FROM THE PUBLISHER

I screwed up, and royally. I have no one to blame but myself. Although this has to do with my personal business practices, I've decided to "bite the bullet" and share it with you, because there is a valuable lesson to be learned here for all of us.

It doesn't make any difference what business you are in—developing the skills to run a company is something we all have to learn. And after we've mastered these skills, we have to polish them in order to become astute businessmen.

Some company representative walked into my office about a month ago and told me he wanted to buy my accounts receivable. I told him I would think about it. He answered that while I was thinking about it he would like copies of our invoices, in order to exercise "due diligence" and see whether his company would even buy the list. When he came back to see me a few days later, I told him that on second thought I did not want to sell the receivables—because, first, most of our accounts are good, and secondly, I did not have enough margin to discount all those invoices.

The representative then suggested that his company do collections for us. With the year coming to a close, our accounting department thought it would be a good idea to turn some of this paper into cash. And I agreed, providing that only the bad accounts were selected. I told the representative that he would have to get all those invoices back to us first. Then we would return to him only the slow-paying accounts.

Of course, he quickly agreed to my instructions. But then his company, totally without my authorization, proceeded to contact not only our *bad* accounts, but *all* our accounts—the good ones as well as the slow-pay.

More importantly, and this is what I regret so much, they really became highly aggressive on the telephone. In fact, they told some of our clients that they would have someone at their office in 15 minutes to pick up the check. Others they threatened with legal action.

Frankly, this might have been all well and good—*if* we ourselves had previously culled out only the bad accounts, as I had insisted, and only after our office had exhausted all other avenues in trying to collect. In other words, this aggressive approach of theirs should only have been a last resort.

Needless to say, the whole affair was a total disaster. I started receiving calls from all over the country. A lot of the callers I knew personally, and they were deeply hurt. Some said their invoices should never have been in the "open" file in the first place. Others felt I should have contacted them personally before a strange attorney called.

The truth of the matter is that someone from our office did phone. Apparently, however, our office person was talking to their office person, and nothing was accomplished.

From this unfortunate experience, I discovered once again what I should have remembered all along: that whatever business we are in, first and foremost we are all in the people business.

The other truth I realized is that most of us are also in a highy personal business. If you're like me, you give other people the easy tasks to do, but the difficult ones you should do yourself.

In my case I understand, of course, that I can't do everything alone—and I would hope our clients understand it. However, the point was driven home: If you want to keep your clients, don't let a stranger who is impersonal about your business do the job for you. What you spent years building up can be damaged in a week, because treasured relationships can be harmed.

So to everyone who received such a call or letter, I truly apologize. I take all the blame—because, when it comes down to it, I myself made the final decision to let someone intrude on my personal relationship with my clients.

My reason for confiding this rather embarrassing story is that maybe you can go to school at my expense and learn from my mistakes. What better and easier way to learn than from someone else's folly?

THE FRONT OFFICE

OPINION PAGE

As a new year begins, it is a good time to reflect back on what has been accomplished this past year and to consider what still needs to be done. Our industry is moving at a rapid clip. The growth in all areas of the institutional turf market has been astounding . . . and it doesn't look like the end is yet in sight. What a great opportunity we all have to make our contribution to further growth.

As I look around, I see even more golf courses either under construction or on the planning boards. It seems that the public cannot get its fill of golf. Experts say we need at least 4,000 more golf courses in this country by the year 2000 to keep up with demand. That means our colleges and universities will need to train roughly 1,000 superintendents *each year* for the next 11 years!

Another interesting fact is that the Japanese are buying golf courses in the United States at a rate that would shock the average golfer.

I believe we are going to see more and more golf courses in the United States owned by foreign interests. To be sure, a working golf club needs the skills of a professional superintendent. Furthermore, American golf course architects and superintendents have established the highest standards for golf courses in the world.

Another interesting fact is that developers in the Southwest, Arizona in particular, are building quite a few resorts. Florida is also on a very fast track in building new resorts and golf courses.

Developers have discovered the enormous value of a golf course to a resort. Even in relatively depressed areas, developers have found that condominiums and homes sell more quickly when they surround a golf course. The attraction of the golf and country club environment to our aging population is enormous.

