

Chris Sykes runs down a mental checklist of all the technological devices he carries before checking on Cherokee CC in Knoxville, Tenn., where he is the superintendent.

Cell phone: Check. Digital recorder: Check. Palm Pilot: Check. Walkie-talkie: Check. Pager: Check. With the inventory complete, Sykes breathes a sigh of relief. Now he's equipped to face whatever challenges the golf course throws at him.

"There's so much to remember every day between taking care of the golf course and managing my staff that I can't imagine how superintendents used to do it before technology advanced to where it is today," Sykes says. "I have 500 computer files that I use to help me do my job. Without a way to access them on the course, I'm not sure what I'd do."

Though technology is only another tool for the profession, it's streamlining maintenance operations so superintendents can spend the bulk of their time practicing what they enjoy most: the art of golf course management.

Sykes embraces technology as an integral part of his career, and he doesn't understand why more of his colleagues don't take advantage of it.

"If you stick yourself in the past, you will be left behind as the industry moves forward," Sykes says. "The superintendents who learn how to harness the power of technology will be those who progress professionally."

Perhaps the most important technological innovation of the past 30 years was the introduction of personal computers to the industry. According to the 2001 GCSAA Leadership survey, 41 percent of superintendents ranked computers as the most important piece of personal technology they use in their work. PCs revolutionized the way superintendents conduct business, says Bob Collins, certified superintendent at Cripple Creek Golf & CC in Bethany Beach, Del.

"Nearly all superintendents have computers now, and with the advent of e-mail and the Web, computers are almost indispensable," Collins says. Superintendents can save time because they don't have to recreate routine documents every year, he adds. Having computer files also makes record storage easier, Collins says.

David Stone, superintendent at The Honors Course in Ooltewah, Tenn., says he uses his computer primarily for word-processing and budget spreadsheets. He also keeps files of the instruc-

tions he gives his crew so he can monitor their progress on jobs. "It's been an incredible help to me in streamlining the process," he says.

The prevalence of computers inspired development of: computerized irrigation systems; global positioning system (GPS) maps of golf courses; and the use of Web sites and e-mail to disseminate turf information to industry colleagues at lightning speed. (The GPS is a government network of 24 satellites orbiting the earth that tracks the location of moving objects on the ground.) These technologies allow superintendents to perform tasks, from water applications to staff budgeting, more efficiently and effectively than before.

Cellular phones, which followed on the heels of computers, liberated superintendents from their desks, allowing them to spend more time in the field. Collins says if you'd told him five years ago that he would carry a cellular phone,

Superintendents expect computer-driven mowers and the global positioning system to be at the forefront of the next generation of technological advances

he would have said you were crazy. Therefore, he finds it ironic the phone is now his constant companion.

"I carry my cell phone with me so my assistants can reach me if a crisis arises on the course," Collins says. "It makes me more secure about my job and relieves a lot of stress because I know I can always be in contact."

The advances in cellular phone and two-way radio technology have turned the gadgets into more than communication devices, however. Many cellular phones have Web access, which helps superintendents stay in touch as they prowling their courses looking for problems, says Dan Dinelli, superintendent of North Shore CC in Northbrook, Ill.

"You can be out on the course in the morning and check a weather report without having to go back into the office," Dinelli says. "If you find there's going to be a storm, for example, then you can use the device to change the settings on your irrigation system or communicate some

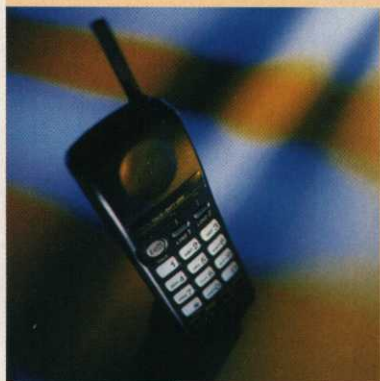
Continued on page 32

Choosing Communication Tools for You and Your Crew

When Bill Spence arrived at The Country Club at Brookline (Mass.) in 1984, he noticed crew members walking around the 230-acre property with small, outdated Motorola two-way radios that barely reached the first green from the first tee. He had to improve the communication system — and fast.

