

GOLF COURSE NEWS

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INSIDE

Design & Construction

Take a closer look into the trends that are driving golf course development into the future 30

Jack Speaks on Architecture

After a round at his latest track, Jack Nicklaus sits down to discuss his work with *GCN* 21



BOHANNAN TAKES OFF ON HIS OWN

Terry Bohannon, a 20-year veteran of the golf development business, leaves Asia and Paragon Construction and goes it alone as Live Oak Golf Construction. See story on page 21.

COURSE MAINTENANCE

Mr. Certification: Adam Feltman 11
Whole lotta dredgin' goin' on 13
NTEP final results in on bents 19

COURSE DESIGN & DEVELOPMENT

Stockton, Baird team up for design 21
CSM lays down a track in Titleist Town 24
Joe Freeman: Maine boy makes good 29

COURSE MANAGEMENT

Jeff Carlson starts own management co. 33
SunCor gets busy in Scottsdale 34
ClubLink may buy Glen Abbey 35

SUPPLIER BUSINESS

Continental Bridge buys Atlas 39
Lebanon continues rapid line expansion 39
MACH 2 lands N.Y. registration 40

John Deere looks skyward

By MICHAEL LEVANS

RALEIGH, N.C. — With its recent acquisition of Charlestown, Mass.-based Player Systems Corp., manufacturer of the SkyLinks golf course management technology that utilizes the global position system (GPS), John Deere has taken a long look up into the future.

"John Deere now has the ability to leverage the GPS technology across different applications," said Shawn Phillips, new general manager of Player Systems. "The GPS technology has been limited to the golf car.

Continued on page 41

Diggin' golf in Beantown

Golf and traffic benefit from Boston's notorious 'Big Dig'

By PETER BLAIS

BOSTON — Developer Charles Geilich and course architect John Sanford have coupled the interests of a major Boston road construction project and a nearby landfill closure to develop a 27-hole golf course in suburban Boston.

Boston's "Big Dig" project, a multi-

year undertaking designed to speed traffic through Massachusetts' capital city, planned to spend \$300 million to dispose of the millions of cubic yards of dirt excavated from the construction site.

Meanwhile, Quincy and Milton officials were planning to close their

Continued on page 27



An aerial shot of the Quarry Hills site and the Boston skyline in the distance.

La. to grow golf image

By PETER BLAIS

BATON ROUGE, La. — Louisiana officials plan to approach the state Legislature with a master plan to finance construction of seven to 10 courses throughout the Pelican State, making it more attractive to visiting and native golfers.

Representatives from Gov. Michael Foster's office, the state Department of Culture, Recreation and Tourism, and golf industry representatives Thomas Martty of Martty Golf Management and Linda Curtis of The Sabine River Authority, which is building a new course, met to discuss the possibility early this fall and plan to meet again in November.

A joint commission which would research the state's golfing needs and the costs involved will likely be formed, according to tourism department

Communications Director Jennifer Romero.

"The state has put together a group of people interested in developing golf courses in Louisiana that is a very enthusiastic and committed group that wants to get something done," Martty said. "There is a pent-up demand for better daily-fee golf in certain areas of Louisiana."

Louisiana ranks 48th in

Continued on page 28

L-93 holds it own in NTEPs

By MARK LESLIE

BELTSVILLE, Md. — While the A and G series of bentgrasses have been grabbing the headlines the past couple of years, L-93 has quietly taken the grand prize in the final report of the National Turfgrass Evaluation Program tests for putting-green bents.

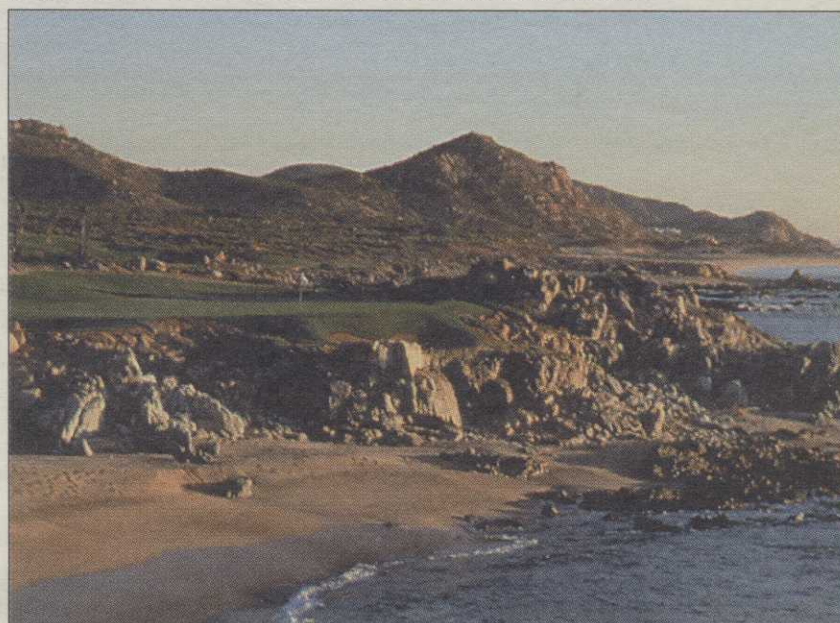


"L-93 has really taken off big-time," said Dr. Rich Hurley, director of research at Lofts Seed in Bound Brook, N.J. "We have good seed production, and superintendents are following the test results."

Those test results put L-93 atop Penn A-4, Penn A-1 by a mean average of 6.6 to 6.5 in the final results of the NTEP trials which began in 1993.

Continued on page 18

KOLLSTAR GOLF CO. UP TO A DOZEN COURSES IN EIGHT MONTHS



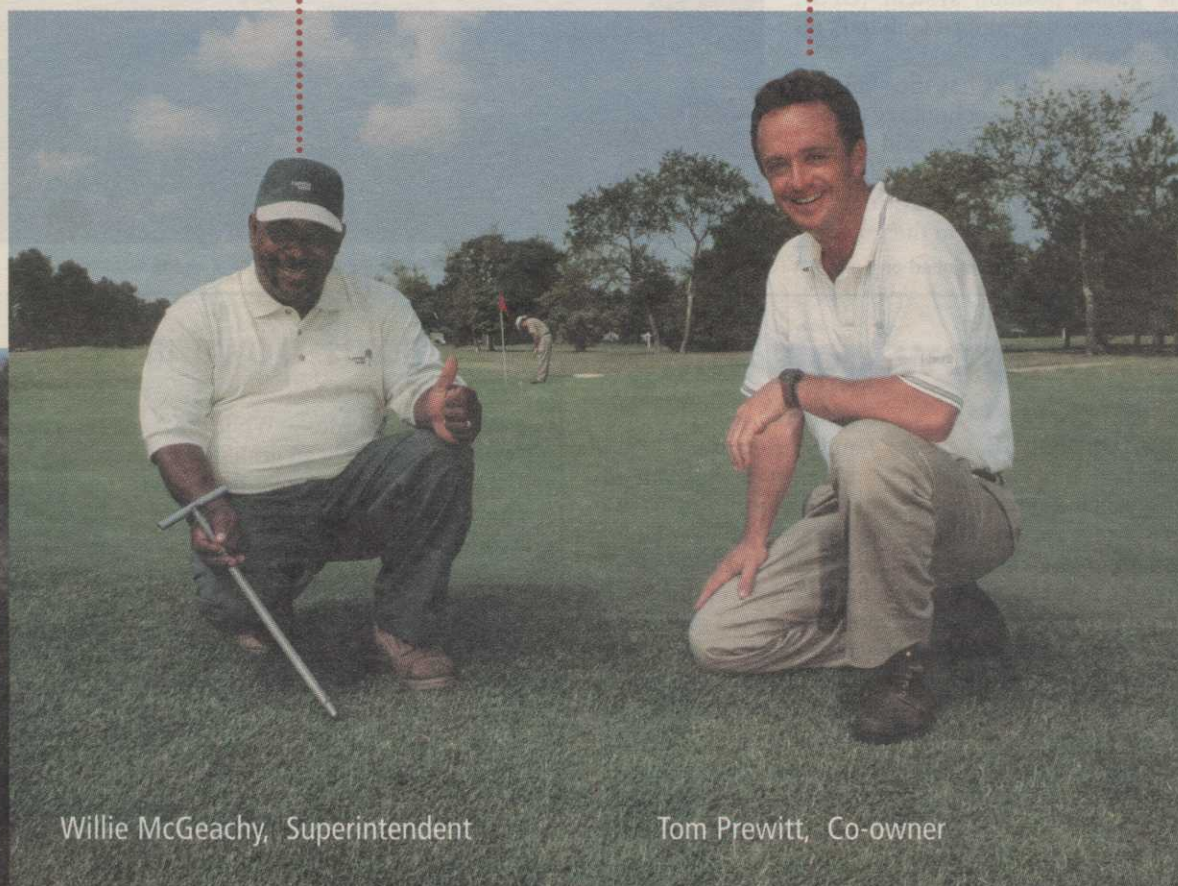
The Ocean Course at Cabo del Sol, Los Cabos, Mexico, is a KollStar-owned and managed property. To learn more about this fast-growing company, see story page 33.

Penn A-4 creeping bentgrass succeeds at Cypress Lakes

"We just couldn't keep grass on this green before. I'd worry about keeping the players happy, but now I sleep better at night with Penn A-4 bentgrass."

"We planted Penn A-4 in the fall of 1994, '95 and '96. We faced very poor grow-in conditions, including two hurricanes, and were still able to open for play eight weeks after seeding all three years. Willie and I have a very limited budget to work with, and have heard the hype about increased expense and labor involved with managing newer bent varieties. With Penn A-4, we've found this simply isn't true. The exceptional putting surface we have obtained here at Cypress Lakes more than outweighs any addi-

tional effort on our part. It's a relief to know we have superior heat tolerance working for us in the south, and on this green in particular where nothing seemed to grow next to our namesake cypress lake. We maintain a 0.125" cut throughout the summer, which makes for a truly consistent year-round putting surface with no adverse affect on plant health. We believe that Penn A-4 will continue to perform for our 18 greens here at Cypress Lakes, and we thank the team at Tee-2-Green for introducing it to us."



Willie McGeachy, Superintendent

Tom Prewitt, Co-owner

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BRIEFS

HILTON HEAD, S.C. — Pete Dye is completing his third Hilton Head track. At Colleton River Plantation, Dye's latest course sprawls across 300 virgin acres of coastal property. It offers long, sweeping views of tidal marshlands, the pristine waters of the Colleton and Chechessee rivers, Port Royal Sound and the Atlantic. The course is scheduled to open for limited member play in November.

...

JACKSON HOLE, Wyo. — The Jackson Hole Golf and Tennis Club is getting a facelift to its 18-hole course. RBI Golf, Inc. was awarded the \$511,000 project, which calls for the realignment of several holes. The work includes the retrofitting of a new irrigation system, construction of three new holes and other miscellaneous efforts. The renovated facility should be ready for play in the summer of 1999.

...

NAPLES, Fla. — Several changes have been made on the championship 18-hole golf course at The Naples Beach Hotel & Golf Club. The renovations, which were completed Oct. 1, include the redesign of four holes. Golf course architect Ron Garl headed up the renovations.

Golden Bear files restated results; names new COO

NORTH PALM BEACH, Fla. — Golden Bear Golf Inc. has filed revised forms with the Securities and Exchange Commission for the year ended Dec. 31, 1997, and the first two quarters of 1998.

According to a company release, Golden Bear reported a restated loss of \$24.7 million for the year ended Dec. 31, 1997, compared to a loss of \$2.9 million as originally reported. The loss from continuing operations for the year ended Dec. 31, 1997, of \$16.3 million excludes the results of Golden Bear Golf Centers, which was sold in July 1998 and, accordingly, have been reclassified to "Loss from Discontinued Operations."

For the three months ended March 31, 1998, the company reported a restated loss of \$7.3 million compared to a loss of \$778,000 and reported a loss from continuing operations of \$5.6 million compared to a loss from continuing operations of \$687,000 in the year earlier period.

For the three months ended June 30, 1998, the company reported a net loss of \$9.6 million as compared to a net income of \$3,000 for the second quarter of 1997, and reported a loss from continuing operations of \$7.2 million compared to income from operations of \$834,000 in the year earlier period.

The restatements are in line with the company's previous announcements and follow the completion of its extensive review of construction projects at Paragon Construction International. The review focused on the status of Paragon projects, the costs required to fully complete all Paragon jobs and anticipated profitability.

The Golden Bear release stated that the review also confirmed evidence that former management of Paragon deliberately falsified records and misrepresented the status

of construction projects, and that such activities were limited to the Paragon unit. The company is reviewing legal remedies.

Going forward, the company said it intends to focus on capitalizing on its golf and licensing expertise and the strength of its brands in an effort to achieve growth and profitability. Golden Bear is pursuing an alliance with The Weitz Company Inc., a general contracting firm based in Des Moines, Iowa, for the construction of golf courses. Under the contemplated alliance, Golden Bear would provide golf course construction expertise and marketing assistance and Weitz would provide all construction and project management.

In other Golden Bear Golf Inc. news, President and Chief Executive Officer Richard Bellinger has resigned to pursue other interests.

Bellinger worked for Golden Bear for almost 19 years. He became senior vice president and chief operating officer of Golden Bear International in 1985 and president in 1989. In 1996, Bellinger was named president and chief executive officer of Golden Bear.

"I very much appreciate the efforts of Dick over the years and most recently his efforts in negotiating the sale of Golden Bear Golf Centers. I obviously wish him well in any endeavors he chooses to pursue," Golden Bear Chairman Jack Nicklaus said.

Said Bellinger: "I naturally have mixed emotions about leaving Golden Bear after so many years, but I feel this is the right time for me to look to new opportunities and challenges."

Stephen Winslett, the current senior vice president and chief financial officer, has been appointed chief operating officer of Golden Bear Golf.

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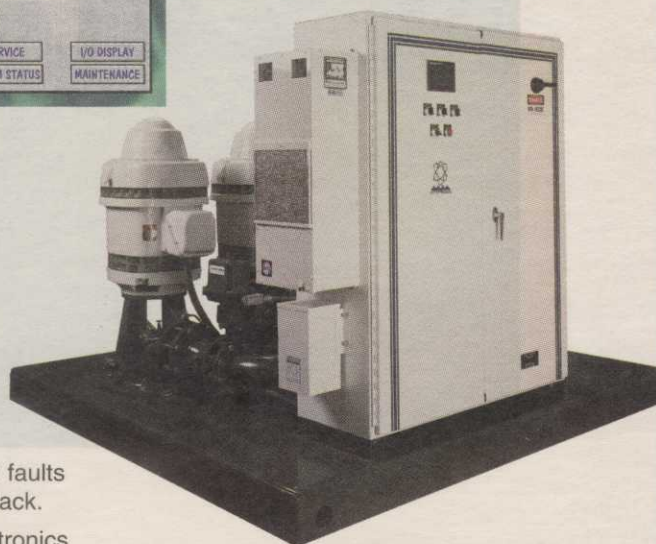


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California judge puts golf project on hold

CAMARILLO, Calif. — A Superior Court judge has ruled that the county failed to properly address environmental consequences and must devise a better project than plans for a 16,000-seat amphitheater and golf course near Camarillo.

Judge Barbara Lane's decision blocks the proposed develop-

ment, which was promoted as a profitable venture for the financially ailing parks system.

The judge ordered the Board of Supervisors to rescind last year's approval of the development permit until it considered the project's "adverse impacts" on wildlife, wetlands, traffic and noise.

The Environmental Defense

Center and California Native Plant Society, had sued the county over what they contended was a flawed plan.

Robert Amore of the county's Parks and Recreation Department said he had not given up on the project, which would have pro-

vided funding for a department whose subsidy from the county-owned Channel Islands Harbor was severed in 1996.

The outdoor arena and 18-hole golf course would have generated an estimated \$500,000 annually for the parks

system, making it one of the few self-sufficient municipal park systems in the nation.



DALLAS PROJECT PLANNED

GRAPEVINE — A 27-hole golf course is part of the \$300 million Opryland hotel complex scheduled to open in early 2003. In addition to the course, the project includes 1,500 hotel rooms, retail shops, and tourist attractions.

Las Vegas CC members reject \$60m buyout

LAS VEGAS — The Las Vegas Country Club has rejected a \$60-million offer from Hilton Hotels Corp., which has an interest in acquiring the championship golf course for Las Vegas Hilton hotel guests.

The country club is located immediately east of the Las Vegas Hilton.

The Las Vegas Country Club board of directors recently rejected the latest offer after a survey of the club's 600 members showed 58 percent opposed the buyout. Country club members had rejected a \$38.5 million Hilton offer in September 1997.

Ray Hazzard, general manager of the country club, said Hilton has an arrangement under which up to 40 Hilton guests can play the course daily.

He said the actual number of players is usually eight to 10 daily.

MGM plans to build two tracks near Las Vegas

LAS VEGAS — The MGM Grand Hotel on the Las Vegas Strip has leased 800 acres in nearby Boulder City to build two golf courses.

The lease agreement prohibits gambling activities or housing developments on the property. The Boulder city charter prohibits gambling.

MGM Grand, one of the largest hotels in the world, will pay \$750,000 annually to Boulder City once the courses are built.

The 40-year lease agreement can be renewed for an additional 30 years.

The 800-acre site is located near the interchange of U.S. 95 and U.S. 93.

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N.C. architect busy on classics

CARY, N.Y. — Robbins & Associates International has been selected to provide design services for renovation and remodeling at several golf courses. The firm is reworking Camden (S.C.) Country Club, Pine Lakes International in Myrtle Beach, S.C., Caroline Country Club in Charlotte, N.C., and Blowing Rock

(N.C.) Country Club.

"We feel that all of these existing golf courses are great examples of an earlier style of golf course design and, in many cases, these courses are also historically significant," said Rick Robbins, president of Robbins & Associates. "Three of these design commissions — Camden

CC, Blowing Rock CC and Carolina Country Club — are Donald Ross designs."

Camden CC has been changed very little since its construction in 1928. It now needs greens reconstruction to allow for the increased volume of play.

Pine Lake International is often called "The Granddaddy" because it is the oldest golf club in the Myrtle Beach area, origi-

nally laid out by Robert White, the first PGA president, in the late 1920s.

Robbins & Associates is performing extensive remodeling design work to the back nine holes.

Efforts will be made to improve drainage in several areas, along with some increased visibility on several holes and a more defined strategy of play.

Salt Lake area course plan gains support

SANDY, Utah — Mayor Tom Dolan would like to join 50 acres near Albion Middle School with another 150 acres to create an 18-hole course and community park, according to the *Salt Lake Tribune*. And he wants Salt Lake County to build the course.

Salt Lake County Commissioner Randy Horiuchi supports the proposal to purchase the property from the Salt Lake Metropolitan Water District. The district originally purchased the land from subdivision developer Lear Thorpe, who has the first right of refusal on the surplus land valued at \$8.3 million. The property could go on sale next spring.

Dolan said there could be enough land available for a course, housing and a community park. Salt Lake County's recreation master plan calls for a sixth county-owned golf course to be built in the southeast part of Salt Lake Valley.

Lucky Ontario golfer defies cosmic forces

KITCHENER, Ontario, Canada — Orville Delong, a 57-year-old maintenance worker from Cambridge, was waiting to putt on the sixth green at Doon Valley Golf Club in Kitchener on July 12 when he heard something whiz past his ear, according to the *San Francisco Chronicle*.

"At first we thought somebody was shooting at us," he said.

According to tests, it was a fist-sized meteorite that was traveling about 150 mph.

He found the seven-ounce meteorite and donated it to the University of Toronto. Geology professor John Rucklidge speculated the rock came from the asteroid belt between Mars and Jupiter.

The university rewarded Delong with a season pass to the golf club as a finder's fee. Delong told the *Kitchener-Waterloo Record* this wasn't his first brush with death while golfing. He said he was blown off his feet when a bolt of lightning struck a tree at the Galt Country Club in 1977.

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Arkansas course opens for public play

CONWAY, Ark. — Bunker Hill Golf Course has opened for play here in rural Arkansas.

Greg Clark of Clark & Associates designed the course for partners Dennis Grady, Mark Cambiano and T.L. Fortenberry. The 18-hole public layout overlooking the Arkansas River is located on former cattle farm land owned by Grady since 1982. Grady was involved in the construction of several other golf projects, in-

cluding two in California and the London Bridge Golf Club in Lake Havasu, Ariz.

The course measures 6,421 yards from the back tees. Fees range from \$7 to \$23. A temporary clubhouse is under construction. Tennis courts, a swimming pool and marina are also planned. Forty-five home lots are also available.

Play began in early September, but the official grand opening will be held in spring 1999.

MEMPHIS-AREA OFFICIALS CONSIDER NEW COURSE PROJECT

MEMPHIS, Tenn. — The Horn Lake Board of Aldermen voted to seek an attorney general's opinion on whether the city can lease 326 acres donated to the city by developer Hugh Dancy, according to *The Commercial Appeal*. Plans have been proposed to build a golf course on 180 acres of the property that runs along the south bank of meandering Horn Lake Creek. Mayor Mike Thomas has considered building a golf course on a portion of the property since the land was donated by Dancy in 1991. Thomas would like the city to develop, build and operate the course, although several aldermen said they would prefer to have a private developer assume the responsibility.

New golf course manager sought in suburban Orlando

LAKELAND, Fla. — Lakeland city commissioners have voted to end the city's lease with the 12-member board of directors at Cleveland Heights Golf & Country Club and research other management options.

The club is projected to lose more than \$200,000 next year.

The city has leased the 27-hole course to the board since 1955. In its latest five-year lease with the city, the club pays \$5,000 a year. That contract runs out in February 2000. The commissioners instructed City Manager Gene Strickland to negotiate a way for the board to give up control.

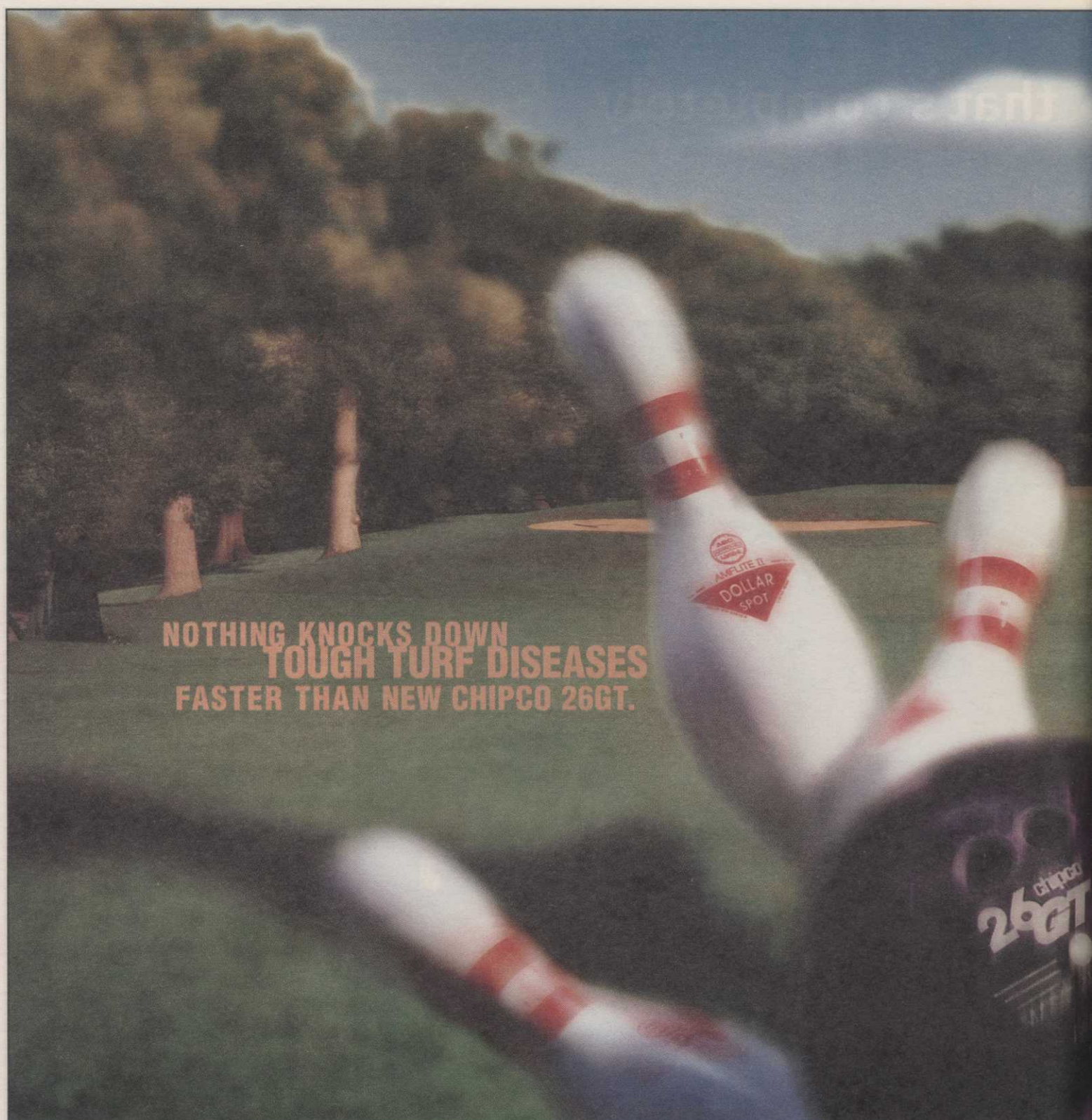
Commissioners still have to decide on the club's next management structure. Some prefer a professional golf management company while others want the course to be run by the city's Parks and Recreation Department.