It doesn't take a genius to realize that golf has a glowing, growing future.

I seem to get the feeling that more and more universities and colleges are paying closer attention to their campus grounds. As these schools compete for students, the appearance of the campus and the quality of recreational facilities play a role in helping students decide which university to attend, assuming all other things are equal.

Along the same line, athletic directors hold one of the most important public relations tools of colleges or universities in their hands—a successful sports program. At the center of such programs are top-notch stadiums. Stadiums are more than just part of the physical plant, they are the magnet for top student athletes and require special attention.

In the professional sports arena there have been quite a few moves this past year. I believe this is a sign of healthy and vibrant growth. Stadium managers are realizing that skilled turf managers can provide natural fields of Super Bowl quality with the right equipment and supplies.

Finally, parks and high schools are beginning to cooperate with each other in providing safer, better quality sports facilities. By combining resources and acquiring the expertise of a trained turf manager, both parks and schools can overcome some of their budget and personnel limitations. They also protect themselves against law suits resulting from injuries.

Overall, the future is bright and opportunity abounds. The personal contributions of thousands of recreation- and safety-minded individuals are helping the golf and sports turf industries approach their potential. With your contribution in 1989, golf and sports turf will continue to progress at an unprecedented rate.

Bruce Shank

EVENTS

CALENDAR

JANUARY

23-25 Midwest Regional Turf Conference, Adams Mark Hotel, Indianapolis, IN. Contact: Jo Horn, Dept. of Agronomy, Purdue University, W. Lafayette, IN 47907, (317) 494-4803.

FEBRUARY

1-2 Capital Region Turf and Ornamental School, Holiday Inn, Grantville, PA. Contact: James Welshans, Dauphin County Extension Service, 1451 Peters Mt. Rd., Dauphin, PA 17018, (717) 921-8803.

21-23 Western Pennsylvania Turf Conference, Pittsburgh Expo Mart/Radisson Hotel, Monroeville, PA. Contact Dr. Tom Watschke, Department of Agronomy, 405 Ag. Admin. Bldg., University Park, PA 16802, (814) 863-1613.

28 South Carolina Annual Grounds Maintenance Conference, Sheraton Columbia Northwest, Columbia, SC. Contact: Dr. Bob Mazur, Clemson University, Dept. of Horticulture, Clemson, SC 29631, (803) 656-3403.

MARCH

11-15 Canadian Turfgrass Conference, Vancouver, British Columbia. Contact: Canadian Golf Superintendents Association, 2000 Weston Rd., Suite 203, Weston, Ontario, Canada M9N 1X3, (416) 249-7304.

28 Turfgrass Equipment & Supplies Field Day, College of the Desert, Palm Desert, CA. Contact: Melvin Robey, College of the Desert, 43-500 Monterey Ave., Palm Desert, CA 92260, (619) 346-8041, Ext. 286.

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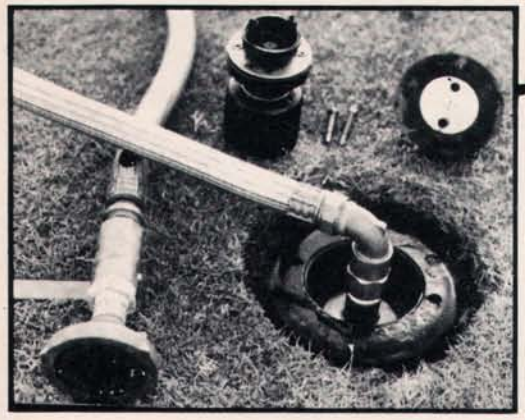

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THE EXTRA POINT

STMA NEWS

FROM THE EXECUTIVE DIRECTOR

If you will be attending the GCSAA Conference and Show in Anaheim in February, STMA has a treat for you. We are presenting a tour of four major Los Angeles area turf attractions on Monday, February 13, followed by a one-day seminar at Cal Poly University in Pomona on Tuesday.