"We tried to boost the range by using a repeater, but it was only a matter of time before we had to make a change," Spence says. "Communication is far too important on a golf course to let an inefficient system hurt it"

The sophistication of communication tools has expanded considerably since the days of the older two-way radios, says Bob Farren Jr., director of



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golf course maintenance at Pinehurst Resort in Pinehurst, N.C. Farren says the increasing complexity makes it imperative for superintendents to choose the right systems.

Spence and Farren offer the following ideas about what you need to know before purchasing a new communication package for you and your crew:

■ Conduct a survey to determine how much range your radios will need.

Both Spence and Farren say a survey is an essential first step to buying communication equipment.

"You have to know what your limitations are before you can buy a system," Farren says. "Topography plays a large role in determining how much power you'll need to reach all areas of your course."

■ Shop around.

Farren, whose system includes two-way radios and cellular telephones, says shopping around is particularly important for cellular phones because the number of companies with differing offers is staggering.

"You want to acquire the right package," Farren says. "With the number of companies on the market, you should be able to find a deal that's both economical and effective."

■ Make sure the radios/phones are multichannel and programmable.

Spence says having multichannel capability is vital for his facility. The clubhouse, pro shop and front desk all have specific frequencies to use, which makes it helpful when the maintenance staff needs to contact them.

"If you have a problem on the course — for example, a golfer collapsing from a heart attack — you need to get to the front desk immediately to call for help," Spence says. "You don't want to be fumbling around trying to get someone to respond on an open frequency. Multichannels address that issue."

■ Investigate the equipment's toughness.

"I've seen radios fall out of golf cars and pockets and bounce off the ground," Spence says. "You have to make sure that whatever equipment you buy will stand up to that kind of treatment."

■ Check the availability of parts and service on the system you purchase.

Superintendents should find out where the closest service center is and how quickly it can turn around a repair, Spence says.

"The last thing you'll want to do if your radio goes down is drive an hour to a repair shop that will take a week to fix it," Spence says. "Your communication equipment is like any other piece of equipment you own. You don't want it out of commission for long, so you'll need to know who can fix it fast."

— Frank H. Andorka Jr., Managing Editor

Continued from page 31

piece of information to the crew. It will make you more efficient."

Dinelli says superintendents can also use Web-access phones to view Web sites that have information to diagnose pest problems more accurately and quickly, allowing superintendents to treat problems with precision.

Where to go

Where superintendents would like technology to expand in the future is as diverse as the number of superintendents you ask. For example, Sykes says he'd like to see robotic, GPS-driven electric mowers where superintendents could program mowing patterns and the machines could mow without operators. He also feels electric equipment is the future, particularly with energy shortages and noise-pollution concerns spreading across the country. "You'd save money because you'd be able to reduce your staff," Sykes says.

Dave Ward, superintendent at Olympia Fields CC in Olympia Fields, Ill., says GPS-controlled equipment will revolutionize the profession's future. He'd like to be able to track his maintenance equipment from his desktop (or even a hand-held computer) through GPS. He'd like to see manufacturers install sensors on equipment that would diagnose mechanical problems while machines were out in the field *before* the problems became a major hassle. In addition, Ward's dreams go further.

"Someday, maintenance equipment will have sensors to alert you to soil, pest and disease problems," Ward says. "It will feed the information back to you on a hand-held computer so you can make an instant decision about what actions to take. I'm looking forward to that day."

Unless the latest technology can work in concert with what already exists, however, it will never reach its full potential, Dinelli says. The major missing piece — and source of constant frustration for Dinelli — is the lack of software to allow computerized systems to work together as one.

"That's what diminishes its overall power to affect the way superintendents do business," Dinelli says. "It's so piecemeal. Plenty of superintendents see the potential, but until someone can find a way to make all the computers work together, we'll only scratch the surface of what technology can do." ■

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Internet service providers and hardware manufacturers provide high-speed connections so you can surf more swiftly



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Cruising the Web at Warp Speed

TECHNOLOGY UPDATE

BY JOE DYSART

Once you're comfortable cruising the Internet, one of the first questions you'll ask is: How can I go faster? Fortunately, several Internet service providers and hardware manufacturers have responded to the clamor for high-speed Internet connections with hardware and line connections that make the typical 56K modem seem prehistoric.