BIGCA adds two associates

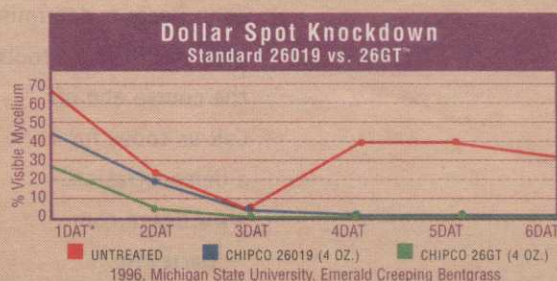
SURREY, England — Two new associates have joined the membership of the British Institute of Golf Course Architects, based at Merrist Wood in Surrey.

Ross McMurray, principal designer at European Golf Design and Bruce Weller, working at Peter Alliss/Clive Clark Golf Designs, have qualified for associateship of the institute, which now represents more than 50 of Europe's leading professional architects in the golf course field.

Fred Hawtree, one of the founding members of the institute in 1971, has been invited to become an honorary member, in recognition of his great services to golf and golf course architects. He joins Geoffrey Cornish as the most celebrated members of the institute and the profession.



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Canyon course planned in Oregon

REDMOND, Ore. — The city's Planning Commission is considering a proposed golf course in Dry Canyon.

The commission reached a consensus to consider changes to the city's comprehensive plan that would allow developer Tom Fields to build a course on his Dry Canyon land. The property is zoned

for preservation. A final decision and recommendation to the City Council was expected at the commission's Oct. 19 meeting.

Dry Canyon is a 3.5-mile long geographic feature stretching through the city. The course would be located in 55 acres at the south end of the canyon, where Fields owns 34 acres and the city owns 10.

Montreal officials give go-ahead to course plan

MONTREAL — The Montreal City Council has approved a \$7.5-million golf course in Riviere des Prairies, and cleared the way for a residential development to be built around the 18-hole course, according to *The Montreal Gazette*.

The council rejected the same project in September over concerns the city would have to spend almost \$28 million on road work and

infrastructure. The council reversed itself in early October, voting 25-23 in favor of the development.

Sudenco Inc. will build the course on what used to be a garbage dump along Highway 40. The course is expected to open in September 2001. The company also plans to build 1,000 houses over a 12-year period.

George spruces up N.C. layout

ARDEN, N.C. — Lester George Golf Design has been selected by Development Associates to design five new holes in an extensive renovation project for High Vista Country Club here. Development Associates is renovating the 28-year-old course and expanding the residential development into an upscale golf community. With the purchase of two adjacent farm properties totaling 106 acres, High Vista Falls will have five new golf holes, a new swimming pool, a \$1.3-million clubhouse, a security gatehouse entrance and improved landscaping.

The High Vista Falls property has natural creeks, manmade waterfalls and ponds throughout, with mountain views. It is located approximately 15 minutes from Asheville, Hendersonville and Brevard.

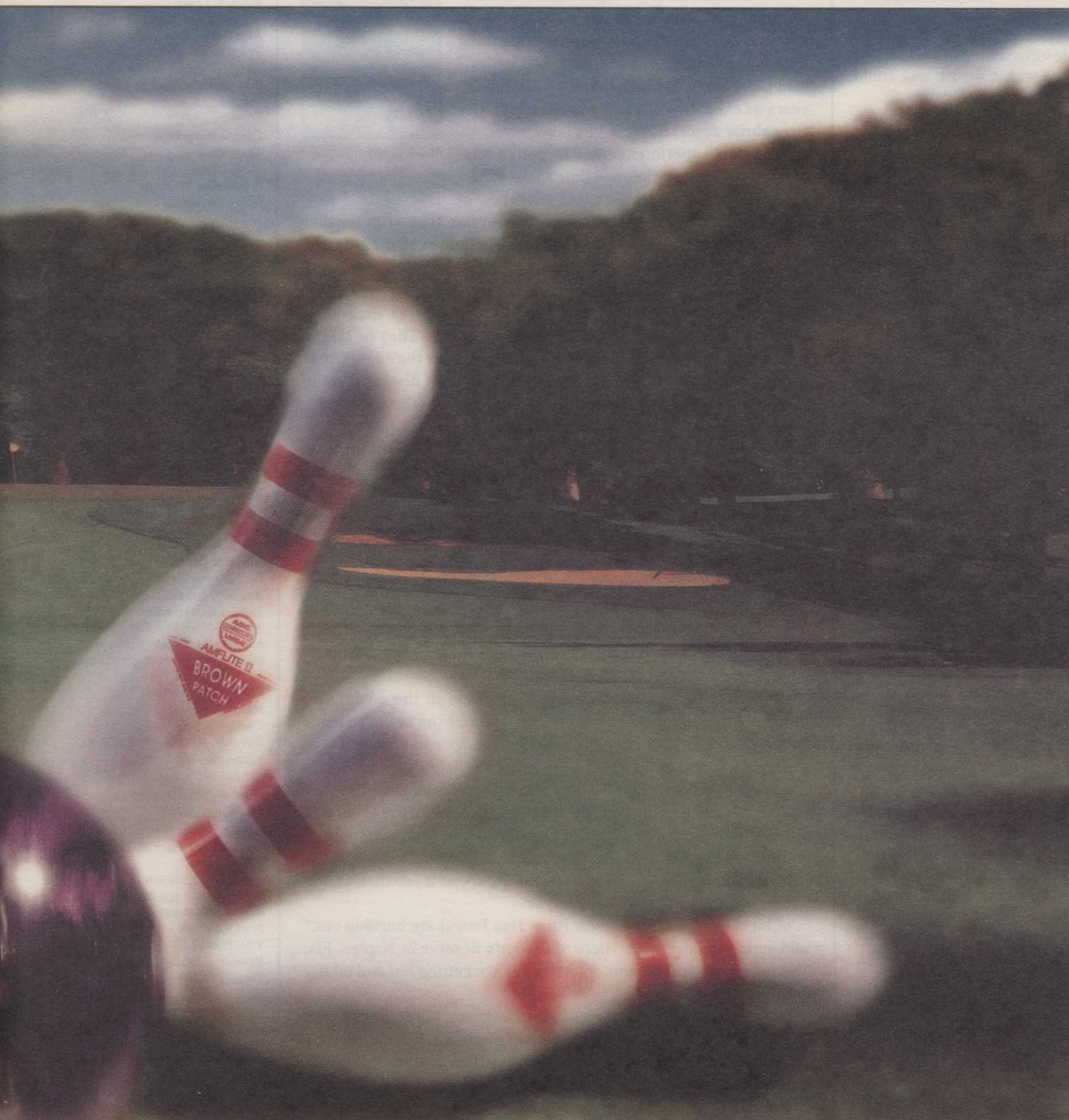
"This affords us the opportunity to showcase our ability in a unique setting," said George. "It provides the opportunity for Development Resources to maximize its investment by creating a residential development with access to the golf course."

Development Associates is a real-estate development team, formed specifically for this project by a joint venture between Development Resources, Carolina Enterprises and Colonial Golf Design, Inc.

Development Resources intends to introduce funding and development expertise to property owners who need such expertise.

JOHNSTON DESIGNS FLA. TRACK

ST. AUGUSTINE, Fla. — Clyde Johnston Designs has been retained to design the 18-hole course at St. Johns Golf & Country Club, an 820-acre planned community just north of this city. "Clyde designed Jacksonville Golf & Country Club for Arvida in 1990 and it has been wonderfully received by the golf and real-estate markets," said Mark Ambach, president of Jacksonville operations for Arvida. The St. Johns course will wind through dense coastal pine forest. It is expected to open in the fall of 1999.



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You get them all with new CHIPCO® 26GT™.

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Time for a technological breakthrough

If you haven't yet, take a few moments to read the cover story on John Deere's acquisition of Player Systems Inc., one of the companies involved in the course management technology that utilizes the global position system (GPS).

In my discussions with John Deere's Shawn Phillips, now acting general manager of Player Systems under the Deere umbrella, we batted around possible turf maintenance scenarios once GPS and equipment were wed with a device that could effectively control rolling stock from a remote location.

I pictured the space-age superintendent sitting behind a sleek, Scandinavian desk, a 25" color computer screen staring back at him. From there, this superintendent could not only have a full profile of his irrigation system (hell, that's old hat) but he'll be able to control a fleet of robotic mowers and pesticide applicators in one big beautiful golf course maintenance symphony.

"I can't say if that would be the exact scenario," said Phillips, "but I wouldn't rule something like that out."

"The superintendent, through Precision Turf Care [a component in Player's package] can monitor his vehicles but have control over what hits the grass," said Richard Beckmann, director of sales and marketing for Player Systems. "He can take an area around a lake and map where certain chemicals can or cannot hit the grass. He drives the vehicle but the application is automated, so that person literally drives the vehicle and we're able to interact with the nozzles. The nozzles go off and on depending on what part of the course the driver is on."

When was the last time a piece of technology really broke through and made difference on the golf course?

In what is considered a fairly low-tech industry, GPS seems like such a natural, almost perfect extension to the industry's equipment. Course developers are now using GPS for extensive mapping — information that easily translates for maintenance and irrigation needs. It's a hit at the courses that use it on golf cars. Players get their yardage, but course owners can

track speed of play, number of rounds, even bombard players with advertising in those precious few seconds between the last green and the next tee.

But what's the next step?

Last winter we ran a story on the LawnNibbler, a robotic mower designed and built by the Machine Intelligence Laboratory at the University of Florida in Gainesville, Fla.

The LawnNibbler uses a radio wire buried at the perimeter of its work area and is controlled by sonar and infrared emitters that tell it where it is in its environment. Its navigational system works like GPS via a trilaterization process using three poles placed to define the machine's territory.

Although John Deere can't comment on exactly how they'll harness the possibilities, it's my guess that a LawnNibbler-like mower under the full control of a tried-and-true GPS system like Player's is not out of the realm of possibility — maybe even in the works.

Now, integrate irrigation, work vehicle locations, pesticide and fertilizer applications and rolling stock on the superintendent side, golf cars and speed of play on the owner side, yardage and access to the clubhouse on the player side and you have a totally automated golf business.

Everything can be tracked and benchmarked, success and failures measured.

I've always believed that technological advances were supplier driven. Something is designed, created, marketed and eventually used by those savvy few, and the next thing you know you have something that users are clamoring to get their hands on.

Then you get the knock-offs and honest competitors. Prices drop, imitators fall by the wayside and you have a solid market for something that was once considered unlikely.



Michael Levans,
editor

Life on the edge sometimes goes over the edge

Grass is getting cut shorter. Shoulder seasons are longer. Golfers are more demanding. And superintendents are getting more stressed out, some throwing up their hands and even leaving the profession.

Are the 1990s really the Golden Age of Greenkeeping? Have superintendents taken turf care to the extreme and become their own worst enemies?

"The demand for low-cut greens and disease-resistant grass has not always started with the golfer. The superintendent wants something better to maintain — not easier, but better," said Bob Mitchell, who has retired after many years as executive director of grounds at The Greenbriar resort in West Virginia.

Well, the superintendent has gotten that "something better," time and time again. Whenever we turn, it seems we see evidence of bentgrasses that grow further south, zoysias that grow further north, Bermudas that are seeded types, bedknives that cut lower, groomers that do this, aerators that do that — knowledge expanding through the stratosphere.

This gives superintendents the tools to nurture an expanding array of turfgrasses beyond the limits of today. They're taking conditions to the edge and sometimes they go over the edge. Other times, when an alert superintendent foresees a turf disease coming and cuts back on maintenance practices to reverse the conditions, he faces the possibility of getting fired.

All of this pushes the envelope in superintendents' personal lives. Meanwhile, the demand for faster greens, shorter-cut fairways and roughs that aren't at all rough may have begun in America. But, sadly, that appears to have spread to the Homeland (and Heartland) of Golf. Some Brits want the same in their own courses. Can you imagine the Old Course at St. Andrews manicured to the specifications of an American parkland course? Old Tom Morris would roll over in his grave.

"The membership today has such high expectations but knows so little about the business. You put those two together and it's a dangerous combination — it's a recipe for trouble," said one superintendent.

"Golfers today are not as tolerant as those in the past," said Mitchell. He mentioned stresses that are "brought on by the younger golfer who wants better conditions or lower prices, and those things don't work together."

"Good superintendents will try to give their members what they want, but it's killing them. They are being driven into the ground to produce more and more," added Dan Jones, the longtime superintendent who just retired from Banyon Golf Club in Florida.

Jones admitted to burnout from the rigors of a job that, in the South, is unrelenting 365 days a year.

"A lot of people a lot younger [than Dan Jones] are burning out," said superintendent Tim Hiers of Collier's Reserve in Naples, Fla. "It's not an anomaly in him. A lot of guys are getting out and taking different career paths."

There are so many paradoxes in the business of greenkeeping. A superintendent could keep a golf course in immaculate condition for years — then get a three-week aberration in the weather. Members used to having a golf course that, condition-wise, is 99 on a scale of 100, suddenly have an 82. What happens? Too often, the superintendent gets fired. And even when it does not happen, the stress the superintendent is under not knowing his fate, can be overwhelming.

Professors will tell you the trend toward "a carpet golf course" has to reverse, but when and how will that occur?

What happened to the "Brown is Beautiful" campaign of a few years ago... to the "reality check" owners were urged to give concerning Tour conditions in the everyday life of their golf courses... to the reawakening of what the Stimpmeter was really created to do (measure consistency, not speed)?

Perhaps it comes down to the governing bodies — to the U.S. Golf Association, the PGA of America, the PGA Tour and LPGA getting the word out: Golf is not a good run on a clay track; it is a good walk in God's nature.



Mark Leslie,
managing editor

GOLF COURSE NEWS

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GOLF COURSE NEWS

Where does golf fit into the land-use argument?

By RON DODSON

The main problem with land is the fact that we can't make any more of it. There is only so much to go around and we each want to have a say in how to use it. We want to live on it, grow food on it, play games on it, bury our wastes in it, or try to set it aside so that future generations have access to its recreational and historical value.

Each of us has our own opinion concerning the most appropriate and effective ways to use the land, and this leads to inevitable conflict as communities make daily decisions about land use and planning.

So where does golf fit into all of this? For a number of years Audubon International has said that properly sited, appropriately designed, and well-managed golf courses can represent one of the better types of land development and use. From a wildlife and habitat perspective, given that the land is suitable for development, we do believe it's better to develop a golf course than a parking lot, or 500 residential homes, or a mall.

Some would argue that we promote land development, but that's not accurate. We accept that land development is

a reality, but we support and promote land development that is sustainable.

The reality is that this country is founded on the free enterprise system and it is the economic engine that runs our nation. It helps to support such things as social programs and land acquisition for state and national parks, as well as private enterprises. It helps to provide jobs that, in turn, provide opportunities for people to better their economic positions in life for themselves and their offspring.

Since the creation of the United States, the free enterprise system has included the concept that one can own land—that it can be bought and sold and used for a variety of purposes. However, we have made some poor choices and unsustainable decisions regarding the use of land and resources. That is why we have seen totally polluted lakes and rivers, acidified lakes, wetlands drained, significant habitat loss and the extinction of many species.

So, if we accept the economic reality of land development, then we must set ourselves on a path of sustainability so that we don't use up or abuse what we have left. Then, we can have something for our children and grandchildren to enjoy.

PROPERLY SITED

The first and most critical decision is golf course site selection, and the rule

should be obvious to everyone: Choose properties that are good sites for golf courses. Why purchase land to build a golf course, or anything else for that matter, when the land is full of wetlands?

Some people believe a golf course can be built anywhere, and, in reality, there are machines that can make

it happen. This has caused the creation of stringent laws and regulations to protect land and the rights of adjoining landowners. That, in turn, has created extensive environmental impact statements and prolonged public hearings. This expensive government regulatory process, coupled with the use of expensive construction equipment, has driven the cost of development to astronomical levels.

It is clear that this approach is unsustainable economically and most certainly environmentally.

APPROPRIATELY DESIGNED

In addition to site selection, the next most obvious decision is designing the golf course with the land rather than over



The bridges at Casino Magio, a Gold Signature project.

it. Modern-day technology and heavy construction equipment have made it possible to move, shove, cut, scrape, pile, fill, and shape nearly any site to fit the most unrealistic dream a developer or architect may have.

A golf course can be anything you want it to be. But again, at what economic and environmental cost? Asking golf course architects to design an "environmentally sensitive" golf course on a piece of property that is inappropriate for development is begging for disaster for the project, the course, and the golf course industry.

Doesn't it make more sense to study the contours of the land and take into

Continued on page 46

Ron Dodson is president of Audubon International, based at 46 Rarick Rd., Selkirk, N.Y. 12158.

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MICHIGAN TURF CONFERENCE SET

LANSING, Mich. — The highlight of the 69th Annual Michigan Turfgrass Conference here, Jan. 18-21, will be honoring the retirement of Dr. Paul Rieke of Michigan State University (MSU). Rieke has garnered many honors, including the Distinguished Service Award from the Golf Course Superintendents Association of America in 1996 and the Green Section Award from the U.S. Golf Association in 1997. The conference will be held at the Holiday Inn South — Hotel and Convention Center. For further information contact Kay at 517-321-1660.



Dr. Paul Rieke

Association of America in 1996 and the Green Section Award from the U.S. Golf Association in 1997. The conference will be held at the Holiday Inn South — Hotel and Convention Center. For further information contact Kay at 517-321-1660.

UMASS STARTS FUSARIUM PATCH STUDY

AMHERST, Mass. — Dr. Gail Schumann of the University of Massachusetts is initiating a study to deal with some of the problems with Fusarium patch on golf courses. The study will include timing of fall applications for winter snow mold control, disease prediction during spring and fall outbreaks, and evaluation of fungicide resistance. People wishing to participate should contact Schumann at the Department of Microbiology, Fernald Hall, UMass, Amherst, Mass. 01103-2420; telephone 413-545-3413.



Fusarium patch on golf courses. The study will include timing of fall applications for winter snow mold control, disease prediction during spring and fall outbreaks, and evaluation of fungicide resistance. People wishing to participate should contact Schumann at the Department of Microbiology, Fernald Hall, UMass, Amherst, Mass. 01103-2420; telephone 413-545-3413.

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TEXAS A&M HONORS WATSON

COLLEGE STATION, Texas — Dr. James R. Watson, a long-time leader in the turfgrass industry, has been named an Outstanding Alumnus by Texas A&M University's College of Agriculture and Life Sciences. The award was presented at the college's 1998 Faculty Awards Convocation on Sept. 11. Watson, vice president and agronomist for the Toro Co. since 1952, has been praised as a leader in all phases of the turfgrass industry, especially involving irrigation and environmental matters. As an assistant professor of agronomy at Texas A&M prior to joining Toro, Watson is a founder of the International Turfgrass Society, which he served as president one year and director since 1979.



Dr. James Watson

As an assistant professor of agronomy at Texas A&M prior to joining Toro, Watson is a founder of the International Turfgrass Society, which he served as president one year and director since 1979.

Mr. Certification: Feltman leads 2nd course in Audubon

By MIKE JAMISON

LONGWOOD, Fla. — Adam Feltman can't remember when he decided to become a golf course superintendent, but he knows exactly where his special relationship with the environment began. It all started, fittingly enough, at church.

"My Dad was a Baptist minister, and I kept up the grounds at the church when I was younger," said the 29-year-old native of Moultrie, Ga. "I really enjoyed that. That's when I found out that maintenance was much more than mowing grass."

Feltman is currently head superintendent at the semi-private The Legacy Club at Alauqua Lakes, a new Tom Fazio design in this Taylor Woodrow Communities development just north of Orlando, which opened Sept. 1.

The Legacy Club at Alauqua Lakes is a registered member of Audubon International's Signature Cooperative Sanctuary Program, and Feltman expects full certification soon. That means, among other things, that the developer spent approximately \$150,000 extra on construction and man hours to take special care of the natural environment. Audubon International has established enough standards and requirements to fill a pair of one-inch spiral notebooks, and the work, which starts at the very beginning of development, is monitored monthly throughout the life of the project.

Although Feltman is only seven years



Photos by Jerry White Photography



Environmental areas are everywhere at The Legacy Club at Alauqua Lakes, including along the 17th hole.

into his career, he has been the head superintendent at two of the first nine golf courses worldwide to achieve the Signature status. Prior to The Legacy Club, he was head superintendent at Champions Club, a Signature status club in south Florida.

Why go to that kind of expense and trouble?

"Obviously there is the benefit of doing the right thing for the environment," said Feltman, who majored in agronomy at the University of Georgia. "We also did it because of the recognition of being one of the top-notch semi-private facilities in the country. This goes hand-in-hand."

Sarasota-based Taylor Woodrow Communities gave Fazio plenty of land on

which to work, allowing ample natural buffer between fairways and homesites. As a result, two positive golf course qualities were born. Each hole became its own stage. On only one place in the routing is one hole completely visible from another. Nos. 9 and 18 share a tee, a lake and a stand of trees as they deliver golfers toward the clubhouse. The other holes are all framed by oaks and pines, wetlands and other natural areas.

Therein lies the second positive result of the land planning. The natural habitat, which includes 158 acres of wetlands, was left basically untouched. It's one of the many reasons why The Legacy Club met stringent Audubon standards for Sig-

Continued on page 12

Retiring circumstances for two famed supers

Dan Jones resigns his post in Florida for job as regional sales rep, while...

... Bob Mitchell leaves The Greenbriar, eyeing retirement and turf consultancy

By MARK LESLIE

WEST PALM BEACH, Fla. — Golf course superintendents, especially in the South, are on "a collision course" with job pressures — pressures that are forcing them beyond their own personal capabilities, and pushing their turfgrass beyond its ability to survive.

That is the assessment of Dan Jones, who after 33 years has retired as a superintendent in Florida, where he once served as president of the Florida Turfgrass Association and South Florida Golf Course Superintendents Association (GCSA).

"The pressure on superintendents is getting more and more every day," said Jones, who has left Banyan Golf Club here after 18 years of service to take on a position as sales representative for Toro Co.'s Liquid Ag Systems Inc. in Florida. "It's like a locomotive gaining steam all the time. It has to be lower cuts, no weeds, perfect conditions, like Augusta National every day."

"Our job has gotten much more volatile in the last few years," he added. "Twenty-five or 30 years ago, we used to do our jobs,



Dan Jones, left, receives an editorial award from Clay Loyd of the Golf Course Superintendents Association for Florida Green magazine.

By MARK LESLIE

LEWISBURG, W. Va. — The world of CPAs never did get him. Now the world of golf course superintendents has lost him from its "active" roles after 48 years. Bob Mitchell, longtime executive director of grounds at The Greenbriar hotel and resort here and 1972 president of the Golf Course Superintendents Association of America (GCSAA), has retired from his post.

"I had a real good life in golf course superintendency. I don't regret a nickel's worth," said Mitchell. "I had bad times. All superintendents do. When my grass is good, I feel great. When it's sick, I am, too. It keeps you around seven days a week all season long, but I still like it. Now I'm glad it has drawn to a close, and I hope I can help people."

To that end, Mitchell will work out of his home as a turfgrass consultant, doing business as RVM Enterprises.

Growing up working on golf courses as the son and grandson of golf superintendents, Mitchell nevertheless wanted to be a CPA like his uncle, whom he idolized. Yet, it was his other idol, Arnold Palmer, whose career path he most closely followed. Attending Southern Illinois University as a business student, he received a golf scholarship as the team's No. 1 player his final year. And when he graduated, he remained in golf as a superintendent, putting to use the experience he had gained working for his father at Franklin County Country Club in West Frankfort, Ill.

His first job, in 1950, was for the town of Alton, Ill., maintaining its nine-hole public course and ball diamonds, and later



Bob Mitchell

Continued on page 16

Continued on page 14

Feltman leads 2nd course to Audubon certification

Continued from page 11
nature status.

"Alaqua Lakes is a pristine piece of property, and we intend to make certain the golf course serves not only as a nurturing habitat for wildlife, birds and native or indigenous plants, but also as a role model for existing and future golf course developers in Central Florida," said Mike Moser, director of golf operations for Taylor Woodrow Communities. The Signature status is a rare achieve-

ment. But exactly what does it mean and entail?

For starters, extra work and attention to detail is required. The work starts long before a course opens, and it begins at the very edge of the superintendent's world — the maintenance facility. That building even has a different name at The Legacy Club: Natural Resources Management Center.

The building must be constructed to exact specifications, with special areas

for various aspects of the operation. It includes a separate building for chemicals, and an equipment washroom, so that water can be purified in a mini-water treatment plant and re-used.

The special requirements spread throughout the property, which had been used for cattle ranching.

"There were three years of pre-development monitoring on this property," said Tom Spence, land development manager. "Much of the wetlands were

distressed when we arrived. We watched the property, studied it, then tried to restore it to its natural state. Then, with Tom Fazio, we routed a golf course and a community through the land, leaving the area as natural as we possibly could. I have enjoyed very much working this property."

