workers' compensation payments. For employers, this can be a costly ordeal in terms of legal fees, and they can risk their reputations as responsible employers.

Existing state and federal laws require every employer to furnish a safe place of employment and a safe working environment for employees. California law mandates employers to "establish, implement and maintain an effective written injury-prevention program...and to provide specified (safety) employee training," according to California State Senate Bill No. 198 as approved on Oct. 2, 1989. Under California law, employers can expect regular inspections and evaluations of their injury prevention programs.

Choosing a Safety Program

Program materials for safety education do exist. One resource is manufacturers within the green industry. For example, The Toro Company recently joined efforts with the St. Paul Fire and Marine Insurance Company in developing the nation's first comprehensive operator safety education program for the commercial turf maintenance industry. The program responds to the significant number of injuries related to turf maintenance activities.

Select a turf-maintenance equipment safety education program that will fit your personnel needs. Consider the following selection criteria:

- *Individual application.* The program should help operators take control of their own safety. "Individual responsibility is the key to injury prevention," says Jim Seifert, senior attorney for The Toro Company. "A safety training program should help correct the *It can't happen to me* attitude. Each employee should complete the safety training program feeling confident and capable of immediately applying the information covered.

- *Easy to understand.* The safety program you choose will need to address individuals with varying levels of education and comprehension. A multiple-format program that incorporates several mediums will help you reach people with different learning styles.

- *Language and content diversity.* If the majority of your employees are Hispanic, consider a safety program in both Spanish and English. Have the material translated for both trainer and trainees into a language that will allow you to reach your entire workforce. (Check the language the warning labels on your equipment appear in, and translate as necessary.)

- *Testing and ongoing training.* Look for a program that provides follow-up testing materials for trainees. Tests provide added learning incentive and help hold people accountable for remember-

ing vital information. Test results also provide legal documentation of training efforts.

Content More Vital Than Length

Address three vital safety areas:

- *Preparing to operate the equipment.* Safety begins with a proper attitude and respect for the equipment and the danger it represents. Prior to starting the engine, operators should read all relevant manuals and safety instructions. They should also be wearing proper protective clothing and gear and complete all pre-operational equipment and work area checks.