The tour was put together as a favor to a 40-person delegation from the Institute of Groundsmanship (IOG) in England attending the GCSAA Show. We saw no reason why other interested turf managers couldn't tag along.

The IOG was extremely hospitable to me and my son Todd when we visited England this past fall for the Institute of Groundsmanship at Windsor Racecourse. They have a great deal to share with us.

On Tuesday, the IOG will present a one-day seminar at Cal Poly University at Pomona. There is plenty of room for anyone who would like to learn about sports turf in Great Britain. There is no charge for the seminar, but there is a small charge for lunch.

The seminar will include the following topics:

The IOG and Its Functions
The Parks of Great Britain
Golf Courses in the UK
The Groundsman and Journalism
Public Relations
Sports Played on Grass
Environmental Landscapes in the UK

Join us in welcoming our associates from the UK and learn how they keep their sports turf in top condition.

Kent Kurtz

STMA AND THE LAWN RANGER AWARD

By Mike Schiller

The Sports Turf Managers Association was a dream of some real pioneers of the turfgrass industry. To keep that dream alive after the association was formed, and to recognize these pioneers, the STMA developed the Lawn Ranger Award in 1983. The next recipient of the award will be announced at the STMA Annual Meeting at Dodgertown this month.

To appreciate the significance of the Lawn Ranger Award you need to understand how the association was formed. Harry Gill, grounds superintendent for the Milwaukee Brewers, felt there was a real need for an organization through which groundskeepers could exchange ideas, successes and failures. Harry got together with Dick Ericson, superintendent of Metropolitan Stadium in Minneapolis, Dr. Bill Daniel, professor of agronomy at Purdue University, and George Toma, head groundskeeper for the Kansas City Royals and Chiefs, and the Sports Turf Managers Association was created.

In 1983, Gill had a unique trophy put together to be given to the most outstanding member of the organization: the Lawn Ranger Award. The trophy is constructed atop an old catcher's mask and consists of a horse and rider. On the rider's shoulders is a hose and he carries a rake, to signify our work on the fields.

Gill was shocked when he turned out to be the first recipient. His efforts in forming STMA, plus the great job he does in managing Milwaukee County Stadium, made him a fitting first recipient.

Our second recipient, Dr. Daniel, has been an innovator in the turf industry and was a generous host to STMA at Purdue University. For his hand in founding STMA, his development of the PAT system, and his dedication to natural turf and Purdue University, Daniel was given the second Lawn Ranger Award.

In 1985, the award was presented to the person who helped organize an accounting system for the association and handled the arrangements for it to become a corporation: Steve Wightman. The next year, Steve became president of STMA, while at the same time managing all the changeovers at Mile High Stadium.

The following year, the STMA board was so impressed with the condition of RFK Stadium in Washington, DC, that it gave the Lawn Ranger Award to groundskeeper Tony Burnett.

In 1987, for his dedication to education and STMA and for his contributions to the Rose Bowl as a consultant, Dr. Kent Kurtz was presented with the trophy. Last year the award was presented to Mark Hodnick, the STMA treasurer whose sharp pencil enabled the association to move into its own headquarters facility and establish its own national conference to be held this month at Dodgertown. He also computerized STMA's accounting and membership records. People who attend the Cal Poly institute are always impressed by his work as superintendent of grounds for the campus.

The next winner of the Lawn Ranger Award has been selected. The announcement will be made during the First International Sports Turf Conference and Show, January 13-15, at Dodgertown in Vero Beach, FL. Be there and find out who takes the Lawn Ranger Award home this year.

CATCH THE ACTION

Mark your calendar.

March 21 — Western Sports Turf Institute
California Polytechnic Institute and University, Pomona, CA.

June 21 — Midwest Sports Turf Institute
Harper College, Palatine, IL.