Most holes border an environmentally sensitive area, though these areas don't always come into play. Obvious attention was given to making the course playable while leaving the best of Mother Nature's work intact. That explains why several dozen species of wildlife — from wild turkey to birds of all types, to deer — still share the development with the residents of Alaqua Lakes.

"It was extremely important to us and the developers to leave the natural habitat alone," said Feltman. "We went to great lengths and cost to do that, and we are proud of what was left — and even improved upon."

The care for the environment is obvious to players from the 1st tee. Printed instructions on the scorecards tell players how to deal with the protected areas, which are clearly marked with green and yellow stakes. They are to be played as hazards and not to be entered.

The efforts to gain Signature status mean reaching outside the boundaries of the golf course. The Legacy Club "adopted" nearby Heathrow Elementary School as part of the program, working with the students to become better environmental stewards. Feltman and his crew have developed a butterfly garden and a sanctuary garden at the school, and have been involved in several field trips with the students.

"People are always giving golf courses a bad name, saying that chemicals are bad for the environment and stuff like that," said Feltman. "I believe just the opposite. I think a golf course can have a dramatically positive effect on the environment. There is no better feeling than to bring 40 elementary school kids out here and watch them roll around on the fairways knowing they are in no harm from use of chemicals. The teachers have been brought here and shown exactly what we do in our maintenance program. They can feel comfortable that the kids are in a safe environment."

The effort at The Legacy Club at Alaqua Lakes, and other golf course developments like it, provides a win-win-win scenario. The environment wins, as a nature-laden area is improved upon for the natural inhabitants. The homeowners and golfers win with an inviting place to call home and a relaxing stage on which their skills are put to a test. And the developers win, simply by having accomplished their financial and business goals while enhancing the environment within the project.

For Feltman, it boils down to taking pride in his role as a golf course superintendent.

"Taking special care of the environment does a great deal for the superintendent's role in society," he said. "When we work hand-in-hand with the developers in taking proper care of the natural surroundings as we did here at Alaqua Lakes, then we've done our part in providing a safe and fun environment to live and play in."

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ON THE GREEN

A dredger, top photo, completely removes silt from the bottom of Turtle Creek in Dallas Country Club. Then a separator, left, divides reusable soil from recyclable mulch.

Terry Buchen photos

Dredging irrigation lake keys 'fix'

By TERRY BUCHEN

HIGHLAND PARK, Texas — Turtle Creek passes through Dallas Country Club, filling lakes that serve as the irrigation source for a pumping station on each side of the property. Over the years, soil that has washed into the creek, raised the bottom and caused soil to pass through the pump house, which has required a filtration system to help keep the water clean.

As the soil built up in the bottom of the irrigation lakes, the available irrigation water decreased significantly. Two unique situations came about as the lake levels needed to be dropped from a 6-foot average depth to 12 and 14 feet and as extra soil was needed for a major course renovation that was going to begin this fall.

"We obviously had to irrigate the course and provide extra soil for our renovation process, so the only conceivable way to accomplish both tasks was to dredge out the entire Turtle Creek and two irrigation lakes," said superintendent Scott E. Parker. "This would provide the extra soil needed for our rebuilding process as well."

Parker located Tim McAlester in Pittsburg, Texas, whose dredging

equipment fit the job perfectly.

"The dredger is a 40- by 9-foot floating barge that is self-propelled, with paddle wheels at the rear to steer it. It can dredge between 500 and 1,000 cubic yards of material in 10 to 12 hours, depending on how far the material must be pumped.

"At Dallas Country Club, we had to pump up to 6,000 feet at 4,000 g.p.m. to a staging area on the north end of the course through a 10- inch-diameter Drexel black plastic pipe," said McAlester, president of McAlester Construction and Fence, Inc.

McAlester said he can pump up to 2,500 feet before booster pumps are required. Two booster pumps were needed on the Dallas CC project.

The 9-foot-wide rotating teeth on the front of the dredger can remove soil in 1-foot lifts and up to 2-foot lifts in a muddy-type soil.

McAlester used two separators, with a computer-operated pumping system. They separated the debris into two piles — one reusable top soil and a pile with waste that is used as a recyclable peat moss-type mulching material.

Approximately 50 percent of the debris is used as topsoil for the course

Continued on page 15

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Mitchell retires from Greenbriar

Continued from page 11

another nine-hole facility. In 1958 he left for a 12-year stint at Sunset Country Club in St. Louis. It was here that he and other colleagues started the Missouri Valley Golf Course Superintendents Association and the Missouri Valley Turfgrass Association, both of which he served as president. He also served a term as president of the Midwest Regional Turfgrass Foundation, which is centered around Purdue University.

Becoming active in the national GCSAA and elected as an officer in 1967, Mitchell moved to the influential Portage Country Club in Akron, Ohio, in 1971, and a year later became president of the GCSAA. It was, as past president in 1973, when he was preparing to captain the GCSAA golf team against their British and Scottish counterparts, that The Greenbriar came calling to persuade him to join them in bringing back life to the Old White Course, and later rebuilding The Greenbriar and Lakeside (now Meadows) tracks.

"The Greenbriar," Mitchell said, "is staggering. The job got bigger and bigger, and today it's quite huge."

Besides the three courses, the property includes 60 to 70 acres around the hotel and a number of homes, and the grounds crew is responsible for landscaping all of it. Mitchell employs 31 on his golf course maintenance crew and 29 on his grounds unit.

With Jack Nicklaus as the architect, The Greenbriar was rebuilt in 1976 for the 1979 Ryder Cup. "And almost every year the first 10 or 12 years they added buildings at the hotel and landscaping had to be done for each one of them," Mitchell recalled. "We doubled greenhouse space and added so much landscaping that it is utterly staggering."

In 1984 Mitchell was made executive director of golf and grounds, a position he held until Robert Harris was hired as director of golf, and Mitchell could devote full time to his true love.

"The job has gotten more strenuous," he acknowledged. "But the camaraderie of superintendents hasn't changed. I've never seen more friendly and helpful people."

"I've seen [an evolution to] more dedicated people in taking care of golf courses, doing a better job financially, getting paid better, too, and spending money more wisely. The tenacity with which they have gotten down together for golf is fantastic."

Mitchell said the demand for lower-cut greens and disease-resistant grasses has not always started with the golfer, but often with the superintendent.

"The superintendent wants

something better to maintain — not easier, but better," he said. "We don't make grass grow, God does that. But we are taking a plant out of its natural environment and doing things to it to make it good for golf. When you do things like that you have to make all kinds of concessions and do whatever is pos-

sible to make it live."

Over the years, Mitchell has been recognized for his contributions to the profession. He received the 1995 Scotts Tradition of Excellence Award, established by The Scotts Co. to recognize "outstanding achievements among superintendents in advancing the science of course maintenance and in making golf the best it can be."

Asked if he had any advice for turfgrass students entering the field, Mitchell said: "I've always preferred country clubs over public courses. By and large you're under the gun more and stress is higher. But you are more appreciated. At the public course you're just one of them. Golfers don't have the same appreciation, it appears to me, although I enjoyed that part of my life."

DESERT GREEN CONCLAVE SET

HENDERSON, Nev. — Desert Green, a two-day conference focusing on the challenges faced by turf and landscape professionals in the arid Southwest, has been set for Nov. 12-13 at Henderson Convention Center. For more information call Bob Morris or M.L. Robinson at the Cooperative Extension at 702-222-3130.

HERE.THERE. EVERYWHERE.

How's THAT FOR APPLICATION GUIDELINES?



The nuts 'n bolts of the matter at Caves Valley

By TERRY BUCHEN

OWINGS MILLS, Md. — To make their job more efficient, golf course equipment managers must have a vast array of tools, parts and supplies at their immediate disposal, using time/motion management techniques. A good example of an efficient

equipment shop servicing area is at Caves Valley Golf Club here, where Steve Glossinger is the certified golf course superintendent.

"Our acetylene torch bottles are mounted on a portable cart



with wheels for easy access around the shop, or to be easily transported out on the course,"

Glossinger said.

SHOP TALK "The portable cart has a tray for spare torch tips and rods and it has a 25-foot-long hose to get close to any job."

As per Occupational Safety and Health Administration (OSHA) safety regulations, Caves Valley's spare acetylene and oxygen bottles are kept vertical by using a safety chain.

"Like most modern equipment shop areas, we have a vast assortment of nuts, bolts and washers, available in standard and metric sizes, that are in separate open-front bins that are easily identified by sizes and types with self adhesive color-coded stickers," Glossinger said. "Next to the nuts and bolts are a series of storage drawers that house a variety of necessary repair and replacement items."

These include: hydraulic system "O" rings, snap rings and fittings; light bulbs; fuses; copper fittings; zerk fittings; radiator hose clamps; pop rivets; key ways; etc.

Glossinger is pleased how the shop has become more efficient by using "every conceivable wall space available to bring much-needed tools and supplies in easy reach for our very valuable equipment managers."

Without these storage wall space areas, a lot of time would be lost walking further distances to other areas of the shop, he added.

Dredging

Continued from page 14

renovation. The rest is used as a recyclable mulch that is hauled away by a local nursery.

"This is the first golf course we have ever worked on, as our primary business has been with electric power companies," said McAlester.

Five or six other courses in the Dallas area have contacted McAlester about his unique dredging operation, he said, adding: "We hope to do business with them."

"We are very pleased with how we could provide more irrigation water storage capacity at the two pump station locations, while providing the much-needed topsoil for our total renovation of the course, all while recycling the waste material as well," said golf course architect Jay Morrish.



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Jones leaves Banyon GC

Continued from page 11

visit each other, and it was fun. The fun is going out of it now. The pressure is tremendous, and something has to give."

Burnout, Jones said, has become an increasing danger among superintendents. "I see even young superintendents getting burned out," he said. "I talk to superintendents in their 30s who say they won't last another five years."

The pressures for high maintenance, especially in the South, have increased to the breaking point in many instances, he said, adding: "Either you're preparing for overseeding, or you just finished overseeding, you're in transition, or have summer programs going on, or it's at the height of the winter season and all your members are here. The pressure is there all the time — one type of pressure after another."

The phenomenon, he said, began to take form 20 years ago and has skyrocketed in the last 10.

The demand for lower and lower-cut greens, the Augusta National manicured look seen on television, and high-tech equipment have all driven the locomotive faster, Jones said. "And now they're making titanium bedknives that can cut at .95 (1.25 equals 1/8 inch)."

"We're [superintendents] our own worst enemy," he acknowledged. "Manufacturers won't make anything we won't use. And, naturally, if we keep making the greens faster and faster, and practices like that, they are going to keep bringing out equipment that will give us what we want."

The pressure, Jones added, is driving superintendents from the profession and, in many cases, costing them their jobs.

Ninety percent of commercial salesmen in Southeast Florida, he said, are ex-superintendents, whereas years ago few were superintendents.

"Good superintendents," he said, "will try to give their members what they want, but it's killing them. They are being driven into the ground to produce more and more."

Jones said he recently visited a golf course that was "immaculate." Yet, the superintendent shortly thereafter was told to start looking for a job because members "had found a weed patch and thought the housekeeping was terrible," Jones said. "But it looked to me like he was ready for the U.S. Open. That's the kind of pressure superintendents are under now."

Jones's recommendation to superintendents?

"Go to a resort or public course," he said. "At a resort, they're happy just to have green grass. At Dorado Beach in St. Croix people come and play for a week and are happy."

His recommendation to the industry?

"I would say that golf is a game to be enjoyed. You can have as

much fun, and probably more, putting on a green cut at 5/32nds as you can at 0.95, and on fairways cut at 5/8 instead of 3/8 inch. You

can have a beautiful green golf course, enjoy it and still play the game great, too. Bobby Jones and Ben Hogan played on

We need to get back to basics again, grow healthy grass, let people enjoy doing their job and let golfers enjoy playing the golf course as it is.'

— Dan Jones

greens that we 'shaved' down to 3/16 inch and broke all kinds of records.

"The pendulum needs to swing back. We need to get back to basics again, grow healthy grass, let people enjoy doing their job and let golfers enjoy

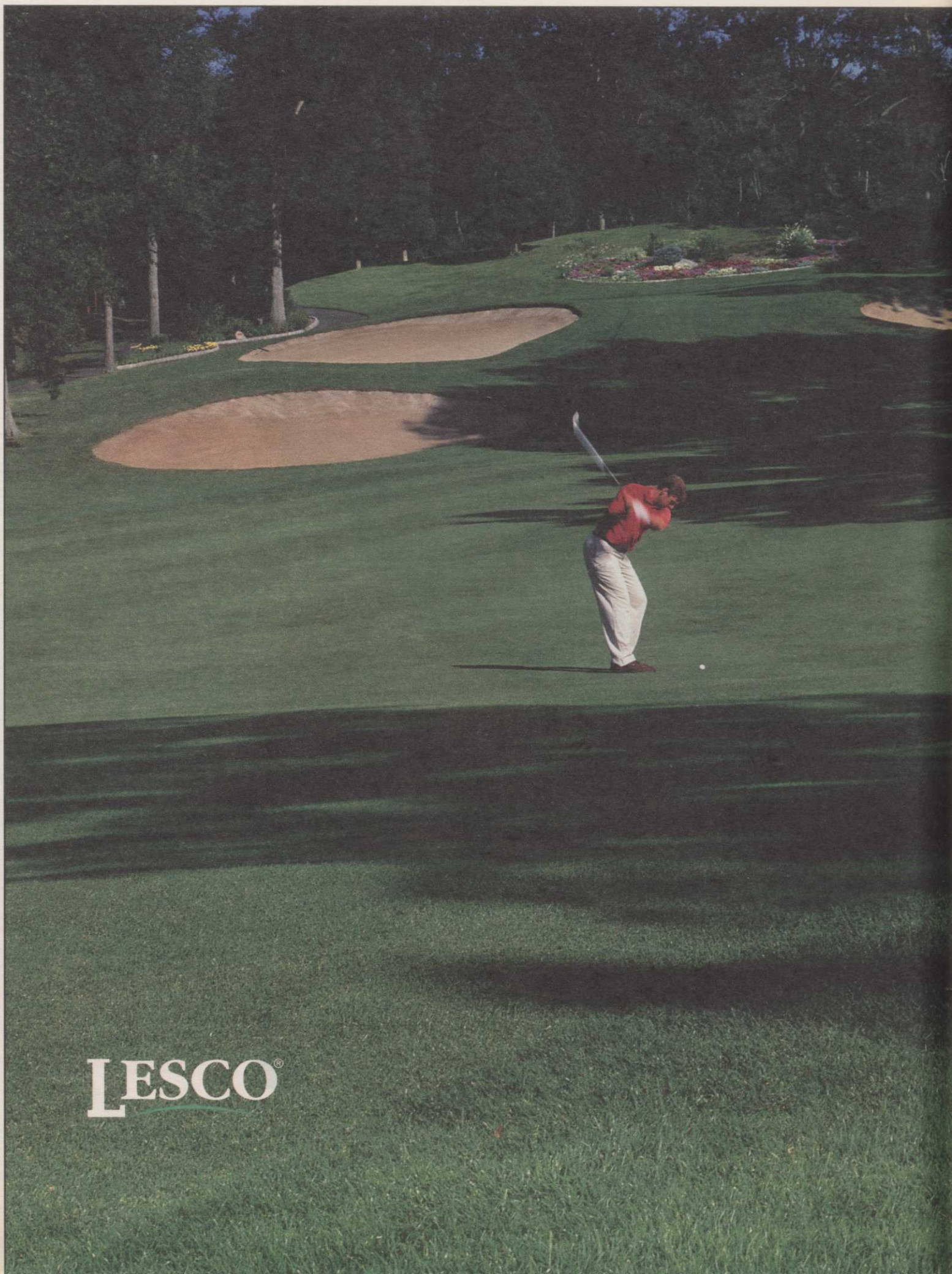
playing the golf course as it is."

...

In the meantime, the profession is losing one of its best, according to colleagues.

"Dan is the consummate golf course superintendent," said Tim Hiers of Collier's Reserve in Naples. "I think as highly of him as anyone in the business. He's everything you would look for in a citizen, a superintendent, a pro-

Continued on next page



LESCO®

Westmoreland Country Club turf equipment technician Al Bitterman shows off his racing lawnmower, which powered him to national runner-up in the U.S. Lawnmower Racing Association's season-ending points race.



Westmoreland's Bitterman Gets Honors

ROCKFORD, Ill. — Al Bitterman of Lake Zurich, Ill., a turf equipment technician at Westmoreland Country Club in Wilmette, Ill., finished the season in second place in points after the running of the Sta-Bil Nationals, a championship race for riding lawn mowers held at the Rockford Metrocentre here.

Bob Cleveland of Locust

Grove, Ga., a designer for Snapper, won the championship race to lock up first place in the national points race. The field of 14 lawn mowers reached speeds exceeding 45 miles per hour. The races are sponsored by the Gold Eagle Co., makers of Sta-Bil Fuel Stabilizer, with proceeds benefiting the Les Turner ALS Foundation for Lou Gehrig's Disease.

MAINTENANCE

ARKANSAS TURF SHOW IN JAN.

LITTLE ROCK, Ark. — The Arkansas Turfgrass Association will host its 11th Annual Conference and Trade Show, Jan. 11-12, here at the Arkansas Statehouse Convention Center and the Arkansas' Excelsior Hotel. Contact Angie McSwain at 501-664-8048, or write to Arkansas Turfgrass Association, P.O. Box 250270, Little Rock, Ark. 72225-0270.

Jones leaves

Continued from previous page

fessional.

"He is always willing to share his time and help others. Whether personal or business, he was there. He's a mentor to a lot of people, including me."

Jones, who earned certified golf course superintendent status despite never attending a university turf school, is well-known nationally for taking the Florida GCSA's Florida Green magazine from a four-page issue in 1976 to a perennial national award-winner when he left as editor in 1990. Working with wife Irene, his last issue of the quarterly publication was a 96-pager.

Jones began his career as superintendent at Fountain Valley Golf Course (now Carambola Bay) in St. Croix, Virgin Islands. He worked there for the Rockresorts, Inc.-owned facility for five years, then worked for Rockresorts in Puerto Rico. There, he oversaw two golf courses at Dorado Beach Hotel, and was owner's representative in building two 18-hole courses at Cerromar Beach Hotel. He was director of facilities maintenance, in charge of the golf courses, hotels and grounds, from 1970-75.

"It was like being a city manager," he said. "I had 210 employees. We operated all the grounds and hotel maintenance had 210 employees. The facility had its own sewage plant and miles of roads."

After five years in Puerto Rico, Jones took a position at Turnberry Isles in Miami Beach, where he remained another five years until joining Banyon Golf Club.

He has served on advisory boards at Broward Community College in Ft. Lauderdale and Lake City Community College in Florida.

His new job?

"Now I get around to see golf courses and superintendents — hold their hand," he laughed. "Hopefully in 33 years I have gained some insight. I'll sell fertilizer, but mainly I'm there to help them, and I'll do whatever I can do make their jobs easier."

Jones is working out of his home at 8346 7th Place South, West Palm Beach, Fla. 33411; telephone 561-793-2497.

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The Leading Edge.

PRE-M®

L-93 and Penn-As pace bentgrass trials

Continued from page 1

Because the Least Significant Difference (LSD) value in the testing was 0.1, L-93 is statistically No. 1, yet nevertheless tied with A-4 and A-1.

Following those three varieties in the tests are Providence, Penn G-2, Cato and Penn G-6. Thus, the As and Gs, which have

garnered national attention for their unmatched density and the fact they flourish when cut very short, took four of the top seven spots.

Asked about the As and Gs being defined as "niche" grasses because they like high maintenance, Dr. Bill Rose of Tee-2-Green, which produces all the

Penn grasses: "They're the best there is. If that's the niche, it's the niche they're in."

Rose said the As and Gs perform better under lesser maintenance than other grasses do when highly managed.

In the final tests for bentgrass under fairway and tee conditions, Providence, Cato and Penneagle

tied atop all cultivars.

"Providence has been such a steady performer — whether in trials or real life," said Skip Lynch of Seed Research of Oregon. "And now you have L-93 which is also a beautiful grass. L-93 is the first grass on the market comparable to Providence. Now we've released SR-1119, and it pushes that bar even higher."

Because of timing, however, SR-1119 didn't make the 1993-97

national tests.

Each set of NTEP trials "pushes the bar higher." Recent advances by turfgrass breeders have proven a significant improvement in turf quality compared to the old standard-bearers, Hurley said.

In the case of L-93, he said: "My hypotheses is that superintendents [using it] could save 30 to 50 percent in fungicide use on tees, greens and fairways."

He pointed out that L-93 was the only bent in the top statistical grouping for resistance to brown patch, dollar spot, copper spot, Fusarium patch, Typhula snow mold and yellow patch.

Superintendent Chris Wakeman at brand-new The King's Challenge at Lakeview Country Club in Cedar, Mich., said, "I sold the owner [on L-93] basically on the fact that it can reduce our chemical applications."

After one year, he reported that although he had to fight dollar spot on the Pennway bentgrass tees and fairways, the disease never tracked onto the L-93 greens and collars.

"Dollar spot runs rampant up here," he said, "and to not even see any on the greens was fantastic. If I had known, I would have planted more L-93, perhaps on the tees and even the fairways."

Wakeman said his only chemical applications were spot-treating for takeall patch and, during the seeding phase, for pythium.

Golf course architect William Bradley Booth of Ogunquit, Maine, has chosen L-93 for several new courses he is designing, explaining: "I was keen on its resistance to patch problems and the fact it would do well in forest areas. It also germinates quickly, has uniform color and provides an excellent putting surface."

Hurley called L-93 a very versatile grass, with excellent heat and cold tolerance as well as disease resistance, and able to take a variety of heights of cut.

Meanwhile, the As and Gs topped the rankings in leaf texture, tiller counts, poa annua ratings, and spring, summer and fall density.

Rose said the Gs are doing exceptionally at Pinehurst and the As likewise at Augusta National. "It depends on the climate in a particular area," he said.

About the close mowing claimed necessary for the As and Gs, Rose said they must be mowed daily, but can be maintained at a height of 5/32 inch. He pointed to Cantigny, which seeded the new grass and couldn't cut it low because competitive grasses on the course wouldn't stand the cut.

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Continued on page 20

GOLF COURSE NEWS

Healthy Appearance & IMPROVED PLAYING CONDITIONS FOR LESS THAN \$5 AN ACRE

treated



The treated course has an overall healthy appearance and offers improved playing conditions.

untreated



The untreated course exhibits dry spots and an overall unhealthy appearance.

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West Course (10th and 15th hole shown in left photo) was treated with 1 quart of InfilTRx per acre on a monthly basis beginning February 1998, the East Course (4th and 5th hole shown in right photo) was left untreated.

Near infrared and aerial photography at Imperial Golf Club in Naples, Florida, captures the benefits of using InfilTRx Soil Penetrant on fairways.

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Photos were taken June 8th, 1998.

Bentgrass green sites

All sites of national tests for the bentgrass putting surface are mowed from 0 to one-half inch and watered only to prevent stress. The following are conditions including, in order, location, soil texture, soil pH, and nitrogen applied (in pounds per 1,000 square feet).

AZ1 — Tucson, Ariz., sand, 7.6-8.5, 4.1-5.0.
 CO1 — Fort Collins, Colo., sand, 7.1-7.5, 4.1-5.0.
 IA1 — Ames, Iowa, silty clay loam, 7.1-7.5, 3.1-4.0.
 IL1 — Urbana, Ill., silt loam and silt, 6.1-6.5, 3.1-4.0.
 IL2 — Carbondale, Ill., silty clay loam, 6.1-6.5, 3.1-4.0.
 KS1 — Manhattan, Kan., sand, 7.6-8.5, 3.1-4.0.
 KY1 — Lexington, Ky., sand, 7.1-7.5, 4.1-5.0.
 KY2 — Lexington (Griffin Gate GC), sand, 7.1-7.5, 4.1-5.0.
 MA1 — Amherst, Mass., loam, 6.1-6.5, 3.1-4.0.
 MI1 — East Lansing, Mich., sand, 7.1-7.5, 6.1-7.0.
 MN1 — St. Paul, Minn., silty clay loam, 7.1-7.5, 5.1-6.0.
 MO1 — Columbia (traffic), Mo., sand, 6.6-7.0, 5.1-6.0.
 MO2 — Columbia, Mo., (no traffic), silt loam and silt, 6.1-6.5, 1.1-2.0.
 NH1 — Durham, N.H., sandy loam, 5.6-6.0, 3.1-4.0.
 NJ1 — North Brunswick, N.J., sandy loam, 5.6-6.0, 3.1-4.0.
 OK1 — Stillwater, Okla., sand, 6.6-7.0, 5.1-6.0.
 PA1 — University Park, Pa., loamy sand, 6.1-6.5, 2.1-3.0.
 RI1 — Kingston, R.I., silt loam and silt, 6.6-7.0, 4.1-5.0.
 SC1 — Florence, S.C., sandy loam, 6.1-6.5, 5.1-6.0.
 TX1 — Dallas, Texas, loamy sand, 6.1-6.5, 7.1-8.0.
 VA1 — Blacksburg, Va., sand, 5.6-6.0, 5.1-6.0.
 WA1 — Pullman, Wash., silt loam and silt, 5.6-6.0, 3.1-4.0.
 WA3 — Puyallup, Wash., (native soil), sandy loam, 5.6-6.0, 5.1-6.0.
 WA4 — Puyallup, sand, 6.1-6.5, 7.1-8.0.
 WI1 — Madison, Wis., sand, 7.1-7.5, 2.1-3.0.
 WI2 — Madison, silt loam and silt, 7.1-7.5, 2.1-3.0.