Currently, the two primary high-speed Internet alternatives — commonly known as “broadband Internet” — are cable and digital subscriber lines (DSL). While there are other contenders — satellites and Integrated Services Digital Networks (ISDN) — neither is significantly faster than a standard 56K modem. Given that you already have or will soon have a choice between cable and DSL, it doesn't make sense to get involved with satellite or ISDN.

One of the easiest services to link to is high-speed Internet cable. Offering speeds up to 50 times faster than a 56K modem, high-speed cable is available in select markets and is generally provided through local cable TV companies. Linking to it involves little more than hooking a cable modem to your PC.

High-speed Internet cable is also relatively inexpensive. After installation fees, which range from \$99 to \$175, basic cable modem service can be had for as little as \$39 per month. For more information, check out companies like @HomeNetwork (www.home.com) to see if you happen to be lucky enough to be located in one of the markets serviced by cable modem companies.

Cable Internet access can also be extremely quick. Some cable companies promise download speeds of up to 8,000 Kbps. Compared to a 56K

Continued on page 36

Cruising the Web

Continued from page 35

modem, such speeds seem lightning charged.

Unfortunately, the downside of high-speed Internet cable is that speeds vary. Generally, access speeds drop during peak usage hours. The more people who use the system, the slower your access will be.

Currently, the primary alternative to cable is DSL service. Provided by local telephone companies, DSL lines can be 25 times faster or more than a 56K modem. Not surprisingly, prices vary. But generally, users should expect to pay around \$100 for line installation, and a \$30 to \$120 monthly fee for service, depending on speed.

Unfortunately, the high speeds promised by DSL also vary. But with DSL, access speed is generally less dependent on the number of local users on the system and more dependent on your physical proximity to what is referred to as the DSL provider's central office. At distances of less than 12,000 feet, for example, you should be able to get download speeds of up to 8,000K, according to the DSL forum. But at more than 20,000 feet, expect 256K downloads at best.

Establishing a link involves installing an ethernet card in your PC (NetGear by Bay Networks is a reliable card), and hooking your PC to a DSL modem. The modem interfaces with a standard telephone line, which is augmented with a special jack that's installed by your DSL service technician.

Like high-speed cable, DSL is a tempting invitation to the Internet's fast lane. But be forewarned: DSL installations can be tricky, and it's a good idea to bulletproof your DSL installation before the service technician ever darkens your door. First and foremost, size up the competition: You can get a list of DSL providers for your community at www.getspeed.com.

You'll also need an ethernet card, and it's best to verify with your DSL Internet Service Provider which card is best for your PC and its service. Any local PC store can easily install an ethernet card. You can also do the installation yourself by removing your PC's protective shell, and plugging



the ethernet card into the appropriate slot.

Moreover, you should also be sure to demand "always on" DSL service, or a connection that is live 24 hours a day and seven days a week. At an average of \$50 or more per month, you shouldn't have to settle for a limited DSL connection.

If possible, you'll also want to verify that your PC works well with DSL. For example, test your PC on a friend's DSL connection, if possible. The reason: Occasionally, if you're not getting the DSL access speeds you were promised, a DSL installer may blame the performance problem on your PC (surprise). If you can prove your PC works fine on another DSL connection, your service tech will have to knuckle down and troubleshoot the connection.

Moreover, when readying for a DSL connection, you'll want to keep a clean machine. Translation: The fewer additional appliances plugged into the same surge protector as your DSL modem, the better. Sometimes, a non-computer appliance sharing a surge protector with a poorly shielded DSL cable modem, for example, can degrade the connection.

Whether you choose cable or DSL, you should put the tech support department of your potential provider through its paces before you sign. Often, smaller eager-to-please cable or DSL providers will run circles around their monolithic counterparts with faster and more efficient customer service. Do a little homework now to save headaches later.

It's also a good idea to be personal with your salesperson. Use the personal e-mail address of your salesperson to document in e-mail any ongoing problems with your

service, for example. The written history will come in handy if you decide your provider is not working for you, and you want to bail.

As with most things high-tech, detailed research before you commit never hurts. For more insights, check out www.dsreports.com, www.dslife.com, www.dslprime.com, www.cable-modem.net, www.cablemodemhelp.com and www.speedguide.net.

You'll also find that your local Internet club can be one of the best sources of info for how local cable and DSL services operate. Enter the keywords "Internet club" (and your town) on any popular search engine for links to the friendly propeller heads in your area.