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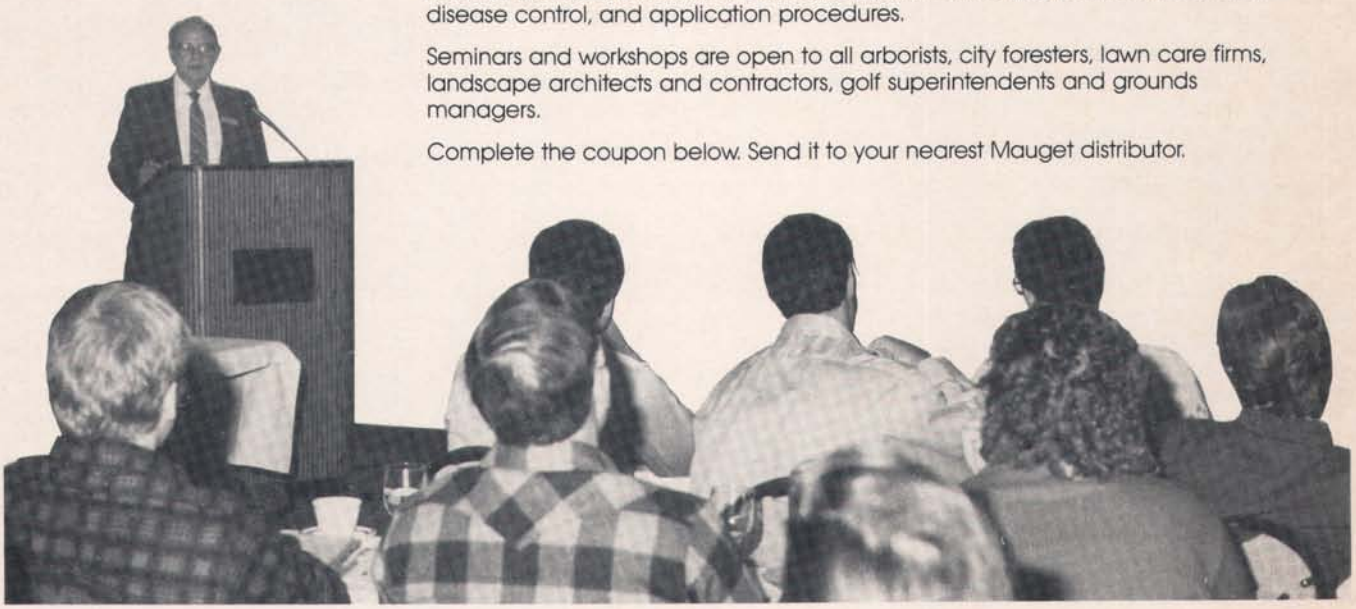

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SYMPOSIUM TACKLES FIELD-RELATED INJURIES

Both natural and artificial turf were on trial in Phoenix, AZ, in December, but there wasn't a lawyer or judge in the room. Instead of a court trial, it was a voluntary, first-time effort by the sports turf industry to set standards for construction and maintenance sponsored by the American Society of Testing Materials (ASTM).

Nevertheless, the testimony by experts from three countries was taken very seriously, because everyone in the room knew that someday the information presented could be used in a real trial on injury liability.

"It's time for us to be very definitive about what causes injuries on and around sports facilities," warned Art Mittelstaedt of Ward Associates, Bohemia, NY. "We need to keep track of where injuries occur and set guidelines to prevent similar injuries in the future."

According the the National Collegiate Athletic Association's R. Dick, between 11 and 34 percent of all reported NCAA injuries since 1982 have been turf-related. Dick also reported that female athletes suffered significantly more turf-related injuries than thier male counterparts. Surprisingly, only seven percent of serious injuries in football are turf-related, whereas the percentage climbs to 20 percent in softball, Dick reported.

"It is the recreation athlete that we have to worry about most," explained Bud Cosgrove, deputy park commissioner for Nassau County, NY.

"Too often, league organizers put their best players on their best fields, when it is the poorly conditioned, poorly trained recreation athlete that needs the extra protection," stated Cosgrove. The growing popularity of softball has placed tremendous stress on park facilities, he added. Nassau County parks reported 97 serious injuries in 17,000 softball games in 1988. Field maintenance and design were just two of eight factors Cosgrove blamed for the injuries.

He stressed that all fields should have comprehensive maintenance standards, carried out by trained staff who document their work. "If someone gets injured, and you cannot produce a plan and maintenance documents, you're in trouble."