Bent tee and fairway sites

All sites of the bentgrass national tests for fairways and tees are mowed from 0 to one-half inch and watered only to prevent stress. The following are conditions including, in order, location, soil texture, soil pH, and nitrogen applied (in pounds per 1,000 square feet).

IA1 — Ames, Iowa, silty clay loam, 7.1-7.5, 3.1-4.0.
 IL1 — Urbana, Ill., silt loam and silt, 7.1-7.5, 1.1-2.0.
 IN1 — West Lafayette, Ind., silt loam and silt, 7.1-7.5, 1.1-2.0.
 KS2 — Manhattan, Kan., sandy loam, 6.6-7.0, 3.1-4.0.
 KY1 — Lexington, Ky., silt loam and silt, 6.1-6.5, 2.1-3.0.
 MA1 — Amherst, Mass., silt loam and silt, 6.1-6.5, 3.1-4.0.

Top finishers in final NTEP report: Bentgrass greens

Name	AZ1	IA1	IL1	IL2	KS1	KY1	KY2	MA1	MI1	MN1	MO1	MO2	MS1	NH1	NJ1	OK1	PA1	QE1	RI1	SC1	TX1	VA1	WA1	WA3	WA4	WI1	WI2	Mean
*Lofts L-93	7.1	6.1	5.5	6.8	6.8	8.0	7.5	6.8	6.8	6.1	7.3	6.9	6.0	5.9	7.4	6.9	7.9	7.1	6.6	5.0	6.7	6.3	6.8	5.7	5.5	6.2	6.6	6.6
*Penn A-4	7.6	6.0	5.3	6.6	6.0	7.7	7.8	5.5	6.6	6.6	7.3	7.3	5.0	6.7	6.5	7.1	7.2	6.8	5.9	5.7	6.8	6.2	7.2	6.0	5.9	6.4	6.6	6.5
*Penn A-1	6.8	6.0	5.3	6.3	6.0	7.8	7.4	6.2	6.2	6.5	7.3	7.2	5.4	5.2	7.1	7.1	7.8	6.9	6.0	6.1	6.7	6.2	6.9	5.9	5.7	6.3	6.4	6.5
*Providence	6.7	6.1	5.8	6.3	6.3	7.4	7.6	6.4	6.4	5.8	7.6	7.5	5.3	7.1	6.2	6.4	7.1	6.7	5.7	4.3	6.8	5.8	6.6	5.6	5.5	6.1	6.1	6.3
*Penn G-2	6.7	6.1	5.6	5.7	5.6	7.5	7.4	6.2	6.5	6.5	7.2	7.2	5.0	5.9	6.4	6.4	7.4	6.9	6.3	5.5	6.3	6.0	6.7	5.7	5.5	6.3	6.6	6.3
*Cato	7.3	6.1	5.3	6.0	6.3	7.7	7.1	6.2	6.4	6.1	7.3	7.0	4.9	6.7	6.2	6.5	7.2	7.0	5.7	5.3	6.5	5.9	6.6	5.5	5.7	6.0	6.3	6.3
*Penn G-6	6.3	5.8	5.1	6.0	5.6	7.5	7.0	6.2	6.1	6.3	6.8	7.0	5.4	6.4	6.4	7.1	7.2	6.9	5.7	5.4	6.6	6.2	6.6	5.4	5.1	6.5	6.4	6.3
*Southshore	6.2	5.7	5.4	6.3	6.2	7.2	6.9	5.7	6.0	5.9	7.2	7.2	5.1	6.4	6.0	6.2	7.1	7.1	5.6	5.1	6.9	5.4	6.6	5.3	5.3	6.0	5.9	6.1
*Century	6.6	5.9	5.2	6.5	5.6	6.9	7.4	6.1	5.8	5.8	7.1	7.3	5.2	5.3	5.4	6.0	6.5	6.9	5.3	4.8	6.6	5.4	6.4	5.7	5.8	5.9	6.1	6.1
*Imperial	6.2	6.0	5.1	6.7	5.3	7.1	7.1	6.1	6.0	5.5	7.1	7.1	4.8	5.1	5.8	6.4	6.8	6.9	5.1	4.6	6.7	5.7	6.3	5.8	5.9	5.9	6.1	6.0
*Crenshaw	6.7	6.0	5.2	6.3	5.8	7.0	7.5	5.9	5.9	5.4	7.2	7.4	4.9	6.2	4.9	6.4	6.2	6.7	5.0	5.4	6.7	5.3	6.7	4.8	4.8	5.8	6.1	6.0
LSD Value	0.5	0.5	0.5	0.9	0.7	0.3	0.5	0.6	0.6	0.8	0.5	0.6	0.8	0.4	0.6	0.6	0.7	0.8	0.7	0.5	0.4	0.5	0.4	0.4	0.4	0.9	0.7	0.1

Top finishers in final NTEP report: Bentgrass tees & fairways

Name	IA1	IL1	IN1	KS2	KY1	MA1	MB1	MD1	MI1	MO1	MO2	NH1	NJ1	OH1	PA1	RI1	UB1	VA8	WA1	WA3	WI1	Mean
*Providence	6.5	5.7	5.8	7.1	7.2	6.0	6.9	6.5	5.4	7.4	7.6	6.6	6.5	7.7	7.1	5.0	5.6	5.4	7.2	5.6	6.6	6.4
*Cato	6.7	5.8	5.9	7.7	7.0	6.4	7.1	6.1	5.4	7.4	7.5	5.2	6.9	7.5	7.4	4.3	5.6	5.2	7.5	5.4	6.6	6.4
*Penneagle	6.6	6.0	6.0	7.3	7.3	6.1	6.4	6.2	6.1	7.4	7.4	5.6	6.2	7.6	7.5	4.7	5.2	5.5	7.1	5.0	6.6	6.4
*Southshore	6.9	6.0	5.2	7.2	7.3	5.7	6.8	6.3	5.9	7.4	7.5	4.0	6.1	7.8	6.9	5.1	4.9	4.8	7.1	5.3	6.3	6.2
*Penn G-2	6.0	5.3	5.2	6.9	7.1	6.1	6.9	6.6	5.4	6.9	7.1	4.3	6.6	7.5	6.5	4.6	5.6	4.7	7.3	5.6	6.7	6.1
*Crenshaw	6.7	5.7	4.9	7.3	6.8	6.1	7.1	6.4	5.6	7.2	7.3	5.1	5.9	7.5	6.4	4.8	5.3	4.8	7.4	5.0	6.0	6.1
*Penn G-6	6.2	6.1	5.3	6.7	7.3	5.9	6.4	6.1	5.4	7.0	7.3	4.0	6.9	7.6	6.9	4.2	5.7	4.9	7.1	5.2	6.7	6.1
BAR WS 42102	6.3	5.7	5.1	7.0	6.7	5.9	6.7	6.3	5.3	7.2	7.3	5.1	5.3	7.6	6.8	4.7	5.0	4.5	7.2	5.2	6.4	6.1
*Pro/Cup	6.3	5.4	5.1	6.9	7.3	6.0	6.6	6.2	5.4	7.2	7.4	5.8	4.9	7.4	5.8	5.1	4.9	5.0	7.1	5.2	6.2	6.1
*Seaside II	5.9	6.0	5.3	6.8	7.1	5.4	6.2	6.2	6.0	7.1	7.4	4.6	5.5	7.5	6.5	4.9	5.2	5.4	6.8	4.5	6.4	6.0
*Trueline	6.4	5.6	5.1	6.8	6.6	5.9	6.6	6.1	5.5	7.2	7.4	5.0	5.3	7.3	5.7	5.2	5.1	5.2	6.8	5.1	6.2	6.0
*Penncross	5.9	5.5	5.9	7.1	7.2	5.7	6.5	5.9	5.4	7.3	7.3	5.4	4.8	7.1	5.6	4.5	4.5	5.8	6.8	4.9	6.4	6.0
*Lopez	6.2	5.1	5.5	6.8	7.0	5.9	6.6	5.8	5.3	7.1	7.1	5.9	5.1	6.9	6.1	4.7	5.0	4.8	7.2	5.0	6.2	6.0
LSD Value	0.6	0.5	1.1	0.8	0.4	0.5	0.6	0.5	0.4	0.7	0.5	0.4	0.6	0.5	0.7	0.6	0.8	0.7	0.5	0.5	0.8	0.1

* — Available on the marketplace in 1998.

MB1 — Winnipeg, Manitoba, Canada, silty clay and clay, 7.6-8.5, 1.1-2.0.
 MD1 — Silver Spring, Md., silt loam and silt, 5.6-6.0, 2.1-3.0.
 MI1 — East Lansing, Mich., sandy loam, 7.1-7.5, 5.1-6.0.
 MO1 — Columbia (traffic), Mo., sandy clay loam, 6.1-6.5, 3.1-4.0.
 MO2 — Columbia, Mo., (no traffic), sandy clay loam, 6.1-6.5, 3.1-4.0.

3.1-4.0.
 NH1 — Durham, N.H., loam, 5.6-6.0, 3.1-4.0.
 NJ1 — North Brunswick, N.J., sandy loam, 5.6-6.0, 2.1-3.0.
 OH1 — Columbia, Ohio, silty clay loam, 7.6-8.5, 2.1-3.0.
 PA1 — University Park, Pa., silt loam and silt, 6.6-7.0, 2.1-3.0.
 RI1 — Kingston, R.I., silt loam and silt, 6.6-7.0, 2.1-3.0.
 UB1 — Beltsville, Md., silt loam and silt, 6.1-6.5, 3.1-4.0.

VA8 — Charlottesville (Birdwood CC), Va., sandy clay loam, 4.6-5.5, 1.1-2.0.
 WA1 — Pullman, Wash., silt loam and silt, 5.6-6.0, 3.1-4.0.
 WA3 — Puyallup, Wash., (native soil), sandy loam, 5.6-6.0, 4.1-5.0.
 WA4 — Puyallup, sand, 6.1-6.5, 7.1-8.0.
 WI1 — Madison, Wis., silt loam and silt, 7.1-7.5, 2.1-3.0.

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and time again. Superintendents from across the country are always impressed by its rich green color, low crown height and rapid vegetative growth. Lopez Creeping Bentgrass is just one of over 14 varieties developed by Finelawn agronomists. For more information or the location of the dealer nearest you, just give us a call or visit our web site. With Finelawn, your course can't look any better.



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Danner Internships placing students in mainstream

FRANKLIN, Tenn. — Two years ago Nashville businessman Ray Danner created a turfgrass internship at the Little Course at Aspen Grove to help train future leaders in golf course maintenance.

This summer Jim Akin, a sophomore majoring in turf and ornamental horticulture at the University of Tennessee, served as the second Danner Turf Intern. His experience included building a new

chipping green at the Little Course, which installed a newly invented flat plastic drain tile. He was also responsible for monitoring all turfgrass test plots, making all needed applications and doing any specialty maintenance to these plots.

The Little Course at Aspen Grove is a nine-hole short course, where 56 different varieties of grasses are being studied in real-life playing conditions. Under the su-

pervision of Joseph Kennedy, the superintendent at the Legends Club of Tennessee and the Little Course, college interns spend a summer working at the Little Course.

Michael Schuhmann, then a sophomore studying agronomy at Mississippi State University, worked the summer of 1997. After returning to MSU for classes, this past summer Schuhmann interned at Augusta National Golf Club.

You're not helping out the golf community if your new grass doesn't help lower the pesticide output.'

— Skip Lynch, SRO

Bentgrass trials

Continued from page 18

Hurley said the greatest impact on reduced fungicide use may occur on new or totally renovated fairways seeded to the most disease-resistant creeping bentgrass varieties. Interseedings of improved varieties into existing stands of turf will not modify the existing population of plants significantly over a short period of time, but may take repeated interseedings over five years to significantly shift the plant population, he added.

"The exception," he said, "would be use of a 'total kill' herbicide, or a growth regulator prior to seeding a more resistant variety."

...

Bentgrass breeders are expectant about future bentgrasses, and even those already in the pipeline.

In fact, Seed Research of Oregon's SR-1119 is "bullet-proof," according to Lynch.

A product of the original Providence breeding program at the University of Rhode Island, it is quick to establish ("Green Hills Country Club in the San Francisco area was seeded the first week in June and opened for play the first week in August."), was bred to resist dollar spot and brown patch ("Frankly, I don't think [URI Prof.] Bridgett Ruemmele has ever had a disease in her 1119 plots.") and has taken the performance of Providence and moved it into the Carolinas and Tennessee.

Tee-2-Green, meanwhile, hopes to "capture the ability of Pennncross to keep its roots in the heat of the summer" and transfer that characteristic to a new cultivar, Rose said.

"Biotech is close and that will be a big change," he added. "It's a new frontier we're involved in."

Conservatively, Rose predicted superintendents would have to wait five years before the fruits of this work reach the marketplace.

At Lofts, the ongoing breeding program has new materials in the mix. "It's always difficult to tell what your new material will do," said Hurley. "Will we go further south? Of course you try to breed for heat tolerance. But remember, these are still cool-season grasses. Physiologically, they're C3 grasses. The warm-seasons are Bermudagrass and zoysia, which are C4. The internal makeup is different. A cow is a cow and a sheep is a sheep. You can breed for greater heat tolerance, but there are limitations as to how far you can take it."

Meanwhile, Lynch said, "You're not helping out the golf community if your new grass doesn't help lower the pesticide output."

"The hot ticket," he added, "is if someone can work out how to put endophyte into bentgrass. Some are trying to infuse endophyte with a gene gun. Some are inserting it into plants, but that is short-lived."

"We favor good old-fashioned crossbreeding. That would be the most stable way to do it."

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Stuart Cagle, C.G.C.S., Old Oakland Golf Course Indianapolis, IN

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CIRCLE #117

BRIEFS



COST ESTIMATE BOOK UPDATED

CHAPEL HILL N.C. — The Golf Course Builders Association of America (GCBA) has updated its Guide to Estimating Cost for Golf Course Construction, originally published in 1996 as a tool for prospective golf course owners and developers. The guide contains descriptions of 25 line items in the construction of a golf course, with charts showing their average costs in the regions of the continental United States, and directions for estimating the cost of a given project. Contact information for the GCBA's Builder Members and a bibliography of additional resources are also included. *Guide to Estimating Cost for Golf Course Construction* is available for \$50 from the GCBA office, 920 Airport Rd., Suite 210, Chapel Hill N.C. 27514; phone 919-942-8922.

NASHVILLE GETTING FIRST TEE

KINGSTON SPRINGS, Tenn. — Nashville's Metropolitan Parks and Recreation and the Tennessee Golf Foundation's Vinny Pro-Celebrity Invitational are bringing to Nashville a First Tee golf course and ongoing programs for minority and at-risk youth through an new agreement. The Riverview Course, a nine-hole short course at Shelby Park in East Nashville, will be extensively renovated as a par-3 First Tee course. A new clubhouse will also be built to serve as home for a broad range of instructional, educational and vocational golf programs for juniors, officials said.

THREE BY FOSTER NEAR COMPLETION

LAS VEGAS — Golf course architect Keith Foster is putting the finishing touches on his three designs that are under construction., including Anthem here in Las Vegas on which he collaborated with Hale Irwin. Anthem is an upscale Del Webb private community, boasting the par-72, 7,100-yard course that has been grassed. A December opening is expected. Shepherd's Crook in North Chicago is six months ahead of schedule and will be completed by late September. The par-71, 6,900-yard daily-fee course will open next summer. The Tennessean at Kentucky Lake is a daily-fee course that is being grassed and will open in late summer of 1999. The Tennessean is located near Kentucky Lake in Paris.

It's a 'softer, gentler' Nicklaus in design

By TED JOHNSON

He is an icon of golf. Perhaps the greatest golfer ever, his face recognizable the world over. He has rung up scores of PGA Tour and Senior Tour victories, was named Athlete of the Decade for the 1970s and, in 1988, was selected Player of the Century. He has a closet full of green jackets from Augusta National for his Masters victories.



Jack Nicklaus

Yet, the 58-year-old Columbus, Ohio native's work as an architect may be more lasting than his playing records.

"Of the early courses I did, more than half were for tournament golf," he said during the ceremonial first round at Grand Haven Golf Course in Palm Coast, Fla. "So I got a reputation for doing difficult courses because I had to build them that way. I have opened 164 courses. Of those at least 100 you probably won't hear of. The pros won't hear of [Grand Haven]. Yet more than 60 of my courses have held more than 300 professional tour events. We're very proud of it."

After the round, Nicklaus sat down for an interview.

Golf Course News: Is there anything on this property that shows how you have evolved as an architect?

Jack Nicklaus: Twenty-five years ago, Continued on page 22



Nicklaus opens 164th course: Grand Haven

PALM COAST, Fla. — Grand Haven is "a good member's course," designer Jack Nicklaus said at the opening of this new layout that winds through marsh and woods. Although Grand Haven won't host a U.S. Open, it is memorable, enjoyable, even picturesque.

Nicklaus' work at Grand Haven features the varied flora and fauna, live oaks, saw palmettos, cord grass and marshes. Though it is located about two hours northeast of Orlando, it has some South Carolina low country in it. The oaks and

sandy waste areas on the 13th and 14th holes, particularly, seem uncharacteristic for the area but are pretty just the same.

The layout measures from 6,350 to 7,069 yards. Landing areas are wide and well defined. The sight lines to the hole on the par-4s and par-5s, with the exception being the 18th, are obvious.

For all the forgiveness that Nicklaus allows on the tee shot, he's much more demanding on the approaches to the

Continued on page 25

CEC Properties purchases First Golf

NEWPORT BEACH, Calif. — CEC Properties, Inc. of Newport Beach has bought substantially all of the assets of First Golf Corp. of Tempe, Ariz.

First Golf manages the construction of golf courses nationwide and has built more than 25 courses since 1987. Its newest course, Harbor Links in Nassau County, Long Island, N.Y., recently had its grand opening and had a very strong first month. First Golf Acquisition Corp. becomes a wholly owned subsidiary of CEC Properties.

"CEC Properties, a golf services company, has now acquired both a golf course construction management and golf course facility management company as wholly owned subsidiaries," said Paul Balalis, CEC Properties president, chairman and chief executive officer. "This gives us a tremendous advantage in being able to provide excellent and expanded services to the golfing industry."

First Golf currently has contracts for the development and

Continued on page 24



PGA Tour great David Stockton, left, and new golf course design partner Gary Roger Baird.

Stockton, Baird link up

SANTA ANA, Calif. — Gary Roger Baird, whose golf course design career dates back to the late 1960s, and Dave Stockton, a golf professional for three decades, have formed a design alliance. Stockton's PGA Tour victories include three major championships, two PGA Championships and the 1996 U.S. Senior Open Championship. Twice, Stockton was selected as a member of the Ryder Cup Team, and captained the U.S. team in 1991. With 14 Senior PGA Tour victories, including the 1992 and 1994 Senior Players Championships, Stockton is near the top of the Senior Players Tour in winnings again this year.

"Gary Baird has been a top designer for nearly 30 years, dating back to his days with the Robert Trent Jones organization in the 1960s. Gary has created great courses on several continents, many of which have held major tournaments, both

Continued on page 26

Ex-Paragon employee starts fresh

By MICHAEL LEVANS

ATLANTA, Ga. — Terry Bohannon — a 20-year veteran in the golf development business — believes that you learn from the mistakes of others.

As a matter of fact, he's so certain that this lesson applies to the golf course construction business that he's gone off on his own to form Live Oak Golf Construction Co., based here.

"Being in this business for so long I was able to see that there's a lot of work out there right now," said Bohannon. "And with the right management and the right people it's a great time to be in this business and do it right."

For the last four years he worked with Paragon Construction International as project manager and director of field operations. In that capacity he managed the construction operations of 13 golf courses in the Pacific Rim, including Shanghai Links in China, New Capital in Japan and Borneo Golf Club in Malaysia.

Continued on page 24

Q&A: Nicklaus improving with age

Continued from page 21

I had basically two ways of doing golf courses: fairly severe and penal, or something kind of soft. Now, I have so many different ways I do things. So many different ways I can do bunkers, or the way I do greens. Different ways I can do approaches. Different ways of bringing the ball into fairways, repelling and collecting. And I fiddle around with them. And I mix them up.

This is the 164th course I've done, and there is a lot of variety in those courses. I hear from people it's a typical Nicklaus golf course. Well, what is a typical Nicklaus golf course?

I suppose the typical Nicklaus course would be generous off the tee, I've always felt people really enjoy hitting the golf ball and finding it. That means you can make it a little more demanding around the greens. But you have bailouts, where the average golfer can play. I collect golf balls rather than repel them. If that's typical, so be it. I thought Augusta National is a pretty good golf course. That's the way Augusta is. I felt Royal Melbourne is a pretty good course. That's the way Royal Melbourne is. Most [Donald] Ross courses are pretty much that way.

GCN: What specifically did the owners want at Grand Haven?

JN: They wanted a good golf course but not a backbreaking golf course. One that will help development of homes, one that will represent the area. The second course [Ocean Hammock, tentatively slated to open in spring of 2000] will have a little more pizzazz, with the holes particularly on the ocean.

GCN: Is the ultimate compliment of a course that you never get tired of playing it?

JN: I don't think you'll get tired of this course. No two holes look alike. The fault with this course, in my own mind, is that the back nine goes out and back in a row. But that's the way the property set. If I had the ability to break it up, I would have. But you work with the property you have and the way it fits.

GCN: Is there one element in your courses today that 15 or 20 years ago wasn't considered?

JN: There are features I don't use as much as I used to. When I did Loxahatchie [Jupiter, Fla.] and Grand Cypress [Orlando, Fla.], it was kind of a fad to be roly and bumpy, and I hadn't done any of that. At Loxahatchie, they moved a million and half yards of dirt [that] we had to get rid of. So I had to come up with an idea of how to get rid of it. So I did just that. Would I do that again? I'd take the mounds and make them softer. The chocolate drops, you can't cut them.

I'd make them softer so you could take a Bushmower and cut them all.

When I did Desert Highlands and Country Club of the Rockies at the same time, both owners told me, "Jack, we love your courses but your greens are too, easy." You can't say that on those two courses. You don't walk out

there at night without breaking a leg on those greens.

I did flat greens at Colleton River [Hilton Head, S.C.] and rolling greens at Country Club of the Rockies. I'm more able to adapt to what the owner wants. If an owner says, "I don't know, just build me a good golf course," I'll build one that fits that prop-

erty, and I won't get severe with it. I'll be fairly conservative. The last thing an owner wants is to have someone walk off a golf course and not want to play it again, or not buy a piece of property.

GCN: The sharp edges that were in so many courses in the 1980s, like yours at the Nicklaus Resort course in La Quinta, will we see those again?

JN: That's the way they wanted to maintain it. Drop it straight

down. I don't like it, personally. I like to blend it all. It's too harsh. But when the owner says, "That's what I want," I do it. It's his deal.

GCN: Any special consideration for women in today's designs?

JN: I don't take a lot of special consideration for women. It's like, how do you design a golf course for a man who shoots 110? You don't. What you do is try to give enough room and

Continued on next page

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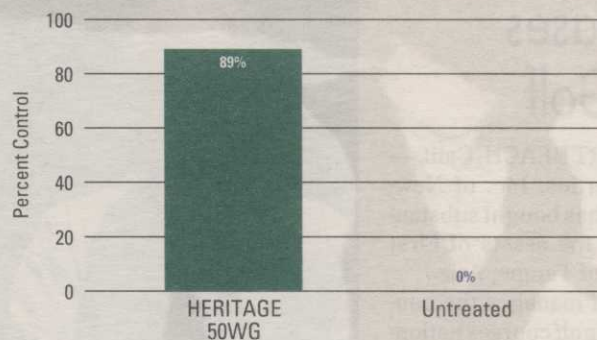
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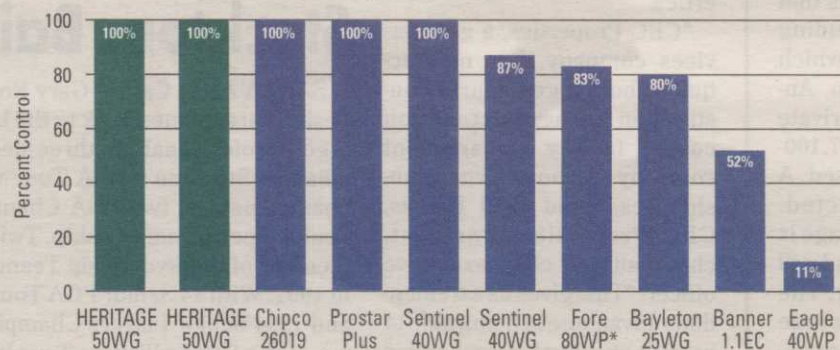
Oz./1,000 sq. ft. 0.4

Application Interval (days) One application, treatment applied 3/7/96, final reading 3/18/96

Dr. Larry Stowell, PACE Turfgrass Research Institute, San Diego, CA, 1996

US 84-96-P104

Red Thread (*Laetisaria fuciformis*) on Perennial Ryegrass



Oz./1,000 sq. ft. 0.4 0.2 4.0 2.5 0.25 0.33 8.0* 4.0** 2.0 2.0 0.6

Application Interval (days) Single applications, all treatments applied 3/21/97, final readings 5/2/97

Dr. Houston Couch, Virginia Tech, 1997

US 12-97-P902

Q&A: Nicklaus

Continued from previous page

space for people to play and not give them angles that are difficult. You do try to do a regular women's course and a women's championship course, which are basically the seniors' tees. That's a good competitive course. From the regular women's tees, we try to give them a course that is fun for them to play. They are more

than happy to stay out of trouble and stay out of sand. If they don't have any sand or any water, they're happy. That's not most of them, obviously. You try not to give them severe carries. The most severe carry on this course is 77 yards, and a woman out here knew exactly how far it was. I try not to give them more than 60 yards at a time.