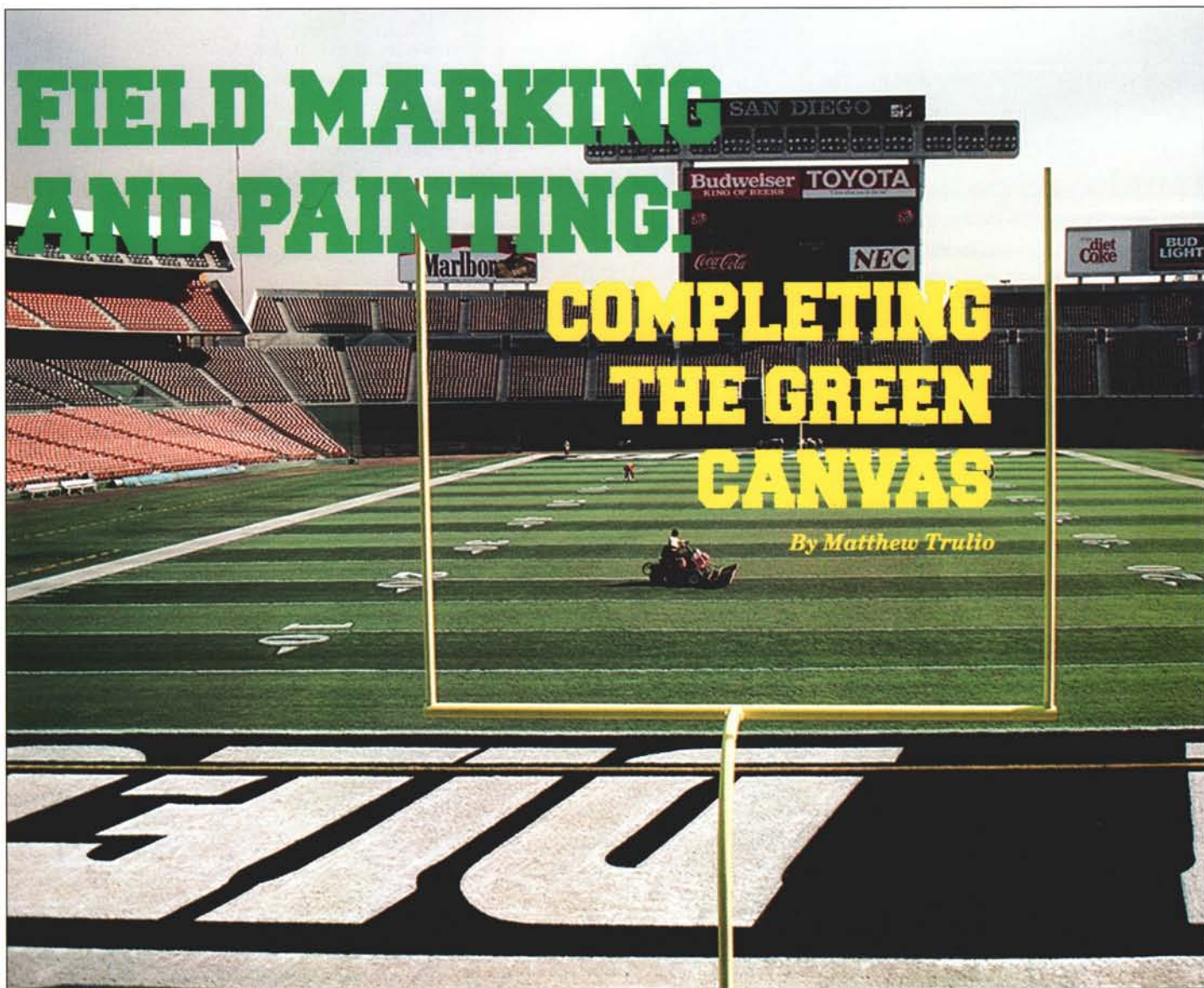
- *During equipment operation.* Operators should practice in large, open areas before engaging cutting systems. Operators should know proper equipment speeds for mowing around hazards, hill mowing and transport, as well as proper deck guard and deflector adjustments. Each operator should also know his or her own physical limitations to prevent unnecessary strain and carelessness.

- *Working around the equipment.* In detail, cover topics, such as proper use of the parking brake, safe blade adjustments and shutting down the unit. Operators should know to keep their hands and clothing away from blades, proper equipment cleaning techniques, and safe refueling practices.

The job of turf-maintenance equipment safety training can be challenging. Like any method of education, it requires time and patience. However, the obvious health, economic and legal consequences of operating your company without a program should be incentive enough to begin an employee safety program immediately.

For more information on the Toro/St. Paul Fire and Marine operator safety education program, contact The Toro Company, Commercial Marketing Services Dept., 8111 Lyndale Avenue South, Minneapolis, MN 55420-1196. □

Rick Rodier is a market manager for The Toro Company's Commercial Products Division in Minneapolis, MN.



Top: Final mowing after painting, prior to game day, at Jack Murphy Stadium, San Diego, CA.
Bottom: Using number and arrow templates. All photos courtesy Steve Wightman.



Try to name a field sport played without boundaries, and you'll come up blank. For that matter, try to name any competitive sport without boundaries. Even skydiving competitions have certain lines that competitors are not allowed to cross or they'll be out of the game, perhaps permanently.

Boundaries in field sports are vital. They often make the difference between a double or a foul ball, between first-and-10 or fourth and long. But field marking and painting have applications beyond defining the field of play, as Steve Wightman, STMA board member and stadium turf manager for Jack Murphy Stadium, in San Diego, points out.

"Of course, field painting and marking provide boundaries in which to play the game, but it can also be used to help promote the team or institution," he says. "Teams use markings to help run plays. And they help announcers call games."

Field parameters, marking, and painting vary with the level of play, from Little League to Major League Baseball, from Pop Warner to the National Football League. The good news is that regardless of the playing level at the field you tend, you can create crisp lines, marks, and eye-catching logos without breaking your budget.