One of the major arguments ASTM is trying to address is the frequency of injuries on artificial compared to natural turf.

Dr. B. Nigg of the University of Calgary in Alberta, Canada, has reviewed existing literature on injuries on both football and soccer fields. He reported that there have been more "not severe" injuries on artificial than natural. However, the data does not support a significantly greater number of severe injuries on artificial turf. While the number of severe knee and ankle injuries was slightly highly on artificial, the number of other types of severe injuries was relatively the same for both surfaces.

NCAA's injury-surveillance statistics reveal that since 1986 there has been no significant difference in injuries overall between the two surfaces. However, they do show that running backs are injured more frequently on artificial turf, while linebackers are hurt more frequently on natural turf.

A similar study conducted by the University of Utah indicated that head, hand, foot and neck injuries were more frequent on natural turf. But, knee, ankle and shoulder injuries were more common on artificial turf. Stephen Crane, who assisted in the study, reported that even though the total number of injuries was approximately the same for both surfaces, more season-ending injuries happened on artificial turf.

The Sports Turf Research Institute in Bingley, England, has developed a series of tests to determine standards for both natural and artificial turf. P. M. Canaway from the institute described the tests STRI uses to place fields into one of three quality categories.

Instruments have been developed to gauge traction, hardness, ball roll and ball

bounce. Standard limits have been set for each. If a field meets optimum standards, it is classified type A. If it meets acceptable limits, it is classified type B. Fields that fail to meet these standards are listed as type C, and steps are recommended to improve them.

The traction test utilizes a flat sole plate with cleats. The amount of force necessary to turn the plate is measured with a torque wrench. Canaway says a reading of between 20 and 25 Newton meters is the standard for natural turf.

The impact test measures hardness with an accelerometer and computer. The device, called a Clegg Impact Soil Tester, is currently being evaluated by Dr. Don Waddington at Pennsylvania State University and John Rogers at Michigan State University. STRI has determined that a range of 20 to 80 Gs (the force of gravity) is preferable, while ten to 100 Gs is acceptable.

Canaway added that a ball dropped onto turf should bounce back 20 to 50 percent. The roll test uses an inclined ramp. The distance the ball travels on the turf after it rolls down the ramp is measured. This device resembles the Stimpmeter which is used to measure the speed of golf greens. The fastest natural turf surfaces have about the same roll as the slowest artificial surfaces.

The traction of artificial turf is currently measured with a device called a force platform, according to G. Valiant of Nike in Beaverton, OR. The company designs shoes to provide the appropriate amount of traction on artificial turf.

Valiant explained that two different types of traction must be considered. The first is the amount of grip the shoe provides when the athlete accelerates or stops. The second is its grip when an athlete turns or rotates his foot. "Players want traction, but they also want to be able to turn safely," he stated. "That involves some compromise."

During the symposium, representatives from AstroTurf Industries and Omniturf outlined safety advances they have made while Dr. William Daniel described the benefits of Prescription Athletic Turf (PAT). Dr. James Beard from Texas A&M University reported on mixing interlocking plastic-mesh elements in athletic turf root zones. Steve Cockerham from the University of California at Riverside gave an overview of his research with turfgrass varieties exposed to a wear machine.

There was no judge, no jury nor verdict at the symposium . . . but the message was clear: There is a growing concern about the safety of sports fields. Standards will be necessary in the future. As Beard remarked at the end of the symposium, "It's time to stop slinging mud at each other and begin to develop the safest products possible."

SAN DIEGO HIRES WIGHTMAN FROM DENVER

Bill Wilson, stadium manager of San Diego Jack Murphy Stadium, announced in December that Steve Wightman has been hired as superintendent of grounds. Wightman was the turf manager for Denver Mile High Stadium and is the immediate past president of the Sports Turf Managers Association.

Jack Murphy Stadium is one of the busiest natural turf stadiums in the country. It is the site of the Holiday Bowl and the home of the San Diego Padres, Chargers and San Diego State Aztecs. The stadium hosted Super Bowl XXII last January.