GCN: Among the courses, and not just your courses, designed

in the 1990s, what do you think will be a common trend?

JN: Go back 30 years, or 50 years. They moved very little dirt 50 years ago. Winged Foot, Baltusrol, those were just cornfields. There was no shaping, nothing. In 30, 40 years, the trees grew up and people say, "What a great course." It's not a great golf course. It's great trees. Today's golf courses can't be designed to be great courses 30 years

from now. Those courses [Winged Foot, Baltusrol] were club courses. There was no real estate involved. There was no "now" involved. Golf courses today are "now" courses. You have to sell your real estate, your hotels. They've got to have it done "now." So, features have been put into courses, the bunkering and all, to attract people to the course. Do we need all the fingers in the bunkers and the funny things we do?

You don't need those. Are they pretty? Yeah, because there isn't a 100-year-old oak tree in the middle of the fairway. We did Winstone in Chicago, it has these birch trees all through the golf course. You don't find many bunkers. Don't need 'em.

Look at Muirfield Village. It's 24 years old, but it looks like an old course. When their trees have grown up, in 30 years, these courses will have movement and the trees. They'll be better than courses that have no features with trees grown up.

GCN: What's missing in the way today's best courses are played?

JN: I disagreed with what they did at Winged Foot and at Congressional. I've said many times that Arnold Palmer made his name by hitting the ball out into the rough and standing out there with his people and slicing the ball out of the trees. If Arnold Palmer had tried to make his name out of the rough at Winged Foot or Congressional, they never would have heard of Arnold Palmer. Seriously. [Now] you can't hit the ball out of the rough.

All you can do was pitch it out. Arnold was exciting because he was always hitting recovery shots. Now they make the rough so deep you can't play out of it and it makes the game dull. I hope you understand what I'm saying about Arnold.

GCN: You mean you hope Arnold understands?

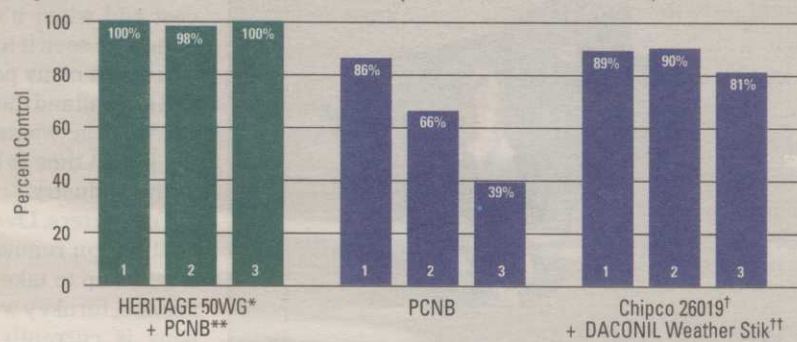
JN: Arnold is a straight driver today. He wasn't a straight driver when he was winning. But I loved what Donald Ross used to do. Ross used to go to Pinehurst and walk through the trees. Pinehurst is a golf course that is totally tree-lined without a tree being involved in the strategy. Much like this course. He would walk through the trees and see where golf balls had been hit. He'd say, "This tree has grown and this tree has grown. Take this tree out and this one out. Now someone could play a recovery through here." Because he felt that was part of the excitement and fun of the game, to recover. Not be dead just because you hit the ball off the fairway.

GCN: Of the top five courses in the world that you didn't design, how much do you feel is credited to the land or to the design?

JN: Very little is the design. Pebble Beach? Very little of the design. Pine Valley? Cypress Point? I have said a thousand times, Cypress Point is the best piece of ground I've ever seen for a golf course. Take Cypress Point off that property and put it somewhere else, it's just another golf course. There are a lot of good courses that if you put them on the ocean they become great golf courses. The location makes the golf course, most of the time.



Snow Mold (*Microdochium nivale* and *Typhula ishikariensis*)¹ on Annual Bluegrass (*M. nivale* only)² on Turfgrass (*T. incarnata*, *T. ishikariensis*, *T. phacorrhiza* and *M. nivale*)³ on Annual Bluegrass



Oz./1,000 sq. ft.	0.4* 12.0**	16.0 ¹ 12.0 ² 3.1 lb ³	4.0 [†] 5.5 ^{††}
Application Interval (days)	Single applications, all treatments applied 10/21/97, ¹ 11/17/96, ² and 11/7/97, ³ final readings 4/1/98, ¹ 3/26/97 ² and 3/29/98 ³		

¹Bozeman, MT ²Amherst, MA ³Sayner (Plum Lake), WI

¹Dr. Rob Golembiewski, Montana State University, 1998

²Dr. Gail Schumann, University of Massachusetts, 1997

³Jeff Gregos, University of Wisconsin—Madison, 1998

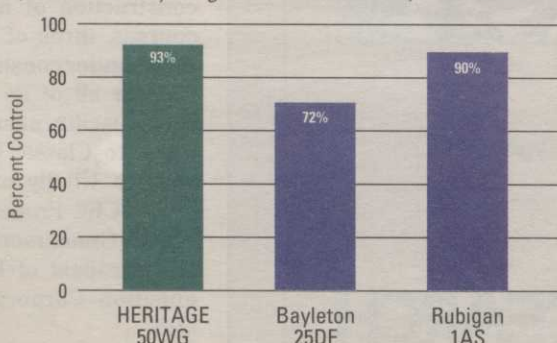
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US 20-98-P900

US 12-97-P550

US 63-98-P901

Take-all Patch (*Gaeumannomyces graminis* var. *avenae*) on Colonial Bentgrass



Oz./1,000 sq. ft.	0.4	4.0	4.0
Application Interval (days)	Two applications, all treatments applied at 28 day intervals		

Dr. Pat Sanders, Penn State University, 1995

USNP-95-P019

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CSM christens first course in Titleist Township

ACUSHNET, Mass. — As home to Titleist and Footjoy Worldwide for the past 80 years, the town of Acushnet has become synonymous with golf's biggest company. Amazingly, while this tiny New England hamlet could boast its own line of eponymous golf balls — who could ever forget the Club Special? — the town of Acushnet has never been home to a single golf course. Until now.

Acushnet River Valley Golf Course, a layout designed by Cornish, Silva and Mungeam (CSM), opened for play in August. CSM partner Brian Silva has fashioned an interesting assortment of golf holes here, on a parcel of land that features three distinct environments: a rolling meadow, a dense New England forest, and an abandoned gravel pit.

"All architects say this, but Acushnet River

Valley will truly feature a unique degree of variety," said Silva.

Once municipal funding was secured in November 1996, the town and CSM didn't waste much time. Ground was broken in April 1997, with International Golf of Arlington, Mass., handling course construction.

Acushnet River Valley GC plays more than 6,800 yards from the tips and 4,800 from the front, with three sets of tees in between.

Bohannon starts fresh

Continued from page 21

Prior to Paragon, Bohannon was a design associate for Nicklaus Design from 1988-94, working as a liaison between the design and construction functions for courses in Taiwan and Thailand. A previous association with Holmes & Co. had him building such regarded courses as Pinehurst National and Grand Cypress golf clubs.

With the experience of the Asian projects under his belt, said Bohannon, the standard U.S. jobs appear to be fairly cut and dry.

"If you can build a golf course in Asia you can surely do it here," he said. "The complications you run into there are too numerous to mention, nothing is easy. There're equipment and manpower problems, language barriers. It's a nice surprise when you come back and realize just how easy it is to get materials."

Getting the venture like Live Oak off the ground is a series of small steps, he said. In past few months, he's taken time to spread the name and talk to course architects and developers in order to stress the company's mission.

"You have to explain to the client up front what they're going to get. It's simple. You have to be honest with them. You have to tell them what it's going to cost and when it's going to be done. I've seen it too many times where too many people come in and low ball and the client doesn't get what he wants. Completing the job on time is a real stickler in this industry."

For starters, Live Oak will concentrate on renovation work as it gears up to take on some full-service, turnkey work. The company is currently doing some renovation work at Meadowbrook Golf Course in Rutherfordton, N.C. "I'd like to stay in the Southeast, but we've recently bid jobs up in Michigan and Pennsylvania. So, we'll see what happens."

CEC Properties

Continued from page 21

construction of nine new golf courses, three of which are already under construction. It will transfer all of its existing golf course facility management contracts to Classic Golf Management, a wholly owned subsidiary of CEC Properties.

Sam Gunderson will become the president of First Golf Acquisition Corporation, Balalis said.

CEC Properties began operations in 1994 and is focusing on becoming a major provider of services to the golfing industry.

GOLF COURSE NEWS

Providence is Still Number 1.

Leading superintendents rate Providence the best creeping bentgrass for the northern U.S. and Canada.



Seed supplied by United Horticultural Supply

"We chose Providence for its outstanding performance all over the U.S. and particularly in the Northeast. We established greens in the hot, dry summer of '95 and they have performed beautifully. Our new practice putting green was open for play eight weeks after seeding. My membership is very pleased with the quality of our putting surfaces."

Bob Miller —
The Golf Club of Purchase • Purchase, NY



Seed supplied by L.L. Olds Seed Co.

"Providence has performed as expected; with its upright growth characteristics, fine leaf texture, uniform density and color, it has truly been a winner for us. Since the day we opened, our customers have loved the consistency and smoothness of our putting surfaces."

Pat Shaw —
The Bog • Saukville, WI



Seed supplied by Professional Turf Center

"This is my fifth grow in and my first with pure Providence greens. It's a very fine, upright turf. Slightly slower to establish because of our cold and rainy fall, but now that we are maturing it's showing its true colors to be a great putting surface."

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McCumber's GreyStone opens in Tenn.

DICKSON, Tenn. — Saying the course will be "a classic, long-lasting beauty," golf course architect and PGA Tour player Mark McCumber saw his GreyStone layout opened for play here Sept. 12.

Set among rolling hills, the public GreyStone is a 6,848-yard, par-72 course designed around the natural beauty and lay of the land. It features natural deep rough, flowing creeks and placid lakes. Aside from the trees surrounding the course, natural stone walls and boulders enhance nearly every hole.

McCumber designed Grey-



The 11th hole at Mark McCumber-designed GreyStone in Dickson, Tenn., is a 177-yard par-3 over water.

Stone to showcase Middle Tennessee's natural beauty. "Our school of thought in course design is to study the land and design a course that is natural, looks like it belongs, create interest and surprise where pos-

sible, without making something foreign to what nature has already given us," he said.

The course is the vision of Dickson resident John Duke. McCumber Golf Facility Management will operate it.

Burns-designed Legion Memorial opens

EVERETT, Wash. — The municipally owned Legion Memorial Golf Course officially reopened Sept. 1, after a major remodeling.

Although all of the greens were seeded last fall, some fairway work remained for 1998. This work was completed in June, and nine holes re-opened on July 1. The remaining holes were given time to grow in while the concurrent major remodeling of the clubhouse was finishing up.

Daylen, Inc. of Fresno, Calif.,

was the construction contractor. Burns Golf Design of Fernandina Beach, Fla., was responsible for the golf course design.

Prior to the remodeling, Legion Memorial, which plays approximately 70,000 rounds a year, was plagued by extremely muddy conditions much of the time. It reportedly is now one of the driest courses in the Seattle area, with 70 acres of the course capped by a 6-inch sand layer over drainage lines installed on 50-foot center. More than \$1.3 million of the \$5 million project

was spent on drainage.

The old course dates back to the 1930s, and had very basic greens, only a couple of sand traps, and no water, except for a few drainage ditches. The remodeling work includes several re-routed holes, all new greens, more than double the existing tee space, and the addition of four new lakes, a waterfall and recirculating stream, and more than 50 sand bunkers. The new course plays to a par of 72 from five sets of tees, ranging from 4,804 to 6,900 yards.

Stockton, Baird team in design

Continued from page 21

professional, as well as amateur." With offices in Nashville, Tenn., and Santa Ana, the team expects to bring a "new era of design and construction expertise" to golf course developers throughout the world.

Baird noted that "spiraling costs, fluctuating economies, and appropriately strict environmental issues have required additional sensitivities, a new awareness from us as architects. We must once again rise to a more contemporary challenge. In our ef-

fort together, Dave and I intend to design memorable courses for the entire golfing spectrum...while focusing on bringing together these diverse considerations into a manageable and maintainable design.

"Dave is an extremely knowledgeable individual, and is keenly sensitive to the needs of the golfing world, which is ever changing. Despite these transitions, we want our designs to stand the test of time, not just be compatible with popular, current trends."

Each is excited about this new team effort. Previously, Baird has resisted forming other potential partnerships, as has Stockton. The "marriage" goes beyond the typical marriage, say both men. "We are saying to people, 'Here is a team with over 60 years of worldwide golfing recognition and experience...two men whose personal strivings for excellence are second to none,'" Baird said. "Together, they typify the kind of individuals the game of golf, and profession of golf course design deserve. Their commitment at this station in life is second to none."

Nicklaus' Grand Haven opens

Continued from page 21

greens. Grand Haven is a "positional" golf course: Just because the ball is in the fairway doesn't mean an easy shot to the green. In fact, to have the easiest chances at the pins, daring tee shots must flirt with trouble in the form of bunkers or marshes. The bailouts to the wider sides of the fairways invariably call for a second shot or with great skill to get close to the greens.

The 440-yard dogleg left 3rd hole is the best on the property. A long carry over a grassy marsh is required, and the longer the carry the easier the approach to the green.

It's very intimidating from the back tees, but it's probably a better hole from the blue or gold tees, if only because the green can be seen, and thus all of the hole's challenges, beauty and power can be taken in.

Nicklaus loves the 186-yard 5th, a par-3 whose tee shot must carry a marsh. The back edge of the green flirts with the trees on the right, and when the flag is set there it requires a carry of about 175 yards over tall grass and Florida wasteland to find safe ground.

It's a hole that makes the golfer pause and look, to take in the surroundings, for it is here the true nature of Grand Haven comes out.

Del Webb working with Lohmann

HUNTLEY, Ill. — Golf Creations has been retained by the nation's leading developer of golf retirement communities to provide feature construction and grow-in services here at Whisper Creek Golf Course, the centerpiece of Del Webb's first master-planned community in the Midwest market.

Ground was broken in May and the course should be ready for play by the autumn of 1999,

according to Bob Lohmann, president of Lohmann Golf Designs and its sister construction firm, Golf Creations.

Del Webb has brought its Sun City formula to Huntley, located some 30 miles northwest of O'Hare International Airport.

The 1,800-acre community includes an 18-hole golf course designed by Casper/Nash and Associates.

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Russian government to pay California developer \$23M

SACRAMENTO, Calif. — A California developer has been awarded \$23 million in an international arbitration against the government of Russia, which had breached a joint venture agreement involving a Moscow resort.

The award, made by a three-judge panel in Stockholm, Sweden, includes \$4 million in ex-

penses, \$15.5 million in lost business opportunity, interest and attorneys' fees.

"The sanctity of a contract is of paramount importance in a free market economy," said Sacramento business attorney Scott Bartel, who represented the developer in the arbitration. "Today's global economy re-

quires an established procedure to resolve international grievances and enforce legal remedies," he said.

Bartel's client, Moscow Country Club, Inc. (MCCI), a California corporation, signed a joint venture agreement with a state agency of the Russian Federation in 1992 to design, build and

operate a resort community including a hotel, homes and an 18-hole golf course. Under the terms of that agreement, the Russian government was to provide land for the project.

MCCI, which was responsible for project financing and construction, had spent \$11 million in design and construction fees

when the Russian government failed to provide the property. The Russians then took control of the project, and MCCI filed suit against the state agency attached to the Russian Federation Ministry of Foreign Affairs. The arbitration, which lasted more than three years, was held in Stockholm, Sweden under the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL). A three-judge panel approved by parties to the arbitration ruled in favor of MCCI late last week, with its sole Russian member dissenting.

Bartel, a partner in the Sacramento business law firm of Bartel Eng Linn & Schroder, said MCCI was pleased with the award, noting his next step would be to have the award confirmed by a U.S. bankruptcy court as part of a corporate reorganization. MCCI was forced to seek bankruptcy protection in 1995 when the Russians seized control of the resort project, its sole asset.

"The real question is whether the Russian Federation will honor the decision and pay the award," said MCCI president Jonathan Tesar. "Anyone planning to do business in the Russian Federation should be interested in the outcome."

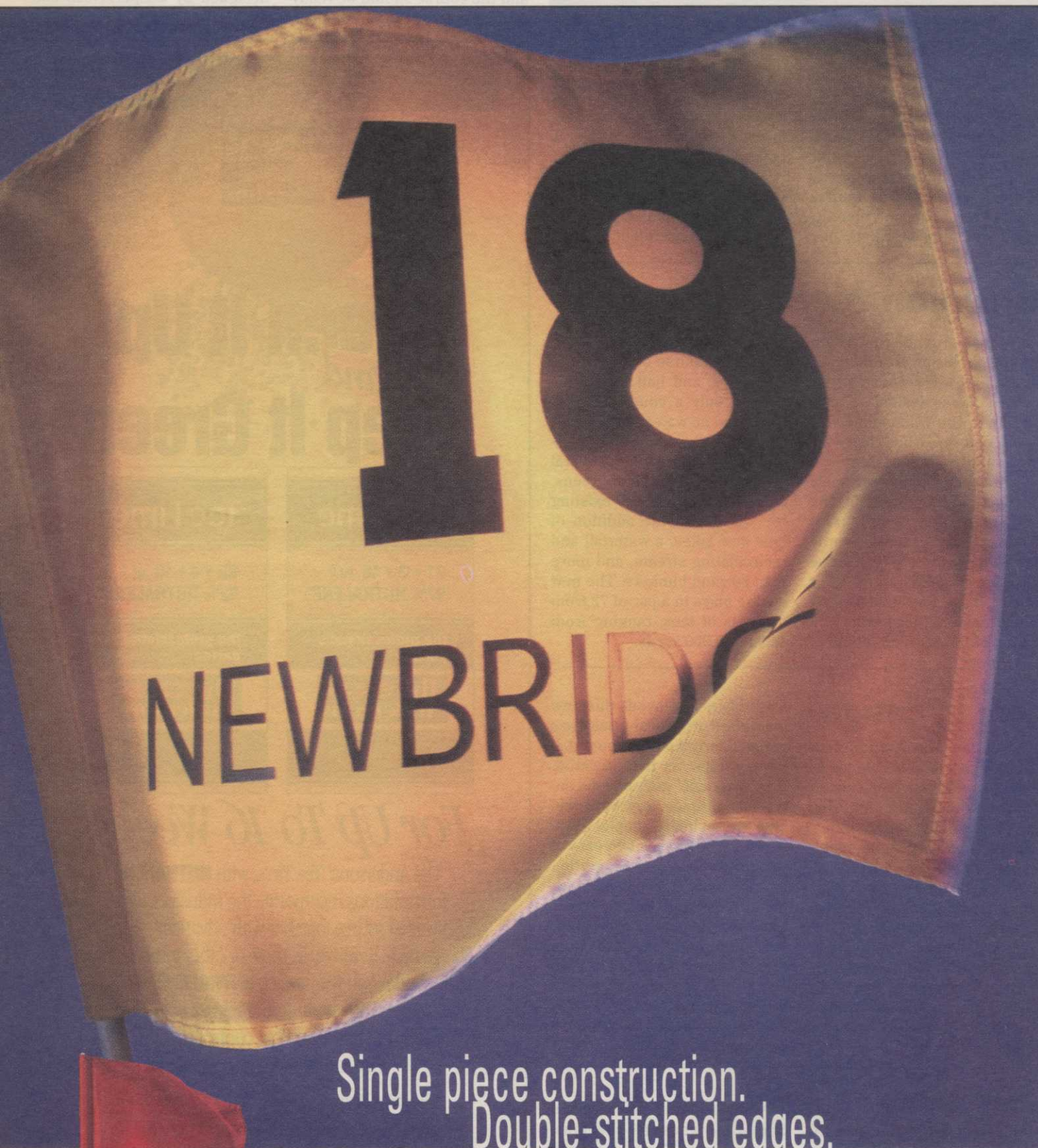
Despite the dispute, the project has been a success. The golf course, designed by Robert Trent Jones Jr., is the only 18-hole golf course in the Russian Federation, and is currently on the European professional tour. The resort hotel is open, and the nearly 50 "dacha" residences included in the development are either complete or under construction.

In the past few years, the Russian government has taken over other joint venture projects between Russian entities and Western businesses, including two luxury hotels located in Moscow. American entrepreneur Paul Tatum was embroiled in an arbitration dispute involving the Raddison hotel at the time of his murder in a Moscow subway. More recently, the IMP Group based in Halifax, Nova Scotia, Canada, was awarded \$7 million in a similar arbitration dispute involving Aerostar Hotel. In both cases, the claimants had alleged that the Russian partner was attempting to take control of their profitable enterprises.

BEIDEL RETURNS NORTH

COLUMBIA, Md. — Golf course architect Ed Beidel Jr. has moved his office from Mt. Pleasant, S.C., to Columbia. The Pennsylvania native is nearer several projects he will design in the Mid-Atlantic region. The new address for Beidel Design Associates Inc. can be reached at P.O. Box 6155, Columbia, Md. 21045; telephone 410-480-4661.

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The 'Big Dig'

Continued from page 1

landfills and needed materials to cover the site.

Geilich, a former waste removal specialist and one of the four principals involved with the development group Quarry Hills Associates, realized the two projects had the same common interest. A deal was quickly struck between the Massachusetts Highway Department and the cities of Quincy and Milton. At no cost to either project, the highway authority agreed to provide up to 7 million cubic yards of material Sanford needed to spread over the landfill to form the bed for the new Quarry Hills golf course.

Quarry Hills is scheduled for completion in 2001. Located atop the old landfill, it will also take advantage of the adjacent historic quarries, Indian sites and wetlands. In addition to the course, the \$63 million, 500-acre complex will include open park space, walking trails and six sports fields for baseball, softball and soccer.

Quarry Hills Associates will lease the land from the city of Quincy for 50 years. Once the course opens, the city will collect an as-yet-undetermined amount from annual green fees and clubhouse revenues.

Geilich, who spends much of the year in Palm Beach Gardens, Fla., interviewed numerous architects before approaching fellow Floridian Sanford with the idea for the project.

"I presented John with a package. He was very polite, didn't say I was totally crazy and said he was willing to take a ride with us," Geilich remembered. "What we had was an idea that was a long way from culmination. We had a concept of using the dirt from the Big Dig and taking a landfill and making it into a golf course. There wasn't just a piece of land that needed to be sculpted and a few flags put on it.

"The first thing we had to do was convince the cities we had a viable project. When we first approached them they were very interested, but they had to put out requests for proposals for the post-closure use of the landfill. Five different firms answered. Our proposal was ultimately selected."

Sanford said he and the developers had to overcome several hurdles with the design. One was that the site actually consisted of two landfills, the Quincy operation that was already closed and the Milton landfill that won't officially shut down until Dec. 31. "It's interesting to see the dirt trucks coming in with all this fill material on one end and rubbish trucks coming in on the other side," Geilich said. "They try hard to stay out of each other's way."

Added Sanford: "There were also a lot of wetlands that had to be tiptoed around. We have some historic [Quincy granite] quarries that had to be preserved and are being worked into the design and strategy of the course.

"And then when the Massachusetts Historical Society started looking at the site, they found some Indian artifacts that are considered to be prehistoric, as much as 8,000 years old. We had done rough grading and earthing plans and then these

Indian workshop [Indian slate mining] areas cropped up and we had to pretty much redesign the whole project."

Shipments of Big Dig fill material to the course site began a year ago. Roughly 800 truckloads are being delivered daily. Actual shaping of the course and irrigation work is scheduled to begin next spring and 15 of the holes should be ready for seeding by next October.

"But the project [opening date] isn't really under our control," Geilich said, "because we don't know how fast they are going to dig the dirt out of the tunnel. They have at least a half-dozen contrac-

tors working right now, but some days they dig better than others."

McCourt Construction of South Boston is the course contractor, but will subcontract out some of the shaping work. The developers have not made a decision regarding who will manage the course. Plans are to hire a superintendent by next summer.