Selecting Your Tools

There is a variety of paint machines, chalkers, paints, stencils, and even paint brushes to fit most budgets. Painting machines come in a wide price range, with

various features, from less than \$1,500 to more than \$8,000. David Frey, director of field maintenance for Cleveland Stadium, says quality and durability are top priorities to consider when choosing a paint machine.

"A good machine will last almost indefinitely," he notes.

Pre- and custom-manufactured stencils are available, and fit most budgets. However, carefully "homemade" stencils can fill the job when funds are lacking.

Says Frey, "Stencils for logos and hash marks can be made in-house—it's no big deal. You can make them out of half-inch plywood. The only problem with super-lightweight stencils is that they make it hard to get a good crisp edge with your painting."

As for the paint itself, both Frey and Wightman see water-based latex as vital. Water-base is the key word. While all paints will retard grass growth to some degree, Wightman asserts, oil-based paints are likely to kill the turf they cover, and are extremely difficult to remove. In addition, he suggests using only water-based paints that are specifically formulated for natural turf painting.

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Field Marking

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"Most field paints started out as inexpensive latex," says Frey. "Over the years, companies have worked to enhance their brightness. If you have multiple events on the same surface, there are now paints that wash out really well."

Choosing chalk is equally important. Long-used hydrated lime has been banned for field marking in many states, says Frey. Ground marble is one alternative.

String is also vital for field marking. If you want straight lines, you need straight string, or so the axiom goes. Wightman suggests selecting something "very strong, that can be stretched very tight," such as 1/8-inch nylon. And because this string may be used in lengths as long as 400 feet, some type of reel is a good idea.

Last, but certainly not least, is the simple paint brush. An ample supply of four-inch paint brushes will always come in handy, particularly in touch-up and fine detail work.

Establishing Routines Pays Time Dividends

Because Jack Murphy Stadium is home to the Padres, Chargers, and various other teams, the field is painted every week of the year. In the case of late season professional baseball and early season professional football, sports that require completely different field markings overlap. The painting task is always a challenge, but to help things run smoothly Wightman has streamlined the process as much as possible. He emphasizes simplicity and *routine*.

Timing, says Wightman, is integral to the final "game day" look, as well as actually getting the job done in time for the game. They try to schedule painting so that the field markings and logos will be "bright" on Sunday. This often translates to "touch-up" on Saturday.

"But you don't want to wait too long in the week to paint, particularly in northern climates," advises Wightman, who before coming to Jack Murphy headed the field crew at Mile High Stadium in Denver. "In colder climates, you have to schedule your painting earlier. If you waited too long, then had a snowstorm during the time you scheduled to paint, you might run out of time. You have to be very aware of prevailing weather conditions.

"Because we're in a warm, stable cli-

mate, we try to delay painting as long as we can so we don't have to come back and do too much touch-up," he continues. "Another thing to keep in mind is that if you paint too early in the week, then mow as scheduled at your normal height, you can mow off all the paint. One way to avoid that, especially early in the season, is to raise the mower height for the cutting following painting. That way, you get the aesthetic value of a good mowing without cutting off all the paint."

**REGARDLESS OF
THE PLAYING LEVEL
AT THE FIELD YOU
TEND, YOU CAN
CREATE CRISP
LINES, MARKS, AND
EYE-CATCHING
LOGOS WITHOUT
BREAKING YOUR
BUDGET.**

At the beginning of each Charger season, Wightman and his crew measure the field for football, starting with the four corners inside the end zones of the field in relation to the goal posts. This is the only time in the season they will use a tape measure on the field. They make sure these corners are exactly 90 degrees, since almost all these other measurements will be based on these. Using strings, they set the sidelines from these corners.

"You don't want any trapezoids," Wightman laughs. "Before the first game of the season, we go out along the sidelines with tape measure, and every 15 feet we drive a penny nails with a flag on it, outside of the field of play. That gives us our five yard marks."

From there they determine hash mark and number stencil locations, using penny nails and different colored flags to create season-long setting points.