Wightman, who has a degree in business management, started his turf career with the Denver Parks Department as director of athletic field maintenance. For the last ten years he managed the Prescription Athletic Turf field at Mile High Stadium and is considered one of the most knowledgeable managers of the PAT System. The Denver field is one of the few in the world with field heating.

Fescues Emulate Scotland on the Links at Spanish Bay

After one century in this country, the game of golf only partially resembles the sport which originated amidst the coastal sand dunes of Scotland 500 years ago. The linksland course has evolved to fit the topography of this nation, changing the way the game is played in the process.

Needless to say, there is a great deal of respect around the world for what architects and designers have created here — but there is also an increasing desire by many to restore the nature of the course and the game to its original form.

In some respects, the reverence to the natural links of St. Andrews, Muirfield and Turnberry has never been greater. Proof of this is evident at a number of resort courses across the country. However, the Links at Spanish Bay in Pebble Beach, CA, may have come closest to capturing the true spirit of the original Scottish courses.

From its sand dunes fringed with uncut rough to its greens, tees and fairways of fine fescue, the Links at Spanish Bay is authentically Scottish.

The course, which opened in November 1987, was impressive enough to convince the 400 judges of Golf Digest's Best Courses to name Spanish Bay the best new resort golf course for 1988. The judges weighed design balance, memorability and aesthetics, along with shot values and playability. Not only is the course highly memorable, it's a challenge to play.

The topography along the famous 17 Mile Drive near Monterey has certain key elements similar to the coast of Scotland: wind for example. The rocky pennisula juts out into the Pacific to form the southern rim of Monterey Bay. Nature over time has reduced the rock on the southwestern edge to white sand. Cypress and Monterey pines rooted in the rocky soil grow at an angle, bent by their exposure to an almost constant ocean breeze.

The differences are also great. Where the Scottish coast receives 40 inches of rainfall a year, Pebble Beach is lucky to get seven. Its climate is warmer than that of the Scottish coast at all times, but rarely do temperatures exceed 80 degrees. Finally, the soil of Spanish Bay is completely sand, whereas the links of Scotland consist of material carried off the island by rivers and deposited upon the sandy shore.

Furthermore, the site for Spanish Bay was not an undisturbed stretch of sand on the Monterey Penninsula. It was a sand quarry once operated by the Del Monte Company. As the white sand was shipped out for golf course bunkers, beaches and other uses, the area became an eyesore along the spectacular 17 Mile Drive. For nearly 20 years the community considered various ways to restore the beauty of the site.

In 1976, when the state legislature passed the California Coastal Act, limitations for development of the site became stringent. The Coastal Commission went so far as to require that the area had to be restored to its original combination of sand dunes and marsh, and that non-native plants such as iceplant and pampas grass should be removed and replaced with native plant material, including golden beach poppies, pink sand verbena, lizard tail, yellow bush lupine and dune sedge.

The Palm Beach Company, which already owned two respected resorts on the Penninsula — Pebble Beach Golf Links and Spyglass Hill Golf Links — was up for the challenge. It proposed to build a $230 million hotel and golf course on the site, restoring the sand dunes covered with coastal vegetation at the same time.

The company knew that whatever it did would be closely scrutinized by the Coastal Commission and the local community. The golf course architect it selected would have to understand the delicate nature of the project, yet still design a tournament-quality course.

A number of golf course architects wanted the assignment, including Jack Nicklaus. The final decision was up to Tom Oliver, president of the company.

Architect Robert Trent Jones II, who knows the area well, devised the best plan. He asked Frank "Sandy" Tattum, a San Francisco lawyer and former president of the USGA, and professional golfer Tom Watson to work with him on Spanish Bay.

Tattum was a traditionalist and former NCAA golf champion. As a Rhodes Scholar

at Oxford University, he had played many of the historic courses in Scotland. Watson was a five-time winner of the British Open who excelled at the "bump-and-run" game required for Scottish courses. As a member of the Stanford University golf team, he frequently played the courses at Pebble Beach. Neither Tattum or Watson had ever designed a golf course before.

"They came as a package," said Oliver. "Considering all they had to offer, it was really an overwhelming presentation."