The course will have five sets of tees and almost 300 feet of elevation change, Sanford said. Seventy percent of the course sits over landfill area that is basically devoid of trees. "In order to create a dynamic hole," he said, "we need to uti-

lize all the dirt to create the framing and aesthetics we're looking for.

"We'll have bentgrass on the greens, tees and fairways," Sanford said. "The immediate rough and surrounds will be a mix of bluegrass, ryegrass and fescue. The far rough will be in different types of fescues.

There are a lot of steep slopes between the holes that will be planted with wildflowers and field grasses.

"The clubhouse will be on the highest point of the project, about 320 feet above sea level, and will give tremendous views of the Boston skyline six miles away."



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La. targets golf

Continued from page 1

the country in terms of number of courses and has watched nearby states like Alabama (Robert Trent Jones Trail), Tennessee (Bear Trace) and Mississippi (Magnolia Trace) become involved in course construction as a way to attract golfers.

"I've seen the effect of Louisi-

ana people going to Alabama spending money hand over fist on golf," said James Leitz, head professional at semiprivate Pinewood Country Club in Slidell, located 35 miles north of New Orleans. Leitz said at least 10 Pinewood members own condominiums in Gulf Shores, Ala., where they go to play on that state's courses and beaches.

"These upscale public facilities, when built and managed

properly like the Robert Trent Jones Trail courses, are an attraction. There's no doubt I'm seeing money from Louisiana being spent in Alabama. I'd like to keep those people here."

"I don't look at it as a huge amount of direct competition. It would just heighten the quality of golf everywhere. The more people who say 'let's play golf in Louisiana' the better."

Romero said officials have ex-

pressed interest in various levels of courses, ranging from affordable public layouts to more upscale, resort-type facilities.

"It will be a little price driven," Martty said. "You can't do an Augusta at every location. But if you do nice, high-quality daily-fee courses that provide services we aren't used to seeing in Louisiana at daily-fee courses, and do them in the right locations, it will be highly successful."

Louisiana architect Jim Lipe, who is working on the four Jack Nicklaus Bear Trace courses being built near state parks in Tennessee, said: "It's a good idea if they do the courses in a first-class way. Anything less won't work."

Leitz said quality courses that visitors and native Louisianans play elsewhere have forced course operators in the Pelican State to improve their own layouts. Since converting from a private to a semiprivate club four years ago, Pinewood has built a driving range, undertaken lake and tee construction, improved drainage and conducted a master plan under the direction of course architect Bill Bergen.

"Ninety percent of the golf courses being built now are semiprivate or public," Leitz said. "Twenty years ago you joined a private club if you wanted to play a course that was worth a darn, down here. Now those [upscale public] facilities have pushed the envelope for private and semiprivate clubs, like ours, to change and improve. A guy goes and plays the Robert Trent Jones Trail and comes back and asks, 'Why aren't our fairways that good?' You tell him that's 419 Bermuda and we're playing on old common. Or they've got irrigation and we don't. It just heightens everyone's awareness of golf."

The state officials' plan is to build the new courses over the next five to 10 years on state-owned or donated land near state parks and other accessible locations. Officials envision courses costing in the \$5 million to \$6 million range, with the state and private developers contributing to the projects.

"We have a lot of wetlands issues in Louisiana, especially in the southern part of the state," Leitz said. "A lot of the state parks are in or near wetlands. Maybe the state can clear those hurdles easier than a private citizen could. They are going to have to convince the people that it is better to take 150 acres out of a wildlife refuge and make a golf course out of it. They won't have any trouble convincing me that it's better. But they might have trouble convincing people who don't know anything about golf."

The new Cypress Bend Golf Club at Toledo Bend in Sabine Parish and the proposed Tournament Players Club course near Bayou Segnette State Park could get the ball rolling.

Tourism Department Secretary Phillip Jones said courses could be built next year in Mandeville at Fontainebleau State Park in the southern part of the state and on Lake Clairborne in north Louisiana between Ruston and Shreveport.

"Building near state parks is a good way to go," Lipe agreed.

The state would seek a professional management firm to operate any new layout.

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Freeman has a hand in shape of things to come

By MARK LESLIE

MONMOUTH, Maine — From a real world of “doing odds and ends” for his little hometown of Monmouth, to a fantasy life of shaping great golf courses from coast to coast, at the age of 33 Joe Freeman has already run the gamut in life.

“I found a talent I didn’t know I had,” said Freeman from his interim home in Painesville, Ohio, where he was putting intricate touches to Little Mountain Country Club.

Eleven years ago Freeman had dropped out of a vocational college engineering program, opting to follow in his father Charlie’s footsteps and operate heavy equipment. He had bought an excavator and his Dad had purchased a bulldozer. Charlie was working on a hotel construction site in South Portland and heard that golf course contractor Vinnie Bartlett was hiring equipment operators to build the hotel’s Sable Oaks golf course.

That’s when Joe’s life changed. Father called son, and today that son is among a small group of men who are a much-sought-after commodity: experienced golf course shapers. These are the dozer operators who take a topographic map and an architect’s rendering and shape the land into greens, bunkers and flowing fairways.

“I give credit where it’s due,” he said. “People dug that talent out of me. My Dad, Vinnie Bartlett, [shapers] Randy Tobin and Rick Markos, guys who make you strive to reach up. Everybody, bar none, is an end-product of the people we’ve been around. We interact with each other positively or negatively. If you see things people do that you like, you try to emulate them.”

To Freeman’s credit: The Sanctuary, a Colorado mountain course designed by Jim Engh that won *Golf Digest’s* selection as 1997 Best New Private Course, and various other courses designed by the likes of Tom Weiskopf, Arthur Hills, Jerry Matthews, Keith Foster, Mike Hurdzan and Dana Fry, Brian Silva and Clive Clark.

Freeman’s life in the 1980s could be titled “*Hometown Joe*.” His life today: “*On the Road Again*.”

Much like other shapers, every three to six months he and wife Judi pack their bags and head to the next project, find an apartment and set up house. There, Freeman fine-tunes someone’s design handiwork and, voila!, you have Weiskopf’s Castle Pines North (now The Ridge), or Silva’s Passaconaway Country Club in Litchfield, N.H., or Matthews’ St. Clair Country Club in Port Huron, Mich., or Clark’s Belgrade Lakes Golf Club in Maine.

“We both hate moving but love traveling,” Freeman said. But most of all he enjoys doing a project through to completion and seeing the finished product.

“Once I started shaping at Sable Oaks, it tickled an artistic flair in me,” he said. “It seemed so neat to be able to create such aesthetically pleasing features. Anyone stopping to take in the beauty would admire it. You’re creating lasting beauty that pleases people long after you leave. I saw that very early on.”

With a decade of shaping experience under his belt, Freeman said: “I like doing it all, embellishing [the design] with bunkers, with rolling fairways...”

Bunkers, he said, are the most fun. “Usually, in this economy, it seems the steeper and more radical the bunker, the more they like it. They want the stark visual effect.”

He also enjoys tackling special problems. Like at Little Mountain, where one parcel of land “just would not permit a golf hole,” he said. “You start moving quantities of earth and, all of a sudden, a golf hole appears. And everyone says, ‘Wow! It’s awesome.’”

Freeman said he works with designers who are strict about following their contoured maps, and with “freelancers.”

“When I did Jim Engh’s Sanctuary, everything was staked, stern to stern. In some ways it speeded up the process and I got pretty good at it. I would leave the stake there to prove I met the requirements.”

Then, with Fry, “Dana will give you a concept of what he wants to see, and he gives you freedom to try to see his vision on the earth. If it doesn’t work, he’d just as soon you create something that does work.”

“They are the extreme opposite ends of the spectrum, but I



Joe Freeman with his “partner” in the trade of shaping.

enjoy working both ways.”

Both architects, in fact, have asked Freeman to join them on other projects. His schedule allowed him to shape Fry’s Little Mountain here, being built by Quality Golf, but not Engh projects in Bismarck, S.D., or Richmond, Wash.

Freeman’s biggest thrill building a golf course?

“The Sanctuary,” he said. “It was a combination of the people involved, the challenge of the project and, obviously, the gratification of it being named Best Private Course in 1997.”

His most challenging course?

“Belgrade Lakes, hands down,” he said. “You could take any of the others and multiply by 10 and it is not Belgrade. There was no blasting and some of the rocks were as big as a house. We had to move them or bury them. It was amazing.”

Each project, Freeman said, takes on a life of its own.

“We live for the project, it seems,” he said. “We work 65, 70 hours a week sometimes. We’re there to get the next hole built. Then you come to a screeching halt.”

When a job is nearing completion, Freeman begins networking with people in the industry to get the word out that he is available. “You put out broad, grassroots feelers and start getting offers back,” he said. “Normally you have several offers, and you choose where you want to go next.”

“The architects know who you are because of where you’ve

been and what you’ve done. If you give architects what they want, normally speaking, you have a job with that design group. But, it’s important to do what you say, be there when you say. Let your ‘yes’ be ‘yes’ and your ‘no’ be ‘no.’”

Freeman, like others in the back-breaking profession, does not intend to be a shaper forever. But while he’s young and strong enough, he intends to soak in every moment.

The career, he said, “was an act of God — totally apart from me. I praise the Lord for it. I didn’t premeditate it at all and I couldn’t have done it without Him.”

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Dr. Michael Hurdzan

'For golf to grow we must have "bunny slope" golf courses.'

Impacts of boom on development

By DR. MICHAEL J. HURDZAN

By any measure, the game of golf is expanding. More players are being attracted to the game, equipment sales are at all-time highs, a record number of golf courses are being built around the world, and more total rounds of golf are being played. It is hard to imagine there can be many negative aspects to this unprecedented growth. But there are.

- People just taking up the game usually are uneducated in its rules and traditions.
- Not enough golf facilities are geared for beginners.
- The boom has brought increased environmental opposition and restrictions.
- There has been an explosion in people calling themselves golf course designers.
- Competitiveness has lessened between experienced contractors.

Since beginning golfers have garnered ideas from watching the pros on television, this has led to very slow rounds of golf by people who think they are being individually harassed by rangers because they are beginners, and they often take it personally. They see no difference between their behavior and that of professional golfers on TV. They just have to do it more often.

Having a golf course full of slow players seriously complicates the fine art of "rangering," or the more politically correct "play coordination," for there are no big gaps between groups, just bunches of little ones like cars in a rush-hour creep.

Such situations can easily lead to flared tempers and harsh words, six-hour rounds of golf, and ill feelings for the game by everyone. Such things are not good for the game, and there are few places for beginners to learn golf etiquette and have a pleasurable introduction to golf.

Another problem of the boom is that there are simply not enough golf facilities geared for beginners. Imagine the problem if alpine ski resorts only built expert trails and ignored the novice and intermediate ones. In essence, this is what the golf industry has done since the emphasis shifted to upscale facilities and virtually ignored simple, low-cost beginner courses.

Convincing golf course developers that these are desirable, profitable investments and a wise use of land is another story. The First Tee program is a great start, but it cannot possibly satisfy the entire demand. For golf to grow we must have "bunny slope" golf courses.

The proliferation of golf courses has also been complicated by increasing environmental opposition and restrictions. Some people worry that there will be too many courses, so they take on a mission to make golf course permitting and build-

Continued on page 32

Lakes and ponds: design, construction, maintenance

By MAC McCUNE

On nearly every golf course, water plays a major role in several ways — aesthetics, course hazards, drainage, irrigation and even, in some cases, wetland mitigation. However, lakes and ponds can be notoriously high maintenance, depending on geographic location, design and soil conditions.

Most golf course ponds are built to create a water hazard and use the dirt to elevate the course and/or greens. Because of this, the economics of spending a lot of money to minimize future problems usually isn't considered feasible.

However, most of these ponds will need major restoration work with time due to sedimentation, shoreline erosion, organic loading and a lack of proper maintenance.

When a lake or pond is constructed, an aquatic ecosystem is created that may have never have occurred naturally. Nature has a pre-chartered course for this impoundment. Unfortunately, this course is not conducive to urbanization. All lakes and ponds, whether natural or man-made,

undergo a process called eutrophication. This is the aging of a body of water and leads to its eventual extinction and transformation into a swamp.

This process may take 100 years, or only 10. The design, construction and maintenance dictate the rate of eutrophication. Eutrophication involves a filling-in process from sedimentation, erosion, grass clippings, tree limbs and leaves, and the natural succession of aquatic plant communities which develop and die annually. This organic load, combined with incoming silt, becomes deposited on the basin, causing the pond to become shallower.

If aerobic conditions are not maintained, this muck will begin to rot, causing foul odors, algae blooms, low or depleted dissolved oxygen and dirty water.

The design and construction of a pond will determine most of the future problems it will encounter. Minimizing the filling in of the pond will eliminate the need for dredging it in the future. This becomes even more important due to the

method and expense of dredging, the significant downtime, golf play alterations, foul odors and unsightliness.

Once the ponds are designed and built properly, they must be maintained just as with any living ecosystem such as a garden or even as a swimming pool.

Designing a pond is generally fairly simple once the location and soil conditions are determined, as well as any potential influencing factors like primary purpose(s), runoff, type of watershed, future accessibility, etc.

The first thing to be determined is if the pond will hold water. Soil with a Permeability Index (PI) of 25 to 40 is the most desirable. The best method to determine this is to have a geotechnical firm punch core samples down the center line of the pond. This will determine the soil type as well as any shallow subsurface ground water. If the soil falls below a PI of 20, the contractor will most likely need to line or seal the pond with either clay or bentonite (a premium grade drilling mud).

Continued on next page

Multiple methods can ensure clean water, ecosystem

By JEFF ALDERMAN

COSTA MESA, Calif. — Costa Mesa Country Club in Orange County, is enjoying clear lakes thanks to a combination of innovative technologies.

Previously, Costa Mesa's lakes and ponds were filled with algae, lacked clarity, emitted foul odors, and were stagnant. They are now clear, sparkling bodies of water, where golf balls are seen by moonlight at water depths exceeding 10 feet. Algae has greatly diminished, with no chemical treatment.

The systems complement the natural aquatic ecosystem, supporting healthy, growing populations of fish and hundreds of ducks and coots.

The design augments, and operates in conjunction with, the lake's natural ecological systems using durable, low energy-consumptive systems to attain and maintain water quality and clarity. Maintenance is much easier and less frequent with lower maintenance costs.

The main components and systems of this design include the following:

• **Gravel Bed Biological Filter System:** This consists of a large gravel bed, with a pump/mechanical system. Properly sized and designed, the gravel bed operates as a natural filter, where nutrients and organic matter are digested by bacteria colonies as the water gently passes through. It also mechanically filters out particulate matter and turbidity, and has a natural appearance. The vertical turbine pumps are very efficient, and there are no expensive underground vaults.

• **Aeration System:** This consists of an air compressor which provides cool air flow, and continuous distribution tubing installed throughout the lake bottoms. This continually adds oxygen to the water, oxidizing much of the organic matter and nutrients in the lakes. Properly designed and installed systems also thoroughly mix ("turn over") the lake water column. A uniform aerobic condition per-



One of the elements that ensured clear water for Costa Mesa Country Club.

mits aquatic life to thrive throughout the lake, eliminating "fish kills" which normally occur at night, or during climatic changes.

• **Ozone System:** Operating in conjunction with the aeration system, this provides a greater degree of treatment to the lake water, giving it greater clarity. Ozone also prevents the build-up of calcium, other minerals, and matter which may tend to clog the slits of the aeration tubing, thus extending the life of the tubing and decreasing maintenance. An adequate ozone system breaks down much of the organic matter and nutrients which feed algae and "cloud" the water. Ozone also directly kills and destroys algae to some extent. The newer ozone generators are safer and more powerful, efficient, and cost-effective than those of the past.

Other, less vital, components which typically are included, are:

• **Skimmer box intakes** to continually remove unsightly debris on the water surface, eliminate stagnation "dead spots," and provide better lake-water circulation. Straining the water through the baskets of skimmers removes larger debris and particulates.

• **Lake-edge discharge "jets"** to better circulate the lake water, and to eliminate "dead spots."

• **Waterfalls and fountain jets** to give dramatic, aesthetic effects to water bodies. They also add some water circulation, and a small amount of aeration. However, the aeration benefit is very small, and is no substitute for the primary aeration systems.

Without proper treatment, the water quality and clarity of golf course lakes and water hazards is generally very poor, with a large amount of turbidity, organic matter, nutrients and algae. By contrast, successfully designed projects range from lakes and reservoirs of several acres in size, to small ponds and fountains — from newly constructed water bodies, to renovations of existing lakes. This includes the transformation of lakes which previously had appeared to have been beyond hope, as well as those which are fed by treated effluent.

Jeff Alderman is owner of Alderman Engineering, an engineering and consulting firm located at 19936 Little Woods Rd., Cottonwood, Calif. 96022; telephone 530-347-0790.

Lakes & ponds

Continued from previous page

A clay liner should be at least 2 feet thick and bentonite should be spread, disked, rolled and compacted at 1 to 2 pounds per square foot. Clay should be installed in 6-inch lifts and compacted to 96 percent Standard Proctor Density (SPD). Either type of liner should be installed over the entire pond to a minimum of 2 feet above normal water level. If clay or bentonite are not available, an artificial plastic or rubber membrane can be installed.

The second aspect to determine is whether the pond will be runoff-dependent, or will have a makeup water source, such as a water well or stream. If runoff-dependent, the watershed (the area of drainage into the pond) will have a big impact on the quality of the water and will require a maintenance program itself. A makeup well will allow the golf course to maintain a constant water level, preventing fluctuations that enhance erosion and aquatic weed growth.

Shoreline erosion is very common in golf course ponds and can be prevented by installing a hard, vertical edge such as timber, sheet piling, concrete blocks, or a trenched, poured-in-place concrete wall.

Each of these measures has a certain time span of effectiveness. Timber will eventually have to be replaced, whereas concrete will last much longer.

A concrete bulkhead, however, will form its own expansion joints (minor cracks), which should be monitored for any ground sinking behind the wall. This is easily repaired and a concrete wall is the least costly of the various methods.

Alternative solutions to minimizing erosion include rip-rap, geotextile fabrics, slope paving and cement-stabilized sand.

The cross-section of a golf course pond should provide for a shallow safety shelf extending out from the edge horizontally about 6 feet. The slope should then drop off sharply to a minimum of a 3:1 ratio to the maximum depth. Pond depth is variable and dependant on certain climactic and regional circumstances.

In the Southern regions, maximum depth should range from 7 to 8 feet, and, in the Northern regions, 15 feet or more.

The safety shelf should be stabilized using 3-inch slope paving of cement-stabilized sand. This shelf will provide safety and allow a place to introduce desirable species of aquatic plants in

containers or unstabilized planter areas.

Any watershed the pond may have should be sodded immediately after construction. Silt fence, sand bags or even hay bales placed around the pond's perimeter or at the top of the bank can greatly minimize sedimentation.

MAINTENANCE AFTERWARDS

Once the pond is constructed, it must be maintained to support

the ecosystem. Aeration is a key factor in prolonging the life of the impoundment. Natural heat and wind-generated currents are seldom enough to provide adequate dissolved oxygen in highly nutrient-rich pond water. The addition of aeration equipment, such as through surface agitation or sub-surface compressed air injection, can greatly enhance the productivity and balance of the ecosystem and re-

duce future maintenance.

Finally, maintaining the pond requires the knowledge and experience to effectively implement a well-designed management program. The ability to recognize potential problems, and the knowledge and experience to fix them in a timely manner, is the key to successful pond management.

Performing water-quality analyses, controlling aquatic

weeds, monitoring mechanical equipment and observing the overall ecology of the pond will help reduce the number of complaints. The management of a golf course pond should be as much a part of the overall course maintenance program as the greens.

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Mac McCune works at Lake Management Services, Richmond, Texas, an Otterbine-Barebo distributor.

Impacts of boom

Continued from page 30
ing more difficult.

Every little agency seems to have its own view of how to protect the environment from golf, and little or none of it is based on science. Golf courses are erroneously seen as threats, so that the more courses are proposed or built, the more restrictions these agencies seem to conjure up.

These are not bad folks. They are very well-meaning, concerned citizens, who simply cannot justify the alleged risks over the potential benefit that a golf course can bring to their communities. So, the problem is that with increased restrictions come increased requirements for lengthy studies, expanded buffer zones and esoteric consultants. These can dramatically increase the overall cost of a course, so it no longer

can be made affordable and accessible to the majority of people who live in that community.

I have worked on many projects in recent years where hundreds of thousands of dollars were misspent to appease some ill-founded bias about golf courses, at the ultimate expense to the community. To find the reasonable middle ground will require open minds, compromise and collaboration by all parties.

Therefore, industry-wide support of the national Golf and Environment movement is essential.

Another problem spawned by the golf boom has been an explosion in the number of people offering golf course design services. Since this is a completely unregulated profession, the only thing a person needs to call himself a golf course designer is a client willing to spend money turning a piece of land into a place to play golf.

The problem is, many of these inexperienced designers do not have a clue of the long-term implications of many of the decisions they will be required to make, and some of those bad decisions could have devastating consequences. The mistakes I see most often have to do with safety, security and liability implicit in the golf business.

Specifically, crowding golf holes too close together or to property lines, not anticipating probable play zones, improper grading of land, and golf holes that might look good but play weird. The cost and liability of such mistakes will not go away and will continually and legally loom over the head of both the designer and the owner. Buyer beware.

Likewise the golf boom has reduced the competitiveness between experienced contractors, for there is so much work they can charge more. In order to satisfy the demand for getting courses built, new construction costs are rising, or new construction companies are emerging.

Former employees of qualified contractors are forming their own companies, which not only lowers the experience level of the original contractor, but usually means that the new company has only one or two people who know how to properly build a course.

If the course architect holds the new contractor to the same high standards he is used to, then the work slows down while untrained crews try to figure out how to deliver quality. This often means missed target dates or settling for a lower quality of finished product — and at a higher cost. In the long run, this might be very good for golf for many people will know how to build quality courses. But, right now it is a problem.

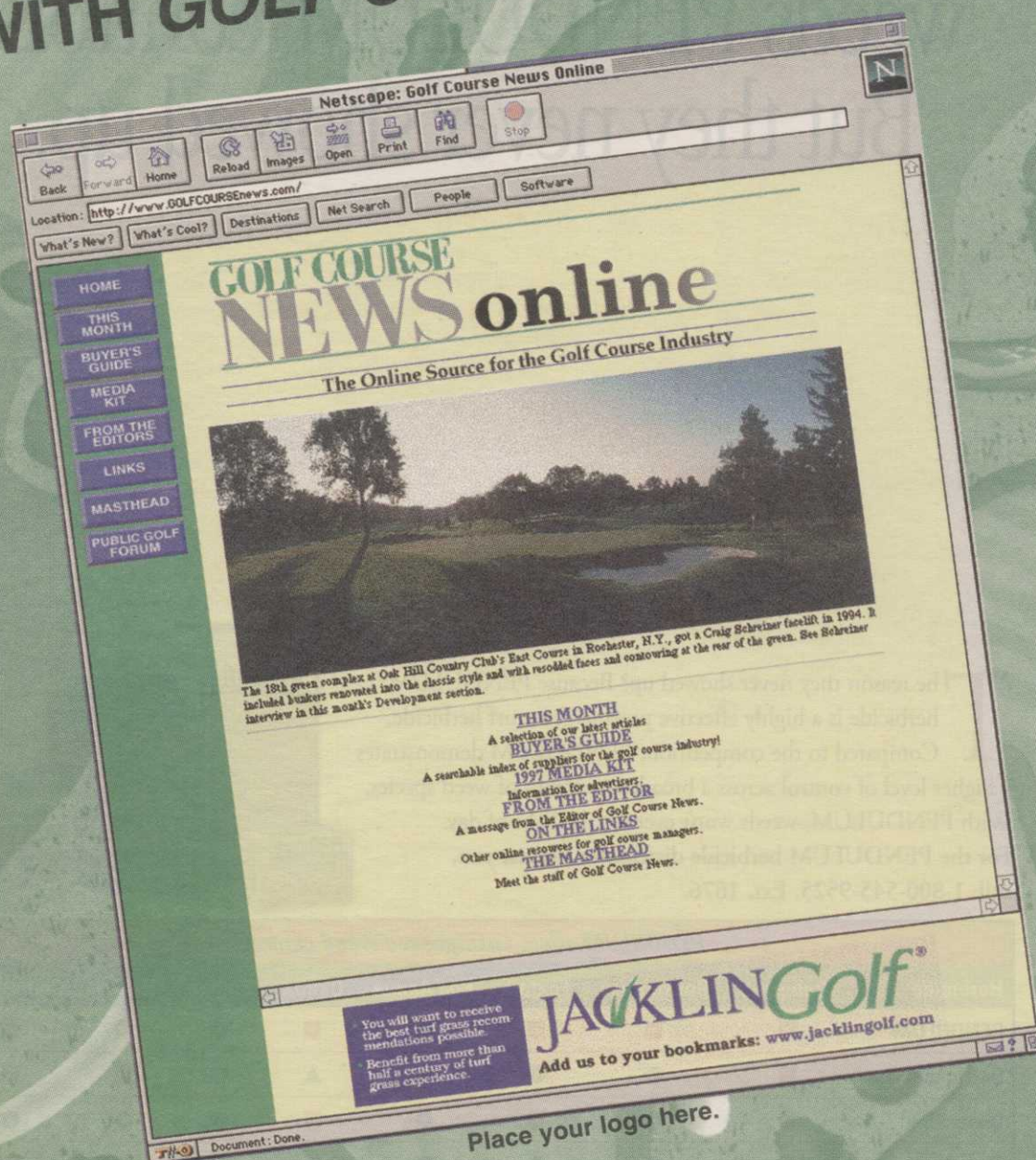
The golf boom has also meant more opportunities for golf pros, superintendents, salespeople and suppliers. Never before has there been so much opportunity for young professionals to get a "top" job, albeit at a less-prestigious course. It could be argued that this lack of apprenticeship time would erode professional standards and ethics, as well as salary levels, but that may not be fully known until the boom ends.