"Using a stencil or a template is a must because they enable you to get the job done in a reasonable amount of time," Wightman asserts. "Without them, you'd have to go out and remeasure every time you painted the field. We have a 15-foot aluminum hash mark template we

use that fits between each five-yard line.

"The reason for setting marks for everything at the beginning of the season is saving time," he continues. "You don't have to constantly remeasure. You already know where your marks are located, outside the perimeter of the field, and if you lose them you can find them with a metal detector, because they're metal nails. We use different colored flags for each type of mark. The idea is to make things as simple as possible."

Painting Process Tips

The actual painting process for professional football at Jack Murphy Stadium takes two days. Before they begin, they mow the field so they have an even surface on which to paint.

On the first day, they paint the perimeter, hash marks, and numbers. In general, they dilute the field paint in a one part paint, one part water ratio. The dilution rate can be even greater, Wightman explains, depending on the specific paint, manufacturer's recommendations, and weather. The more you dilute a paint, he says, the quicker it dries. However, dilution dulls brightness.

"Once again, you have to take the time of year into account," he advises. "You might get by with two parts water, and one part paint in the summer, because the days are warmer and the paint will dry more quickly. If you have a lot of surface area to cover, one-to-one seems to be the ratio that has worked best for us. For touch-up, you can sometimes go as high as five-to-one with certain paints."

They paint the six-foot border around the field, required by the NFL, and the end-zone logos on the second day. Ninety percent of their painting is done with an airless wand-type sprayer. However, when time gets tight, Wightman's crew often resorts to four-inch brushes. Using brushes can be faster than mixing the paint, getting the paint machine ready, and cleaning it. And they always use brushes for touch-up work.

Although the Chargers' management would like them to paint logos at midfield, says Wightman, they do not because of the high-traffic that area receives.

"We limit decorations to the end zones, which don't get a lot of traffic," he explains. "We don't put a logo on the 50-yard line because if we painted this field every week, by the end of the season there wouldn't be any grass there."

Our goal is try to keep the turfgrass as healthy as we can, and in this case we do that by *not* painting. Paint and traffic do not go hand-in-hand. If you're painting every week there will be a certain amount of grass growth retardation, especially, it seems with colored paint. That's acceptable in the end zone, but not in the area of the field that receives the most play."

When it comes to baseball, they paint every line on grass, after first "stringing out" the lines to ensure straightness. Baselines are done in chalk—they don't paint dirt, says Wightman, because paint is more difficult to remove than chalk.

To overcome the football/baseball overlap at Jack Murphy Stadium, the crew uses chalk rather than paint for the lines on grass during the first three or four Charger games. Two weeks prior to the first Charger practice game, they chalk the left foul line and coaches box, which they would normally paint for the Padres.

"If we painted, those lines would be visible during the football games," explains Wightman.

One tip both Wightman and Frey suggest is "shadowing" the numbers on

the field with team colors. Four-inch brushes are the right tool for this job, they say.

Marking and painting are the icing on the field cake. However, Wightman and Frey emphasize that regardless of how

proficient you become in these techniques, turf quality must come first.

"Aesthetics can be enhanced by painting," concludes Wightman, "but the real beauty of any field comes from the aesthetic value of the turf." □

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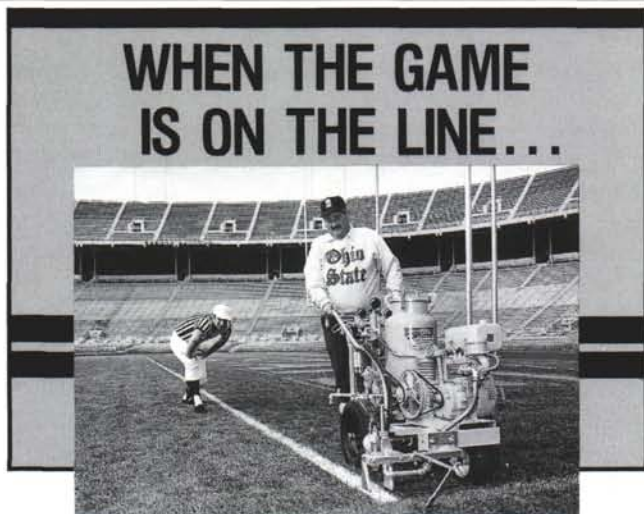
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Fairfax County Renovation: Success Through Science

The Parks and Recreation Centers of Fairfax County, VA, rank among the finest recreation systems in the country. They encompass numerous playing and practice fields, Olympic-size swimming pools, spas, handball and tennis courts, and indoor horseback riding facilities.