Jones, Watson and Tattum felt that the similarities to Scotland were a tremendous resource, and that the differences could be overcome with ingenuity. Robert Trent Jones had succeeded in emulating links conditions on the first five holes at Spyglass Hill in 1965. His son and partners wanted to take the concept further by designing all 18 holes to be as close to the traditional Scottish links courses as possible.

Watson knows from personal experience that true links golf is a totally different game from that played on American "parkland" courses. It is geared more to keeping the ball low and taking full advantage of the roll provided by the closely cropped fescue. Wind conditions make it virtually impossible to loft a shot at a target and expect it to hold. It was Watson's job to provide shotmaking value to the course.

When he first played golf in Scotland he didn't like it. "It took two or three years to understand it," Watson recalls. "When I did, it became an unending passion for me."

"We tried to create a course where the ball runs and to provide access to greens on the ground," says Tattum. "We created strategic parameters on every hole." Some parameters, such as the marshes, were there and could not be touched. But the dunes, pot bunkers, tall rough and native dunegrasses were all positioned for a particular reason. Tattum's other interest was keeping the course within the ability of amateurs.

"The key to building a Scottish-type course is the fescue," claims Jones. "This is a bristly, drought-resistant grass calling for low, running shots. Many U.S. courses say they are links-like, but they don't have the right grasses, and thus lack the proper characteristics."

The design team brought in Dr. Richard Hurley, vice president of Lofts Seed, to match the Scottish turf as precisely as possible with today's varieties and to develop a maintenance program to keep them healthy and playable. The course was scheduled to open in October 1987, so Hurley had more than a year to explore all the possible problems and come up with solutions.

"There was and still is a tremendous amount of skepticism about whether fine fescues can provide the same level of quality as conventional golf turf," Hurley admits. "People said the fescue wouldn't germinate, wouldn't grow in, and would delay the opening of the course. If you walk the course today you'll quickly see the skeptics were wrong."

The large fescue green on the 8th hole closely resembles greens at St. Andrews.

Hurley's faith in fescues dates back to his graduate work at Rutgers University under Dr. Reed Funk. He was impressed with their low maintenance requirement and high drought tolerance. When the popularity of turf-type tall fescues started to take off, he reasoned that the potential for fine fescues was unrealized in this country.

For backup, Hurley contacted Dr. Richard Skogley and Dr. Noel Jackson at the University of Rhode Island in Kingston. He needed to know exactly what to expect when chewings fescues were cut as low as 3/16 inch for greens.

Jackson is not only a pathologist familiar with fine fescues, he also grew up in Scotland. Skogley is a nationally recognized expert on fine fescues who supervises the plots at the University, some of oldest in the country. He selected Jamestown chewings fescue out of these plots for commercial introduction.

To get a better grasp on the effects of the California climate on the fescues, Hurley contacted Dr. Victor Gibeault, a former Rhode Island staffer who is now turfgrass specialist for the University of California at Riverside.

Satisfied that he had the information he needed, Hurley put together the specifications for the seed mix. The greens would be planted with a mixture of 80 percent Jamestown chewings fescue and 20 percent Exeter colonial bentgrass. For the fairways and tees he specified straight chewings fescue. Finally, he specified a three-way mix of chewings, Ensylva creeping red and Reliant hard fescues for the roughs.

Red and chewings fescues form a very fine-textured, dense turf that tolerates low mowing heights, drought and acid soil. They establish faster than creeping bentgrass and Kentucky bluegrass, and have a finer texture than Kentucky bluegrass and perennial ryegrass. They also have a high shade tolerance. Hard fescues exhibit even greater drought tolerance and a lower fertility requirement. However, they are not adapted to low mowing.

Hurley's next step was to formulate a maintenance program to help the superintendent deal with the unique properties of fescues.

Current superintendent Carl Rygg, who moved to Spanish Bay from Steamboat Village Golf Course in Steamboat Springs, CO, another Jones-designed course, was more than a little grateful for Hurley's guidance. Rygg knew how bentgrass, Kentucky bluegrass and perennial ryegrass responded to fertilizers, irrigation, fungicides and herbicides. He also had heard that fine fescues don't like the levels of maintenance he was used to providing. It was going to be a learning experience for him, as it would be for everyone else.