Like all booms, this too, will end. When it does, we will be left with more golfers playing more rounds of golf, an excess of environmental regulations, lots of designers, contractors, pros and superintendents competing for the available work, and a buyer's market for everything that is golf.

It will be a test of survival, and those with the most solid foundation and track record of quality will make it through.

Many of us saw this same scenario played out from 1975-1980 or so, and although it wasn't pretty, it was probably needed to zero out many of the negative trends started during the 1965-1974 boom. Not every cloud has a silver lining.

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BRIEFS



IGM ADDS THREE NEW FLORIDA COURSES

LAKELAND, Fla. — IGM, a subsidiary of Meadowbrook Golf Group, Inc. has been awarded three new contracts to provide contractual maintenance for golf courses in Florida. The courses are The Ravines in Middleburg, Maple Leaf Estates in Port Charlotte, and Dunedin Golf & Country Club in Dunedin.

ENVIRONMENTAL PROMOTES DINGMAN

CALABASSAS, Calif. — Michael Dingman has been named senior vice president and director of golf at Environmental Golf, a course builder and operator located here. A 20-year Environmental Golf veteran, Dingman has been responsible for the acquisition and management of all corporate real estate, land planning, entitlement processing, public agency relations and major golf asset acquisitions since 1995. He will also oversee all forward planning, acquisition of golf course properties, golf course investment opportunities, marketing and sales and golf course construction projects nationwide.

CMAA SCHEDULES INT'L CONCLAVE

ALEXANDRIA, Va. — The Club Managers Association of America (CMAA) will hold its 72nd World Conference on Club Management and 22nd Annual Exposition at the San Francisco Hilton and Towers and the Moscone Center in San Francisco on Feb. 28 through March 4. Approximately 90 educational sessions, pre- and post-conference workshops and a two-day exposition are also planned. For more information, contact CMAA at 703-739-9500.

GOLF TRUST/EMERALD DUNES TEAM UP

BOYNTON BEACH, Fla. — Golf Trust of America has purchased Cypress Creek Country Club, an 18-hole semiprivate course for \$4.2 million. The course will be leased to an affiliate of Emerald Dunes Golf Group, which operates five Florida courses owned by Golf Trust including Polo



ACQUISITIONS

Trace Golf Club, Bonaventure Golf Course and Emerald Dunes Golf Course. Robert von Hagge designed Cypress Creek.

KollStar expands into Florida; plans to double size by 2000

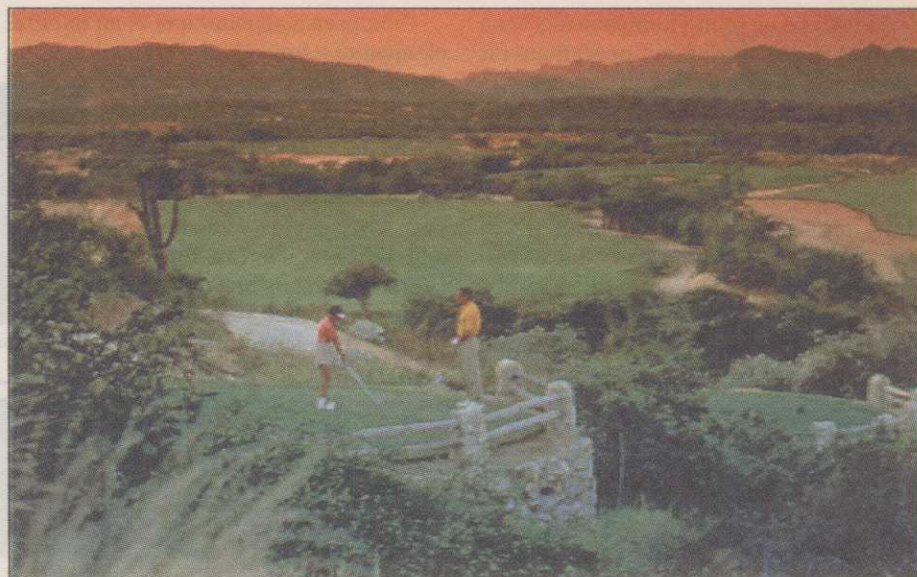
By PETER BLAIS

NEWPORT BEACH, Calif. — KollStar, a major operator and developer of golf courses, has acquired seven courses on the southwest coast of Florida, giving the Newport Beach-based firm a dozen courses nationwide.

KollStar purchased six of the courses from National Fairways Ltd. The acquisition includes Sunrise Golf Club (GC), Rolling Green GC and Sarasota GC, all in Sarasota; Hibiscus GC in Naples; Port Charlotte GC; The Tides GC in Seminole; and Eagle Ridge GC in Fort Myers. Each is an 18-hole, semiprivate club. KollStar also manages Metrowest GC in Orlando, giving the company eight facilities in the Florida market.

According to KollStar Chief Executive Officer Joe Woodard, the company plans to be operating 20 courses by year's end. Despite making its first acquisition just seven months ago, KollStar's goal is to reach 40 by the end of 1999.

KollStar has made improvements at all its properties, Woodard explained, including Houston Oaks (formerly Tinwood) in Houston. KollStar rerouted the 36-hole layout with two separate clubhouses so that it could be served from a single clubhouse, established teaching and corporate outing



KollStar's Palmilla Golf Club in Los Cabos, Mexico.

facilities, undertook cart path and irrigation work and repositioned the complex from a private to a daily-fee facility.

Multi-course purchases, like the recent Florida acquisitions, while attractive, will likely be "pretty rare because the golf course business is so fragmented," Woodard said. "We are looking at several purchases now that would involve two or three courses."

Because of the proliferation of manage-

ment companies, good management deals are becoming harder to find and the market more competitive for those courses that do come available, Woodard said. "Money has become tighter the past couple months, which makes it easier for those of us who have capital, though," he added.

Formed in February 1998, KollStar is a joint venture between Koll Resorts Inter-

Continued on page 37



Jeff Carlson

Carlson starts own management firm

By MARK LESLIE

NORTH EASTHAM, Mass. — Believing that "the superintendent is always the one who first spends all the money but who never gets the chance to see how it is made," Jeff Carlson has made the move to remedy that rule.

A certified golf course superintendent (CGCS) who has gained national recognition for his work at Widow's Walk Golf Course in Scituate, Carlson left his position in October to start Wild Side Golf Management and Consulting.

"I think golf course superintendents, in many ways, are a natural fit for this type of operation," Carlson said from his office here. "The superintendent is always the one saddled with all the capital projects. Today's superintendent is well educated and adaptable to that situation."

Working with Corcoran-Jennison Hospitality Co. Inc. for 14 years, the last three at Widow's Walk, the country's first environmental test course, prepared him to manage facilities, Carlson said.

Continued on page 38

Behrstock departs Meadowbrook for Pride

BEVERLY HILLS, Calif. — Roger Behrstock, founder and former chief executive officer of Meadowbrook Golf Group, has resigned from the company and started a new firm.

Meadowbrook recently merged with International Golf Management, a Florida-based course maintenance and supply company.

Behrstock said he felt the staff in Florida, "who have extensive golf course management skills," could best run the company. "There would be too many conflicts if we did not turn over the reigns to them," Behrstock said.

Meadowbrook was founded in 1996 with Behrstock and Arnold Rosenstein as the only employees. Today, the company has more than 1,800 employees

and 66 courses under management, lease or development. Behrstock said he would hold onto his stock in Meadowbrook.

"With the financial and management capabilities available to the company, I am very optimistic about its future," he said.

Behrstock's new company is called Pride Golf Associates of America and is based in Beverly Hills. His plan is to join with people nationwide who

share his objectives. "It's too early to announce associations," Behrstock said.

Pride will consult with developers and owners to assist them with financing, management contracts, market-

Continued on page 36



Roger Behrstock

Meadowbrook completes \$15 million stock sale

BEVERLY HILLS, Calif. — Meadowbrook Golf Group Inc. has completed the sale of \$15 million of additional Class B Convertible Preferred stock to Apollo Real Estate Investment Fund III, L.P.

Arnold Rosenstein, Meadowbrook's chairman, said the company is commencing a program of acquiring existing courses, and the additional equity, together with outside financing, will assist in meeting the company's goals of acquiring approximately \$75 million to \$100 million of golf properties in the near future, and further expanding the company's lines of businesses nationwide.

With this new investment, the Apollo Real Estate Investment Funds have increased their total equity investment in Meadowbrook Golf Group to \$25 million.

Meadowbrook Golf Group is a leading golf course management company, engaged in the maintenance, management and development of golf courses. The company is a major provider of outsourced golf course maintenance services and a supplier and distributor of equipment and products to many courses.

Thompson named Ga. state golf director

ATLANTA—John Thompson has been appointed director of golf operations for the Georgia State Park golf courses.

Thompson is a 20-year veteran with Georgia State Parks, most recently serving as regional manager for Southeast Georgia out of Brunswick. In that capacity, Thompson oversaw a staff of 160 in the operations, training and educational programming for 21 state parks and historic sites, including two 18-hole championship courses and one nine-hole layout.

Thompson's appointment is an integral element of a broad-based commitment by Georgia State Parks to enhance the playability, conditioning, marketing and operating facilities of its seven courses. The state took a major step toward that goal last year when it created a separate and distinct section for golf course management. Previously, the seven courses were managed by their respective park superin-

tendents and regional managers.

Thompson will be assigned to the Golf Operations Office located at Hard Labor Creek State Park, but will spend one day a week in the central Atlanta office. A native of Barnwell, S.C., Thompson is a 1978 graduate of Georgia Southern College, with a bachelor's of science degree in outdoor recreation.

Georgia State Park golf courses are located across the state and include five championship 18-hole courses and two nine-hole layouts.



John Thompson

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SunCor to build new Scottsdale golf links

SCOTTSDALE, Ariz. — SunCor Golf and Resort Management and Capital Realty Corp. have been approved by the city to build a new 18-hole course at WestWorld.

WestWorld is a premier, nationally recognized equestrian center and special events facility. The 360-acre WestWorld facility is located just north of the intersection of Frank Lloyd Wright Blvd. and Pima Road.

The course will be built primarily within the city of Scottsdale and Bureau of Reclamation storm water retention area, located next to WestWorld, and adjacent to the McDowell Mountain Ranch master-planned community.

Randy Heckenkemper designed the 6,900-yard, par-71 track. The 18-hole layout will feature 80 acres of turf, 55 sand bunkers and one large water feature complete with two multi-tiered waterfalls.

New Jersey track looks to Casper Mgt.

FRANKLIN TWP., N.J. — Billy Casper Golf Management (BCGM) has been selected to perform dual roles for the developer of the new White Oaks Country Club located near Vineland, Md., 45 minutes between Philadelphia and Atlantic City.

BCGM will consult on the pre-opening development, planning and construction and then provide complete turnkey operations management services upon White Oaks' opening, scheduled for summer 1999.

A unique feature to the BCGM/White Oaks relationship is the establishment of a memorabilia center within the clubhouse in tribute to golf legend Billy Casper — Masters and two-time U.S. Open champion, and winner of 60 Tour events. Dating back 40 years, photos, lithographs, magazine covers, newspaper headlines, trading cards, golf equipment, scorecards and other products signed by Billy Casper are slated for showcase in a museum-like setting.

Construction of the new golf facility is progressing on schedule, according to project developer Dobson Construction Inc. of Franklinville. White Oaks is located off routes 40, 47, 55 and 322. The par-71, 6,400-yard, 18-hole Karl Litten layout features abundant tall oak trees lining the course.

Buffalo Golf Group to manage Okla. links

MIAMI, Okla. — Buffalo Golf Group (BGG) of Vinita has been named the management company of Peoria Ridge, an 18-hole layout under construction here that is slated to open in September 1999.

Lynn Blevins, president of BGG, will oversee development and start-up of the operation. This is BGG's third Oklahoma facility.

Pittman, Poe & Associates is designing Peoria Ridge Golf Course, located two miles east of Miami. The course is a project of the Peoria Tribal Economic Development Commission of the Peoria Tribe of Indians of Oklahoma.

ClubLink may buy Toronto's Glen Abbey

The Royal Canadian Golf Association (RCGA) and ClubLink are discussing the possible sale to ClubLink of the Glen Abbey Golf Club and adjacent development lands.

Over the years the RCGA has had numerous discussions about the sale of Glen Abbey. The RCGA has agreed to exclusively negotiate with ClubLink in this regard.

ClubLink is a major Canadian developer, owner, and operator of high-quality golf clubs and related residential real-estate developments.

The RCGA, the governing body of men's amateur golf in Canada, determines national policies and standards relating to the game on behalf of its more than 282,000 members.

GOLF TRUST, DIAMOND PLAYERS CLUB TEAM UP IN ORLANDO

CHARLESTON, S.C.—Golf Trust of America, Inc., a self-administered real-estate investment trust, has closed its acquisitions of Wekiva Golf Club and Sweetwater Country Club located near Orlando, Fla. Wekiva, a semi-private course, and Sweetwater, a private club, are two upscale, 18-hole facilities, located within two miles of each other, effectively

giving the market a 36-hole complex under one management.

Both properties will be leased to Diamond Players Club, a golf management company whose headquarters will be located at Sweetwater Country Club, according to Todd Stottlemire, chief executive officer and a professional baseball player with the Texas Rangers.

Walters nabs Maxwell to run Vegas operation

LAS VEGAS — Roger Maxwell has joined The Walters Group as vice president of golf operations for the company's Southern Nevada golf courses, which include Desert Pines Golf Course, Stallion Mountain Country Club and the Royal Links Golf Club, which is scheduled to open in November.

Maxwell will oversee all aspects of the company's golf operations, including course management, staffing, merchandising and customer service.

Maxwell is a member of *Golf Digest* Top 100 Courses selection committee and has also been named one of the 36 most powerful individuals in golf by *Golf Digest*. In addition, *Golfweek* magazine has named him one of the 18 most influential individuals in the industry.

"Our partnership with Roger Maxwell will provide the finishing touches for our Southern Nevada golf courses and enable us to bring a new level of exceptional service to our guests," said Bill Walters, chairman and chief executive officer of The Walters Group.

A member of the PGA for 27 years, Maxwell is president of In Celebration of Golf, a 13,000-square-foot golf retail specialty shop in Scottsdale, Ariz., and In Celebration of Golf Management, which manages four courses in the Phoenix area.

As vice president for Marriott Golf from 1987 to 1993, Maxwell was responsible for the development and growth of 23 U.S. golf facilities, grossing in excess of \$65 million annually. He was the head golf professional and director of golf for Marriott Hotels and Resorts from 1972 to 1987.

While at Marriott, Maxwell was recognized as America's Top Director of Golf by *Executive Golfer* magazine (June 1987) and one of four Golf Entrepreneurs of the Year for 1990 by *Golf Shop* magazine.

The Walters Group is a Las Vegas-based holding company for diversified investments and business ventures including golf course development, ownership and management.

GOLF COURSE NEWS

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IMG assumes control of Shanghai golf club

SHANGHAI—Tianma Country Club has announced the appointment of sports management company IMG as club manager.

Tianma Country Club will be IMG's first fully managed country club in China. Under the management contract with IMG Real Estate Services (IMGRES), IMG will be responsible for the

club's day-to-day operations and maintenance of the golf course.

"We are delighted to have the support of IMG. Their involvement will certainly help ensure that Tianma Country Club offers a golfing experience that is truly world class," said Gilbert Mar, president of Tianma Country Club.

As an IMG-managed facility,

Tianma Country Club will be a member of the IMG SportsClub program, providing Tianma members with access to more than 25 golf clubs in Asia, Australia, Europe and the United States.

IMG appointed George Shay as director of golf and Chris Gray as golf course superintendent.

Shay is a Certified Class "A"

U.S. PGA Golf Professional and has more than 14 years experience in golf gained during a career in the United States and Asia. Prior to joining Tianma Country Club, Shay spent three years as club manager of Damai Indah Golf & Country Club, Indonesia.

Gray has more than 13 years experience in golf, including nine years in Australia and the United States. In 1994, Gray moved to

Asia as golf course superintendent at Anai Resort and Golf Course, West Sumatra, Indonesia. Immediately prior to joining Tianma Country Club, he was superintendent at the IMG-managed Nirwana Bali Club, Indonesia.

Located in She Shan, one of China's 12 National Vacation Areas, the club is a 30-minute drive from Shanghai Hongqiao International Airport.

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CIRCLE #123

Troon promotes Garmany, Sauter to new positions

SCOTTSDALE, Ariz.—The board of directors of Troon Golf, the Scottsdale-based management, marketing and development company, has appointed Dana Garmany chairman of the board.

While maintaining his present title and responsibilities as chief executive officer, Garmany's move to this newly created role is representative of the growth the firm has experienced since its inception in 1990.

Troon Golf has grown from one facility (Troon North) in north Scottsdale to an international organization with management agreements at more than 40 high-end golf properties located in 10 states and four countries.

Said Garmany of his new post with Troon Golf, "The transition into this role will allow me to devote more of my time toward our firm's national and international alliances and the overall future of Troon Golf."

In a separate but related action, Chief Operating Officer John Sauter was promoted to the position of president.

Sauter will continue to guide the firm through the acquisition and development of any new Troon Golf properties and products, and oversee many of the day-to-day functions of the company.

Sauter comes to Troon Golf via his background in real estate development. Before joining Troon in 1997, he served as managing partner of Investec Real Estate Company in Santa Barbara, Calif. Sauter received his master's degree in business administration from the Anderson Graduate School of Management at UCLA.

Behrstock

Continued from page 33

ing and capital.

"Although the golf business is getting crowded," Behrstock said, "I see opportunities for honorable individuals to come together with Pride and become part of our new team."

GOLF COURSE NEWS

KollStar

Continued from page 33

national, a member of the Koll family of real-estate companies that specializes in golf resorts, and NorthStar Capital Investment Corp.

What distinguishes KollStar from other management firms?

"We built The Ocean Course at Cabo del Sol in Los Cabos [Mexico], which is rated 70th in the top 100 courses in the world by *Golf Digest*," Woodard said. "We're probably the only active golf company in the business today that has developed a course rated in the top 100. Those accolades result from a combination of management, maintenance and customer service. That's a good barometer of what we're capable of doing."



ACQUISITIONS

KollStar has built two courses, one at Cabo del Sol and one at Palmilla in Cabo San

Lucas. The firm is building a second course at Cabo del Sol with Weiskopf and a third there as well.

KollStar recently formed an alliance with The Stonebridge Group — a real-estate company specializing in golf course development and construction — to jointly build and acquire high-end, daily-fee courses.

Salt Lake City-based Stonebridge has provided construction, engineering and consultation services on more than 100 courses and hundreds of commercial developments throughout the United States. Many of the courses have been high-end, daily-fee facilities in the Western United States, including Desert Canyon Golf Course in Columbia, Wash., Wing Pointe Golf Course in Salt Lake City, and The Course at Wentz Vineyards, a Greg Norman design at an active winery in Livermore, Calif.

Stonebridge's principals are co-chairmen Earl Kemp, Richard Haws and Director of Development Gary Stapley. Stonebridge will use its expertise in both development and construction, combined with its extensive network of local contractors, to act as the building arm of for the group's new courses.

Jointly, the two companies expect to roll out three to five new courses annually, but could continue to build and acquire courses separately as well.

Their first joint effort is an Arthur Hills design in Temecula, Calif., called Cross Creek that was scheduled to start construction in mid-October. Two other KollStar/Stonebridge projects

are in planning in the Sacramento, Calif., area — one with Tom Weiskopf and the other with an as-yet-to-be-determined architect. Plans are to begin construction of one of the Sacramento projects in the first quarter of 1999 and the other in the second quarter.

This month, Stonebridge will open Dove Valley Ranch, an 18-hole Robert Trent Jones Jr. de-

sign in Scottsdale, Ariz. KollStar will manage Dove Valley and eventually purchase an ownership interest.

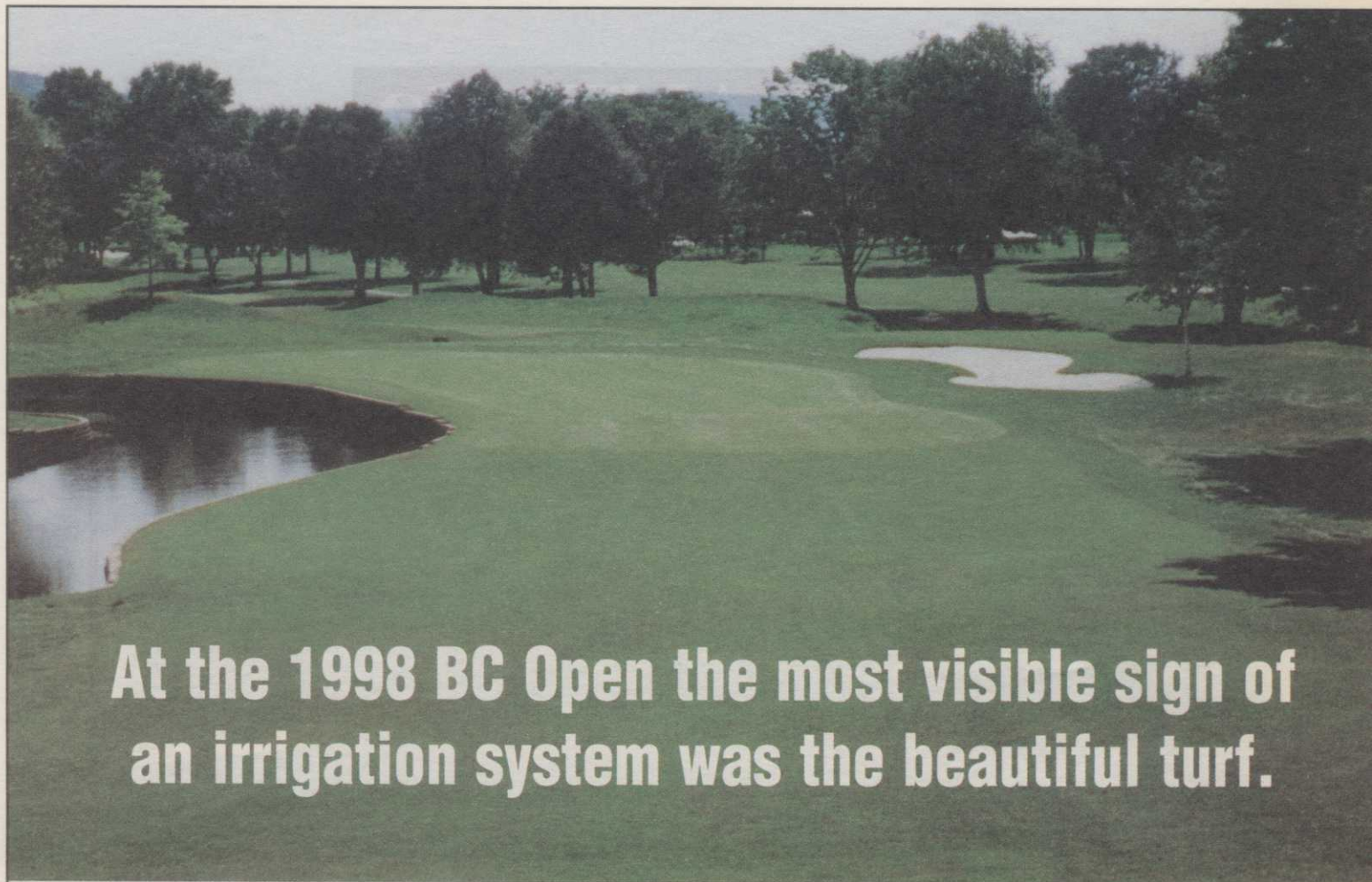
"While we are a consolidator of courses through acquisition and management, our goal [with Stonebridge] was to grow through the development of high-end daily-fee courses," Woodard said. "To do that requires a lot of manpower and effort."

'We're probably the only active golf company in the business today that has developed a course rated in the top 100.'

— KollStar CEO Joe Woodard

Added Stonebridge's Haws: "KollStar accelerates the expansion of our development and construction efforts. We are able to

focus on the complex development process while KollStar provides the financial and management support."



At the 1998 BC Open the most visible sign of an irrigation system was the beautiful turf.



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CIRCLE #125

CMAA names student scholarship recipients

ALEXANDRIA, Va.—The Club Foundation has announced the four recipients of its student scholarships for the 1998-99 academic year.

Receiving \$2,500 scholarships are Annette Ferguson of the University of Houston; Sarah Giles of Widener University; Geoffrey Lincoln of Michigan

State University; and Tara Narmita of the University of Massachusetts.