The Fairfax County Park Authority is responsible for maintaining more than 300 athletic fields throughout the county. The job is not an easy one. Intensive use has caused past field renovation efforts to fail because the turfgrass never has a chance to establish itself. To compound matters, many of the fields were built without adequate drainage or

soil modifications to enhance drainage.

Inadequate drainage and heavy textured soils often turned the fields into mud holes in wet weather and concrete-like surfaces in dry weather. Such conditions affected field playability, and turf cover.

Clearly, the FCPA knew something needed to be done. The solution was a massive field renovation program, which began in 1990.

Road To Recovery

The FCPA raised the money to reconstruct the fields. Joseph Sicenavage, of the FCPA Design Division, headed the renovation project.

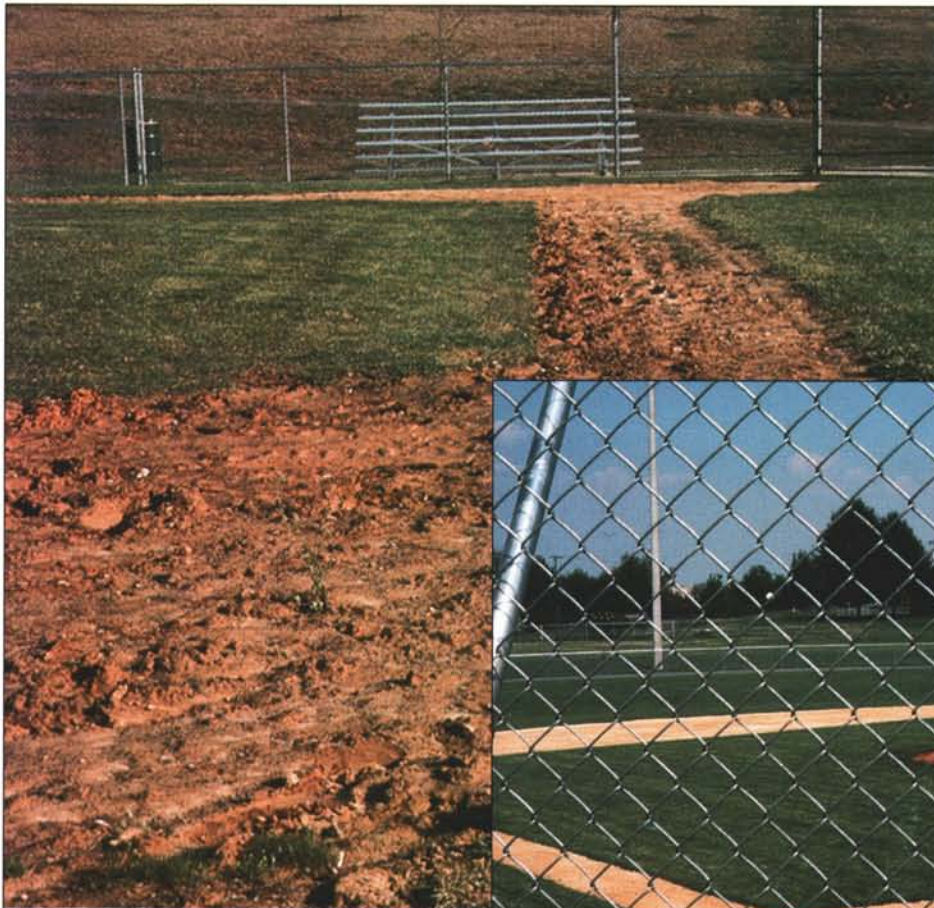
Sicenavage assembled a team of

experts including engineers, irrigation specialists, and lighting technicians to handle phases of the project.