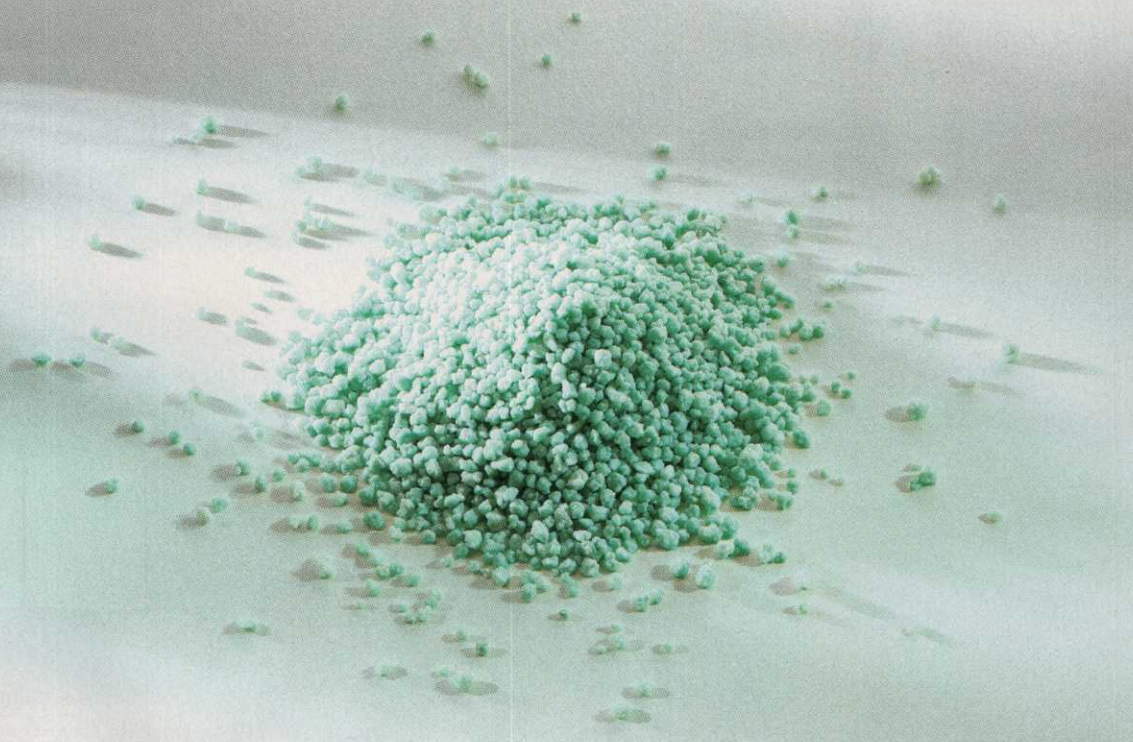
A final note: Be aware that "going broadband" unfortunately offers cyber ne'er-do-wells unfettered access to your



PC. Whether you're connected via DSL or cable, your PC will be hooked to your provider's network 24/7, offering Internet hackers nothing but time to crack into your PC if they choose.

You can frustrate all but the most hyper-diligent of these pranksters by adding firewall security protection between your system and your 'Net connection with programs like Zone Alarm (www.zonelabs.com), Norton Personal Firewall (www.symantec.com/product/hom-is.html) and Black Ice Defender (www.networkkice.com). ■

Joe Dysart, an Internet business consultant based in Thousand Oaks, Calif., can be reached at joedysart@digitalubiquity.com.



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Vegas Ain't Got Nothin' on Golf

Themed courses have made their mark — for better or worse

STORY AND PHOTOS BY GEOFF SHACKELFORD

In a somewhat liberal interpretation, C.B. Macdonald's storied 1911 design of The National Golf Links of America could be labeled a themed course. Macdonald would probably shudder at the description, particularly now that "theme" is so closely associated with Las Vegas and Disney amusement parks.

However, Macdonald sold the idea of his "ideal" layout by finding green sites that embraced the principles of great holes in Europe and then built his interpretations in Southampton, N.Y. His non-golfing design associate, Seth Raynor, went on to create numerous courses using several of the same de-

sign themes. But Raynor also varied the replicas by putting different twists on famous holes like the Redan par-3 from North Berwick in Scotland.