Oddly enough, while Rygg was superintendent at Steamboat Village, he had done a favor for Walter Woods, the superintendent of St. Andrews, by putting his son on the crew for a summer. Not only did he learn a great deal about golf course management in Scotland from Woods, he later accepted an invitation to see and play the historic course. When he was hired as the assistant superintendent at Spanish Bay under Mike Phillips, he knew what Jones, Watson and Tattum had in mind.

Phillips, a ten-year veteran of the Pebble Beach Company, left Spanish Bay this past summer after the course had been open for eight months. Rygg took over at that point.

The first step in the construction of Spanish Bay was to replace the sand that had been removed when it was a quarry. A source of the same white sand was available three miles from the course. The Pebble Beach Company did not want a parade of

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The 9th green (right) is surrounded by dunes, pot bunkers and tall grass.

Golfers on the 15th tee (below) must drive over a marsh.

Fescues Emulate Scotland

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large trucks hauling sand down 17 Mile Drive. Instead, a three-mile-long conveyor belt was erected from the course to the sand. In this manner more than 500,000 cubic yards were transported to the site.

Both Phillips and Rygg worked with the architects and Hurley as the course took shape. Jones, Watson and Tattum were very detailed on the layout of each hole. They had the sand shaped to match the undulating terrain of Scotland's courses, which were carved by wind instead of dozers. "There isn't a flat lie on the entire course," remarks Rygg.

As the design team approved each hole, the Toro irrigation system was installed and the fescue was sown. "We were dealing with sand that was on the acid side, lacked organic matter, and had no nutrient reserve," Rygg reveals.

Normally, chewings and creeping red fescues require only require a quarter pound of nitrogen per 1,000 square feet per growing month. But these were far from normal conditions, so the rate was bumped to a half pound per month for the fairways and tees and one pound for the greens. Scotts sulfur-coated urea was the main fertilizer. It was augmented with applications of iron and other micronutrients based upon soil tests.

"We were concerned about diseases and *Poa annua*," Rygg confides. Poa dominates most of the courses in the cool, humid region that are maintained to conventional standards. Drier soil conditions made possible with the fescue, the use of moisture-sensing tensiometers and fertilizers with low-to-moderate amounts of potassium were utilized to discourage the encroachment of Poa. As a further precaution, clippings were removed during every mowing.

Hurley, Phillips and Rygg watched closely for any signs of Fusarium patch, red thread and Ophiobulus patch, the main disease threats to fescues. As the grass established, the crew started applying Rubigan to the greens and tees. Not only did the fungicide prevent disease, it was another enemy of the Poa. "We don't have as much pink snow mold as other courses in the area," Rygg points out. He alternates Rubigan with Daconil 2787 and PCNB to prevent development of resistance.

By using a Toro VT3 video central controller, irrigation was carefully kept as low as possible, especially during the winter when morning dew is heaviest. In the fall, nitrogen rates were cut in half and Subdue was applied. It wasn't long before the fescue roots extended six or more inches into the sand.

"Once we had the turf up and growing, we started to experiment," Rygg recalls. "Early on, we were afraid to fertilize or irrigate too much. As things progressed, we learned that fescues like nitrogen and water, although they don't require them. We also learned that regular overseeding with more fescue is important for a variety of reasons."

As the date for opening approached, the crew concentrated on the greens. "Scottish greens are slower than American bentgrass greens," Rygg remarks. "To speed them up from a Stimpmeter reading of about seven, we lowered the height to 3/16 inch and started double cutting. We had them up to almost nine for the opening, but we paid a price later. Eight of the greens started to thin out."

Hurley and the crew traced the problem back to the way peat was mixed with the sand on those particular greens. Instead of mixing the peat and sand before it was transported to those greens, a rototiller had been used to mix them on site. "A layer of peat had formed," Rygg points out. To solve the problem, the greens were aerified and the height of cut was raised to 1/4 inch.

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