On that team was Dr. Henry Indyk, from the Greenway Group, a former extension specialist at Cook College of Rutgers University for more than 30 years. Recognized as one of the leading authorities on athletic field construction, Indyk joined Greenway after his retirement from Rutgers to establish a special division of GSI Consultants, Inc., called Turfcon.

Greenway and Turfcon were originally charged with developing plans for the reconstruction of 50 athletic fields located at various parks throughout Fairfax County. Dr. Richard Caton, Coordinator of Consulting Services for Turfcon, and Indyk visited all the fields and made critical observations of existing conditions, noting deficiencies and taking soil samples for laboratory testing. The prepared site-specific recommendations for each field were based on observations made by the laboratory results.

Indyk called for special soil modifications, underground drainage systems, and seed and sod selection. He provid-



One of Fairfax County's many baseball diamonds, before and after reconstruction.

ed specifications for pH adjustment, nutrition supplements, and follow-up maintenance.

"The major challenges confronting us was the soil conditions," says Indyk. "All the fields required major building."

To help ensure the project's success, the consultants met with the Park Authority Board of Directors. They stressed the need to move from *business as usual* field reconstruction to a technically sound approach. During this meeting, they showed slides that graphically depicted existing conditions which convinced the board to move ahead with the project. After receiving the board's endorsement, Indyk and his team developed the specifications to proceed with the project.

Sicenavage was joined by FCPA's Deb Garris, of the construction division, and Doug Guzman, who would be responsible for working with Turfcon on the overall management of the project. W.A. Hazel Construction of Chantilly, VA, was awarded the prime contract for the project.

"We could not have had a better general contractor," Indyk says. "From the top down, we dealt with skilled professionals who performed competently throughout the project. The equipment provided was the best available and was always in good repair."

"We had done ball fields before, but never to this extent," notes Dave Chapman, who was the contractor's field superintendent on the project. "Quite honestly, most people do not put this kind of effort and expense into ball fields. Basically, they were installed just like professional fields."

From Top To Bottom

Construction crews stripped the top soil and stockpiled it.

It took a small fleet of Caterpillars and bulldozers to do the job, with as many as eight fields under reconstruction at one time. Later, the soil would be shredded and blended with sand to make the "root zone" mix. No dirt had to be disposed of and hauled away to landfills.

"We used all the dirt to balance the earth, to make it work out for drainage," says Chapman. "In fact, on one particularly rocky field, we had to truck in material to fill out our top soil."

The sand and sod had to meet the specifications. Laboratory testing at the place of origin and after the material arrived at the construction site verified that the material met expectations. The soil to sand ratios were established through testing and further subjected to laboratory chemical and physical analysis before and after mixing. Sod, from Jade Run Sod in Bethel, DE, was chosen, in part, because it was grown in a soil type that closely matched the mix on the fields.

Twenty-three athletic fields were totally reconstructed with underground drainage. The project used one million square feet of sod, incorporated 63,360 linear feet (or 12 miles) of drainage pipe and included 60,825 linear feet (or 11-1/2 miles) of irrigation lines. In all, 53,000 tons of sand were used and 8,180 cubic yards of soil were stripped and stock piled. Lighting was also installed at some of the fields.

Initial construction began in March 1990 and substantial completion took place in December 1991.

"To me, it was a major accomplishment to get that many fields done in that period of time," notes Indyk. "It takes a team effort, but the bottom line is that the contractor can make or break you. In this case, the contractor involved was really able to perform."

Adds Chapman of W.A. Hazel, "It was definitely a team effort, from top to bottom." □

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STMA PROFILE: THE RISE OF JESSE CUEVAS

By Steve and Suz Trusty



Imagine spending your work week with TV camera crews—and thus the eyes of sports fans nationwide—looking over

your shoulder. That's the reality just played out by Jesse Cuevas, the stadium superintendent of Johnny Rosenblatt Stadium, Omaha, NE, home of the College World Series.

With the opening and championship games broadcast on CBS affiliates and week-long coverage by ESPN, Cuevas and his crew gave viewers an "up close and personal" course in ball field preparation and grooming.