Themed courses have taken on multiple personalities and twists since the days when Macdonald tried to sell interesting design in America. Like the recent blitz of Las Vegas themed hotels, the process of building and marketing new golf courses is finding an easier and more successful route with themed golf. Will it continue and could themed golf give new life to the faltering new course market?

What's a themed course?

Every club and upscale daily-fee course claims to present a certain "experience." Some are ultra-private, others are family-oriented facilities, while plenty more are "true links-style" layouts. We even see the delineation made of "corporate daily fee" as opposed to just "daily fee." Most labels are marketing based, but most golfers find the courses aren't too different from the ones down the street after the promotional layers are peeled away.

Beginning with the 1989 Donald Ross Memorial Course in Boyne Highlands, Mich., however, the theme concept has been taken to different extremes. No matter how bizarre purists think the various architectural schemes are, themed projects have proven successful because their layouts present interesting, enjoyable course designs that operators find are generating plenty of play — without the glitzy marketing talk.

Stonebridge Golf Links & CC, in Hauppauge, N.Y., is a tribute to C.B. Macdonald, Seth Raynor and Charlie Banks.



The Donald Ross Memorial is a popular and well-regarded layout — not so much because of its ability to remind golfers of famous Ross holes that it sought to replicate, but because of the sheer fun of tackling its design. Course critic Tom Doak wrote in his *Confidential Guide to Golf Courses*, “In taking so much time to do detail work around the greens, even if they didn’t get them just right, they got better results than 90 percent of modern courses.”

In 1992, the first of two Tour 18 golf courses opened in Texas, with the goal of replicating the best holes in America from courses such as Cherry Hills, Pinehurst, Doral, Pine Valley, TPC Sawgrass, Riviera and Pebble Beach. Some of the replications retain playing characteristics of the originals, while others look nothing like the real McCoy. Besides copying design features, Tour 18s include Masters tournament scoreboard replicas placed just as they are on Amen Corner.

The Tour 18 courses average a healthy 60,000 rounds annually and have led to brisk real-estate sales. Golfers are finding the courses enjoyable, even if some of the famous places like Pebble Beach and Harbour Town don’t find the replicas so cute. After a long legal battle, certain signature features of those two resorts do not appear at the Tour 18 layouts. Golfers are constantly reminded by the course that “franchising permission for simulating the original holes from these courses has not been given to Tour 18, nor do the owners of these courses endorse, sponsor, approve of or affiliate with Tour 18.”

Legal problems slowed down replica business for the Tour 18 concept, leading to a company split. Tour 18 Dallas and Tour 18 Houston are now Arnold Palmer Management properties while another group, Tour 18 Inc., has just finished another themed course, the



The Tour 18 layouts replicate the best holes from America’s best courses.



“cutting-edge” Augusta Pines.

“Tour 18 is the originator and clear leader in the young-but-growing replica golf course business,” says Peter Nanula, Palmer Golf’s president and CEO. “Golfers love the unique experience at Tour 18 facilities.”

The latest trend

New concepts are constantly appearing, such as the Cowboys GC in Dallas (straight golf, but heavy on the Dallas Cowboys tie-ins). With Rick Jacobsen’s “family-friendly” nine at Illinois’ Glenview National, themed design has taken on a different, less tacky focus. Instead of perfect replicas, a new group of courses present hole designs “inspired by” the work of classic architects. The results range from interesting to excellent.

The Tribute at The Colony is architect Tripp Davis’s — you guessed it — tribute to the “linksland golf courses of Scotland.” Located near Dallas, Davis attempted replicas of holes inspired by his research in Scotland.

Though the sight of a beverage cart, wide concrete paths and separation mounding between holes undermines some of the course’s links flavor, plenty of other subtle touches by Davis and the developers take The Tribute to a higher level than most themed courses because playing interest remains the primary goal.

New Jersey’s Architects GC was opened this summer to pay tribute to golf’s great designers. Architect Stephen Kay enlisted *Golf Digest* architecture editor Ron Whitten to help choose and carry out holes inspired by the work of the premier architects for the period between 1885 and 1955. The 6,818-yard par-71 design does not present pure replicas. Instead, efforts were made to build in the spirit of architects as Old

Continued on page 40

The Tribute at The Colony in Texas (near Dallas) was inspired by Tripp Davis’ love of Scottish golf courses.