Ferguson is a dean's list student in her junior year at the University of Houston, where she is majoring in hotel and restaurant management at the Conrad N. Hilton College. She is involved in numerous hospital-

ity-related activities, including serving as vice president and subsequently president of the CMAA student chapter.

A past recipient of the "Salute to Excellence" scholarship, Giles is a senior at Widener University in Chester, Pa., pursuing a bachelor's of science degree in hospitality. She is spending this

fall semester at the Australian International Hotel School, which is affiliated with the Cornell University School of Hotel Administration. She was an intern this past summer at the Los Angeles Country Club.

Lincoln is a dean's list student in his junior year pursuing a degree in hospitality business from the School of Hospitality Business at Michigan State Univer-

sity. He is involved in the school's CMAA student chapter and the Business Management Institute III program held at Michigan State.

Narmita is a junior dean's list student pursuing a degree in hotel, restaurant and travel administration at the University of Massachusetts. She is involved with the school's CMAA chapter and has served as president the past two years.

Since 1998, The Club Foundation has awarded more than \$350,000 through its Scholarship and Grant Program in the form of scholarships to students and grants to the student chapters.

Carlson

Continued from page 33

"I think I've always been involved in the whole operation," he said. "Corcoran-Jennison gave me the opportunity to look at the revenue as well as expense side — how they interface with each other. You get intrigued by it. That's how it [move] came about."

Carlson, who holds an English degree as well as CGCS status, is already preparing bids to assume management of golf courses in New England, and so expects to be looking for employees in all areas.

"I believe in delegation," he said. "I also believe I don't know how to do a lot of things really well and you need golf pros, club managers, superintendents, expert people in every aspect of course management. If you can't delegate and give those people the authority and ability to manage, then you aren't going to be successful."

The right people, all believing in the goals and mission of the golf course, are "the best ambassadors you can have," Carlson said. "Management is all about people."

The consulting portion of Wild Side will address what Carlson is most experienced in: new construction, establishing properties, locating and building maintenance complexes and clubhouses, and "the entire process of getting a golf course from a dream to reality."

"I'll always be a superintendent," he said. "I'm going to be very actively involved in that area in the initial stages. I'm always going to be that way — get up early, concerned with how the grass is growing."

"When I set this up, it's like a superintendent's golf course. I want to keep that flavor about it."

Carlson can be reached at Wild Side Golf Management and Consulting, P.O. Box 1356, North Eastham, MA 02651; 508-255-2269.

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BRIEFS



PRECISION ADDS HOUMES TO TEAM

NORTHBROOK, Ill.—Precision Laboratories Inc. announced that Chip Houmes has joined the Precision team as a turf district manager in the Midwest. Houmes is a native of East Central Illinois and attended the University of Illinois, where he graduated with a degree in Agricultural Economics in 1983. Since graduating, he has managed territories for Dow and Ciba-Geigy as a chemical sales representative before being promoted into Ciba's turf and ornamental division. His most recent experience was managing a five-state territory in the mid-South for the specialty division of Novartis.

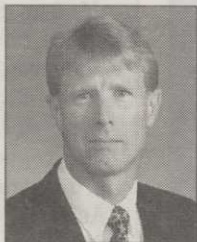


Chip Houmes

His most recent experience was managing a five-state territory in the mid-South for the specialty division of Novartis.

VERMEER NAMES NEWENDORP AS ENVIRONMENTAL GM

PELLA, Iowa—Vermeer Manufacturing Company has named Vince Newendorp general manager of the environmental division. Newendorp oversees all business functions for the division including engineering, manufacturing, and parts. Newendorp started with the company in 1977 as a design engineer and has held several positions in the area of product development. He was most recently product director for tree products, prior to becoming general manager of environmental.



Vince Newendorp

ANDERSON TAKES OVER AS HANCOR PRESIDENT/CEO

FINDLAY, Ohio — Steven Anderson was recently appointed as acting president/CEO of Hancor Inc., replacing Dail Herman. Herman left the company August 20, to pursue a business acquisition. He had been with Hancor since January 1997. Anderson is a business manager with more than 20 years of experience in administration, process implementation, policy development, credit and corporate finance. He has an A.B. degree in economics from Trinity College, Hartford, Conn., and an M.B.A. from Washington University Graduate School of Business, St. Louis, Mo.

GOLF COURSE NEWS



A sample of Continental's work on the 17th at Edinburgh Golf Club in Brooklyn Park, Minn.

Continental Bridge purchases Atlas

By MICHAEL LEVANS

ALEXANDRIA, Minn. — Continental Bridge, one of the nation's largest manufacturers of prefabricated tubular steel bridges, has purchased Toledo, Ohio-based Atlas Bridge.

The deal not only eliminates one of Continental's competitors but gives the company a much-needed Eastern manufacturing presence.

"Our only location up until the purchase was here in Alexandria," said David Rogers, vice president of marketing and an engineer for Continental Bridge. "The

products that we ship are quite freight intensive, so it makes sense for us to have more regional plant locations throughout the US."

According to Rogers, three-year-old Atlas was looking at divesting itself of its business, so it was an opportune time to kill two birds with one stone. "We took a competitor out of the business, but moreso, we acquired a production facility at a remote location," he said.

The golf market makes up about one-third of Continental's business at this point.

Lebanon grows lines, takes Penn Turf

LEBANON, Penn.—Isobutylidene diurea, the nitrogen source in the turf fertilizer lines, Par-Ex, will now be available from Lebanon Turf Products.

According to Paul Grosh, business manager of Lebanon Turf Products, Lebanon Seaboard Corporation became the main marketer of isobutylidene diurea fertilizers on October 1.

Isobutylidene diurea, in the past sold to the professional turf management market by Vigoro as IBDU, will be sold under the trade name IsoPRO in 15 different blends including the popular 21-3-16, 24-4-12 and 31-0-0, Grosh said. Lebanon already markets isobutylidene diurea in homogeneous granular form as IsoTek31.

Lebanon made the announcement upon signing a marketing agreement with a subsidiary of Nu-Gro Corp., the new owner of the production facility for isobutylidene diurea, located in Bucks, Ala. Nu-Gro recently purchased the Bucks plant from IB Chemical Company, a partnership of subsidiaries of Celanese and Mitsubishi.

Vigoro had held a supply contract with IB Chemical Company. IMC Global recently divested its Vigoro Professional Turf division and the isobutylidene diurea supply agreement was terminated. Lebanon jumped at the chance to become the marketer of isobutylidene diurea.

...

In other Lebanon news, PennMulch, the seed establishment mulch developed and patented by Pennsylvania State University, and marketed by PennTurf Products, will now be available from Lebanon Turf Products, it was announced.

Lebanon Seaboard Corporation became

the main marketer of PennMulch as a result of its acquisition of PennTurf Products and New York Pellet Products, Inc. PennMulch is made from recycled newspaper and superabsorbent polymers.

The polymer/cellulose pellets expand to cover seed beds when watered to retain moisture where it is needed—at the seed level.



NEW PRODUCT OF THE MONTH: CLUB CAR'S TURF II XRT

AUGUSTA, Ga.—Club Car Inc. has added its new Turf II XRT to its Carryall Line of transportation and utility vehicles. The XRT is intended for extremely rough terrain including new golf course construction, grow-in and other non-golf rough terrain applications.

As Club Car's "Off Road, Off Trail, Off The Beaten Path, Go Where You Need To Go" vehicle from Carryall, the gasoline powered XRT features heavy-duty, all-terrain tires and an impressive 6.4" ground clearance under the differential.

For more information, contact 888-CARRYALL.

Eco Soil acquires rights to XPo, expands facilities

RANCHO BERNARDO, Calif. — Eco Soil Systems Inc. has acquired all of Mycogen Corporation's license, patent and other proprietary rights to the *Xanthomona campestris* microorganism, or XPo, for use in control of *Poa annua* grass.

The company acquired these rights pursuant to an option Mycogen granted to the Eco Soil in June 1997, according to William Adams, chief executive officer.

Eco Soil Systems also announced that it recently received preliminary indications from the EPA that, upon successful completion of certain tests of the company's proprietary BioJect system and the company's commitment to conduct future tests on *Pseudomonas aureofaciens* TX-1 for insect, animal and plant toxicity, the EPA will register TX-1 as a pesticide for use against certain turfgrass diseases and the BioJect system as an appropriate distribution system for TX-1.

The company has scheduled tests of the BioJect system at Eco Soil's headquarters this week to address the EPA's concerns.

According to Adams, "Although we are optimistic that such tests will be successful, there is no assurance that the tests will satisfy the EPA's requirements or that the EPA ultimately will register TX-1 or the BioJect system."

In other Eco-Soil news, the company purchased a 39,920-square-foot headquarters and distribution facility in Rancho Bernardo for \$2.4 million and concurrently completed an amendment to its credit facility with The Provident Bank to provide funds for the acquisition and development of the building. The new facility will house the company's corporate offices and its Turf Partners operations.



Lofts cuts check to URI's turf program

KINGSTON, R.I. — Lofts Seeds Inc. recently presented a check for \$27,834 to the University of Rhode Island (URI) based on the marketing efforts and royalty agreements of Jamestown II Chewings Fescue and Georgetown Kentucky bluegrass.

Doctors Bridge, Noel Jackson, and W. Michael Sullivan, professors in URI's turfgrass program,

along with Dean Margaret Lienen of the college of the Environment and Life Sciences were on hand to accept the royalty check presented by Victoria Wallace, technical agronomist for Lofts Seed.

"As an alumni of URI's turfgrass program, I am pleased that the cooperative effort between Lofts and URI has continued for so many years," said Wallace.

MACH 2 lands N.Y. registration

PARSIPPANY, N.J.—MACH 2 turf insecticide, a product that controls a variety of grubs and caterpillars on golf courses, has been granted registration by the New York Department of Environmental Conservation.

Manufactured and marketed by RohMid L.L.C., MACH 2 is now approved for use in all

states except for Arizona and California.

Due to more stringent conditions for pesticide use in Suffolk and Nassau Counties (Long Island), MACH 2 liquid and granular formulations will not be available for use or sale in these areas until further notice.

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CIRCLE #122



Dimples, the Scott's balloon

Scotts: Up, up in the air

MARYSVILLE, Ohio — The Scotts Company sponsored "Dimples," a golf-ball shaped balloon at the annual Kodak Albuquerque International Balloon Fiesta in Albuquerque, N.M., in October. The balloon flew in the "Special Shape Rodeo."

Dimples is 52 feet wide, weighs 315 pounds and holds 76,000 cubic feet of hot air (equivalent to 52.5 million golf balls).

E-Z-GO lands ISO 9001

AUGUST, Ga. — E-Z-GO Textron has become the first golf car and utility vehicle company to receive International Standardization Organization (ISO) 9001 registration. E-Z-Go has been certified to the ANSI/ASQC Q9001-1994 standard.

Bureau Veritas Quality International (BVQI) of Jamestown, New York, the ISO registrar, conducted a final audit of E-Z-GO's Augusta, Ga., plant in late August, subjecting the company's operations to a 20-element inspection. E-Z-GO had to show excellence in operations ranging from design control to inspection and testing.

AMC GETS THE NOD FROM RAIN BIRD

AZUSA, Calif.—Rain Bird has named AMC Industries Inc. as its new golf irrigation products distributor for Oklahoma. AMC has been the Rain Bird distributor for southern Texas and eastern Mexico for nearly 30 years.

Founded in 1924, AMC currently has eight sales and service locations throughout Texas — Austin, Houston, Pharr, San Antonio and Stafford. The company will open an office in Tulsa, Okla. to service its new sales territory.



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GOLF COURSE NEWS

Deere/SkyLinks

Continued from page 1

Now we have a chance to help the golf course owner justify this technology across various applications."

Just where John Deere can go with this technology married to its turf equipment line is anyone's guess. According to Phillips, the plans for exactly how Deere can take full advantage of this new acquisition are constantly evolving.

"Every time I turn around we're re-writing the business plan because it's getting bigger and bigger," said Phillips. "Due to all the possible applications, we really can't get our arms around it."

At the heart of the Player Systems deal are two components: Precision Turf Care and Sky Links. Precision Turf Care controls the precise spraying of water, fertilizer and pesticides and is being marketed as a tool for general turf care management.

SkyLinks is mounted on golf cars and acts as an electronic caddy, giving the player distance measurements, tips and graphical representations of greens and fairways. It can also be used to send messages from clubhouse to cart and vice versa while allowing course operators the chance to monitor speed of play.

"The founders of the company realized that the potential of GPS within golf is much more than yardage," said Richard Beckmann, director of sales and marketing for Player Systems. "It's truly information technology. While talking to our customers — directors of golf, owners and general managers — they saw the information technology tracking players, counting rounds, getting information about overall course performance."

Player Systems realized early on that to get to the point where such a system can exist, a GPS system that's more than a yardage reader, the company had to do some partnering. Player worked with Deere for three of the company's four years in existence to make this deal happen.

"This is a way for SkyLinks is to reach the goals and potential that we knew it had," said Beckmann.

According to both Beckmann and Phillips, the Player Systems name, logo and product names will remain intact for the foreseeable future. New personnel are currently being added.

Where can this all lead? Will the golf course superintendent of the next five to 10 years be sitting behind a computer, maintaining his course with GPS controlled robotic mowers and pesticide applicators?

"Anything is possible," said

Beckmann. "You're going to see this technology on every course in some shape or form very soon."

According to Phillips the sky is the limit and Deere is not going to rule any possible application out of its plan. "The key thing for us is to provide our customers with cutting-edge technology and equipment. We saw GPS as a natural extension."



ASGCA puts supplier directory on CD

CHICAGO — Golf industry suppliers can promote their products and services directly to golf course architects through the first-ever CD-Rom version of the Suppliers Directory, published by the American Society of Golf Course Architects (ASGCA).

"For many years, ASGCA members have relied on our bound version of the Suppliers

Directory to specify products, materials and consulting services for new and existing courses," said Bob Lohmann, president of the Society. "We expect that reliance to grow now that the directory is in electronic form, and able to deliver more information more quickly for more suppliers."

Previously, the Suppliers Directory contained brochures, marketing materials and sell sheets from each participant. The pieces were bound into a three-inch binder and distributed to each ASGCA member.

The CD-Rom version is scheduled for release in August, 1999. Reservations will be taken from golf course suppliers through April, 1999.



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CIRCLE #120

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Percent paid and/or requested circulation	68%	65%

NEW PRODUCTS

Miltona makes head trimming a breeze

The Miltona irrigation head trimmer makes clean cuts around sprinkler heads. Its cutting blade is adjustable to fit head diameters from 6 to 10 1/2 inches. Cutting blades in fixed diameters fitting 7- and 7 1/2-inch heads are also available. The tool features all steel construction and stainless steel cutting blades. For more information contact 800-456-4351.

CIRCLE #202

BAYER STUDY REVEALS NEW OPTION

Studies by Bayer Corporation Garden and Professional Care have revealed a convenient option for applying Merit Insecticide to trees and ornamentals to control insect pests. Applying Merit with the Kioritz soil injector requires a fraction of the water needed for conventional power soil injection treatments. For more information, contact 816-242-2000.

CIRCLE #204

Neptune pumps up 'fertigation' products

Neptune Chemical Pump Co., Inc. now offers a system for applying fertilizers and chemicals to turf via the irrigation system. Called "fertigation," the process is made possible by the combination of Neptune's Series 500 "dialPUMPs" and the Eiffel Fertilizer Pump Platform.

Series 500 dialPUMPs are hydraulically actuated diaphragm metering pumps that, when used in combination with common irrigation systems, allow users to precisely adjust the amount of fertilizer ap-

plied per acre, so that the turf receives exactly the correct dosage.

Single-head (simplex) pumps are available with capacities from 2.0 gph to 80 gph. The Eiffel Fertilizer Pump Platform on which the Series 500 dialPUMP sits is a single-piece platform molded from strong, lightweight polyethylene for easy lifting and handling. It integrates the pump controls and wiring for complete portability. For more information, contact 215-699-8701.

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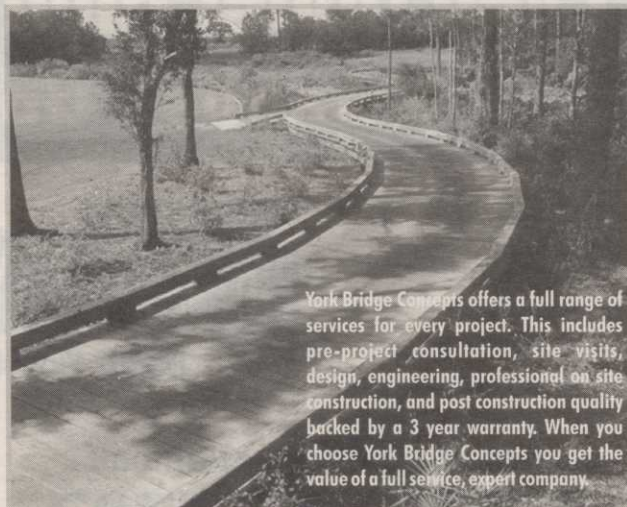
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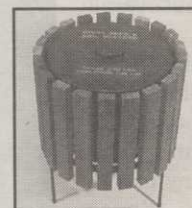
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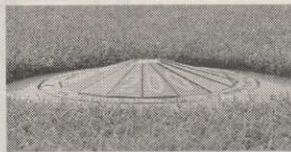
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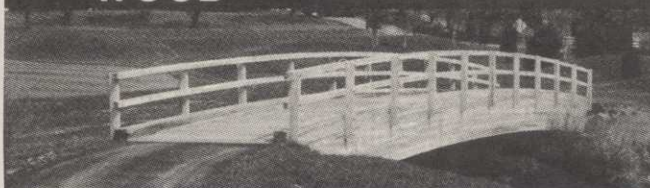


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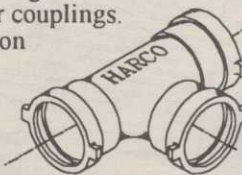
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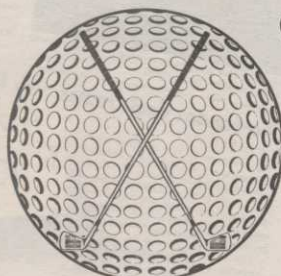
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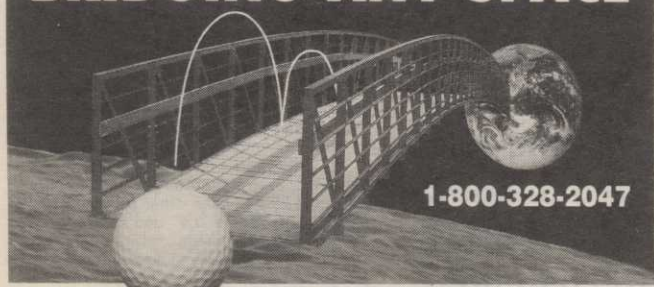
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118	American Cyanamid	31
131	The Andersons	25
138	AquaAudit	44
119	Aquatrols	18
120	Aquatrols	41
139	Bearcom	44
140	Bird-X	45
141	BoardTronics	44
142	Continental Bridge	45
106	E-Z-GO	10
143	Eagle Golf & Landscape Products	45
144	Enwood Structures	44
145	Excel Bridge Mfg.	45
129	Fine Lawn Research	19
133	First Products	29
110	Flowtronex PSI	9
121	FMAC Golf Finance Group	35
146	Formost Construction Co.	45
134	Great Lakes Containment	42
122	Hancor	40
147	Harrington/Harco Corporation	45
114	Hydro Agri North America, Inc.	34
123	IGM	36
148	Irrigation Aftermarket Parts Corp.	44
149	Jesco Products/Pinhigh	44
102	John Deere	4-5
150	Kirby Markers	44
115	Kubota	27
101	LESCO	16-17
116	Lofts, Inc.	12
136	Master of the Links	42
103	Milorganite	14-15
130	National Mower	19
124	Nutramax	38
112	Palmer Course Design	13
137	Partac Peat	42
117	PBI/Gordon Corporation	20
151	Quail Valley Farms	45
125	Rain Bird	37
104	Rhone-Poulenc	6-7
126	Rohmid LLC*	28
127	Seed Research of Oregon	24
128	Standard Golf	26
152	Steadfast Bridge Co.	44
107	Tee-2-Green	2
—	Terra Industries	13
108	Textron	48
132	TRUE-SURFACE®	29
109	Ty-Crop	47
111	Watertronics	3
135	York Bridge Concepts	42
105	Zeneca Professional Products	22-23

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CIRCLE #202

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Continued from page 9

consideration natural features and resources, and enhance or restore the pre-existing uniqueness of the land rather than destroy it all and then recreate it in ways that can't be sustained over time?

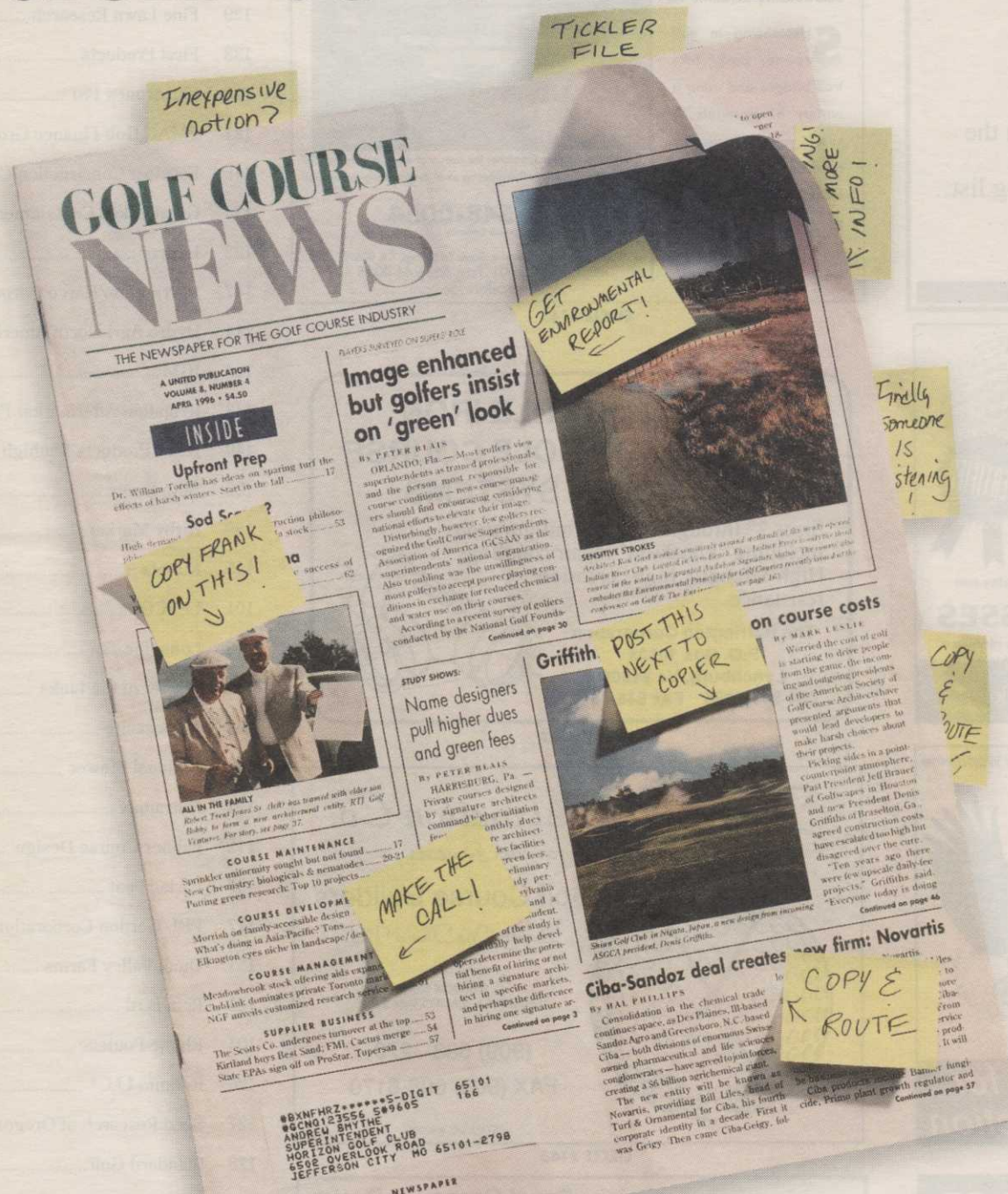
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The decisions made regarding a "proper" site and an "appropriate" design will have a

long-term effect on the superintendent who is left behind to manage the course. If poor sitting and design decisions are made, subsequent management decisions may become expensive and burdensome. And for those who are dedicated to being environmental stewards of the land, it's a frustrating balancing act.

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Stick to News.



'Decisions regarding golf course construction should always ultimately be founded on the history and tradition of golf.'

the subsequent impact on water quality throughout the community, and conserving natural resources, all the while keeping fairways green and members happy.

Decisions regarding golf course construction should always ultimately be founded on the history and tradition of golf — a game with its roots in nature. Nature rarely presents us with what has become the "television-studio" approach to golf course development and design.

Rather, we should develop land and design golf courses that provide the opportunity to showcase environmental stewardship. Likewise, we should manage our golf courses as exemplars of environmental stewardship. Anything less will be a disservice to our fellow human beings, the golf course industry, and the future of our planet.

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