Whether it was perfect baseball weather or pouring rain, Cuevas was there with the crews, directing the action to keep things moving like a well-oiled machine. Would play be suspended during the downpour or continue to satisfy TV schedules? Whatever the call (and it was play ball), Cuevas and his crew were there to deliver the best possible playing surface under existing conditions. During a Friday night drenching, 27 bags of Turface (calcined clay), plus 10 bags of Turface Quick Dry, and lots of work, kept the field playable. Cuevas and crew presented players with top quality conditions for the Saturday CWS finals, won by the Waves of Pepperdine University.

Rosenblatt Stadium is the home of the Kansas City AAA affiliate team, the Omaha Royals, and the perennial host of the College World Series, an arrangement that began in 1950 and will continue through 1995. As part of the arrangement with the NCAA, the stadium has just undergone the first segment of an improvement program—the Rosenblatt 2000 Plan—which will entail the expenditure of \$8 million by 1995.

"We'll be a boiled-down version of a

major league park by the time we're finished with the expansion," says Cuevas. "Seating will grow to between 23,000 and 25,000."

The needs of the Omaha Royals and those of the CWS are closely intertwined—each benefits from the presence of the other. The AAA club gains a top-flight playing arena because of the improvements needed to retain the CWS action in Omaha. However, the short college series play alone could not justify the improved facility without the Royals season-long schedule.

Moving Forward

Juggling the needs of the Omaha Royals, the College World Series, and other city events is nothing new for Cuevas. In effect, he has "grown up" with the Rosenblatt routine. He started working at the stadium at age 16, and steadily moved up the ladder. He has worked at the stadium for 22 years, 15 with the city.

"I was fortunate to work under a real pro like Frank Mancuso," says Cuevas. "He made sure each step I took was a learning experience—about the facility, interaction with the crews, and the operations of city government. As I progressed, working under Frank was like having a safety net. If we ran into a problem, he'd scratch his head, think for a minute, and come up with a solution he'd discovered years before, to pull us out of trouble.

"I took over as stadium superintendent six years ago. It's amazing how smart you are when you're second in command, and how dumb you get when you're first."

Cuevas has worked the equivalent of two years of college into his hectic schedule by fitting classes in a bit at a time. He's concentrated mainly on business courses, attending the University of Nebraska at Omaha, Bellevue College, or Metropolitan Technical Community College. He reads "everything I can get my hands on" in turf management, attends turfgrass courses and conferences, and has been a member of the Sports Turf Managers Association since 1987. He's currently an STMA board member.

"I've appreciated being able to network with STMA members who were in the same situations, who related to the same problems, especially after losing Frank," says Cuevas.

He describes his position as that of a general manager. He says, "I may make the decisions, but it's the crews that make things happen. You're only as good as the people who work with you."

Cuevas has two permanently assigned, full-time people. His chief assistant is his brother, Terry, who started at the stadium 21 years ago as a "ball shagger." Terry covers overall maintenance, from work on the field to equipment handling, to plumbing. Mike Heidenriech, who serves as groundskeeper, has been with the stadium for 17 years. He started out as a bat boy. The three work closely together, coordinating activities. Cuevas calls it "running the place by committee." He has two other full-time employees that are not permanently assigned, and a part-time crew.

"With the shuffling of employees between three facilities, training and retraining are constants here," says Cuevas. "We like to start the part-timers in their late high school or early college years, so we can keep them for several years."

Cuevas has a hands-on, practical management style. Having come up through ranks has advantages. His staff knows he won't ask anything of them he wouldn't do himself.

At times, long hours are required. Cuevas says, "You've got to do what you've got to do. Usually, when the team is here we get into a routine. We do the more disruptive procedures when they are away. The day before a game is devoted to getting everything ready for play. During the CWS, we started at 7 a.m. on Friday and finished at the end of the game Saturday night—a 48-hour shift."

Making Improvements

A \$750,000 field renovation started at the end of the Royals' 1991 season. "Literally at the end," Cuevas notes. "During the last hour of the season on September 4, we took out the old bases