Themed Courses

Continued from page 39

Tom Morris, Macdonald, Walter Travis, A.W. Tillinghast, William Flynn, George Thomas, Ross and others, with the finishing hole built in the spirit of the late Robert Trent Jones.

Because the course basically plays in the order the architects lived and attempts to maintain their design style, Architects GC lacks the symmetry found on a typical layout. Yet, Kay and Whitten have been able to present design quirks and features that add to the character of the design. The theme also attempts to educate interested golfers with the course's general aura of reverence for the master architects.

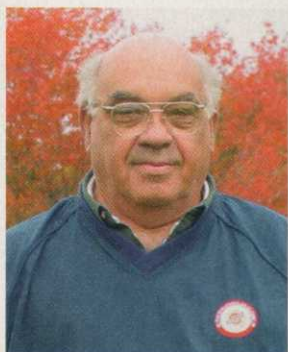
Historian George Bahto shares a similar respect for architects Macdonald, Raynor and Charles Banks and is finishing up a book on their lives. But before the pages hit the press, Bahto has been given the chance to redesign Stonebridge Golf Links & CC, a Hauppauge, N.Y., layout that's a modern-day tribute to his favorite triumvirate of architects. Like they did before him, Bahto has taken the design concepts they loved most and built his own inter-

pretations — the Redan par-3, the Eden from St. Andrews, the Biarritz from France and even the "Principal's Nose" bunkers used to great effect on the short par-4 sixth.

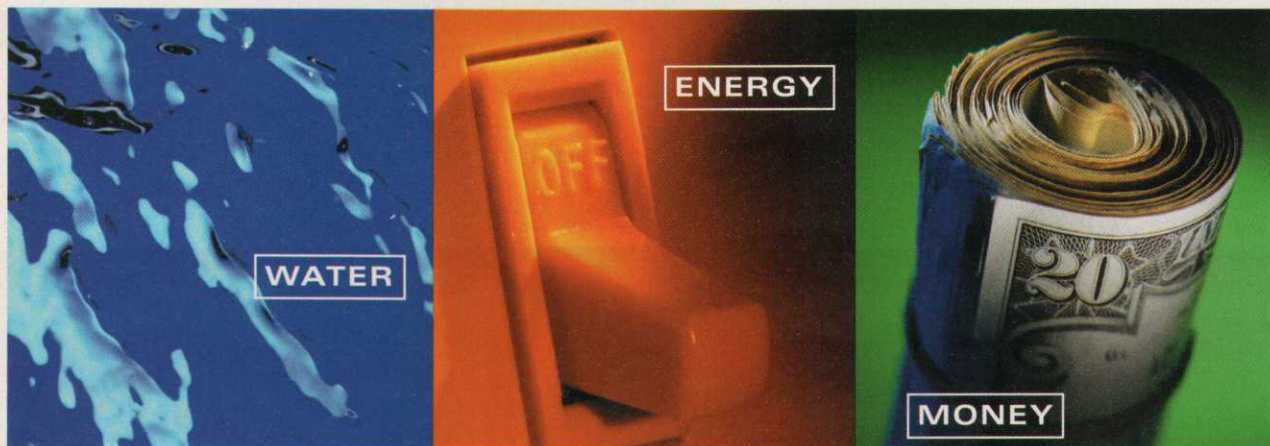
At just more than 6,200 yards and sandwiched between homes, Stonebridge could easily have become just another course, but the injection of Bahto's love for the design styles of Macdonald, Raynor and Banks transforms this into a must-see course for any fan of interesting green complex design.

Another admirer of the classics is architect Brian Silva, who has handled restorations of several Raynor courses, including Georgia's Lookout Mountain GC, built in 1926. With Chattanooga, Tenn.'s new Black Creek Club, Silva has helped advance themed golf by creating a classic design within certain parameters created to help sell the development. Again, instead of a straight replica course, Silva sought to fashion holes in the style of Raynor while injecting many of his own twists.

"We wanted to do what Raynor and Macdonald did: Adapt their classic golf holes to the



George Bahto, who redesigned Stonebridge Golf Links & CC, so reverses classical golf course architects that he's writing a book about them.



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