

Issue 3 | Summer 2010

# BY DESIGN



Excellence in Golf Design from the American Society of Golf Course Architects

# Here for Good: The Secrets of Sustainable Golf

Also: National Golf Day • Accessibility • Bunker Drainage • Remodeling Checklist

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Golf is at a crossroads. In the US, golf clubs and course operators are faced with a market that is fiercely competitive, and as a result, many are looking to golf course architects to help them improve the product they offer to their customers. In a tight market, improvements in course quality are key to staying ahead of the competition and attracting more golfers. Elsewhere in the world, the conditions may be different, but the pressures are still similar; everywhere, golf operators need to focus on improving their offering and delivering great golf at a fair price.

But the industry also has to work on its public image. In too many countries, golf is still seen as a game for the elite. As our cover story in this edition of *By Design* stresses, the three pillars of sustainability—environmental, social and economic—must all converge if the game is to achieve its potential around the world.

If the latter two of those three pillars are to be successfully dealt with, it is important that golf in emerging markets is more than just a tourist attraction aimed at foreigners or a housing location for the rich. Our focus on the development of the game in the Czech Republic shows how this can work; by attracting new players to golf, and building relatively low cost courses for them to play on, the Czechs have created a local golf boom that should go on growing.

I hope you will enjoy the third issue of *By Design*.



Yours sincerely,

Rick Phelps, ASGCA  
Vice President  
American Society of Golf Course Architects

## BY DESIGN

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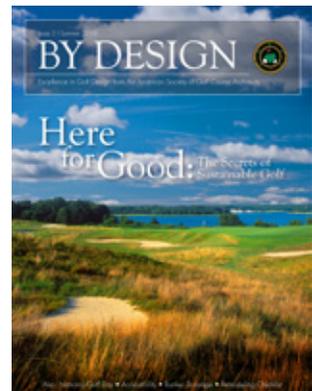
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National Golf Links of America in Southampton, New York, photographed by Larry Lambrecht.

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National Golf Day | Michele Witthaus

## Leaders come together on National Golf Day

Representatives of leading US golf bodies gathered in Washington, DC on 28 April to discuss the challenges facing the golf industry. ASGCA President Erik Larsen and Executive Director Chad Ritterbusch represented the society at the National Golf Day event, which highlighted golf's social, economic and environmental impact. The event was just one part of the American golf industry's new We Are Golf initiative ([www.wearegolf.org](http://www.wearegolf.org)), which is helping lawmakers and the general public to better understand the scope of the golf industry and the many contributions that the game makes to communities throughout the United States. Among



Chad Ritterbusch (left) and Erik Larsen, ASGCA, outside the US Capitol on National Golf Day, April 28

some of the data points shared during National Golf Day: the U.S. golf industry employs 2 million people, directly and indirectly, and the size of the U.S. golf industry is \$76 billion (2005 figures). “Beyond its sport and

recreational value, which is important, golf is a major industry that generates jobs, commerce, and tax revenues for communities throughout the country,” said Larsen. “ASGCA is pleased to support We Are Golf because it is helping

to draw attention to the environmental, social and economic benefits of golf and golf courses.”

Larsen added that the We Are Golf program complements “The Value of the Golf Course,” an initiative under development by ASGCA and other members of the Allied Associations of Golf in the U.S. “We Are Golf tells the story of the benefits of the game and we’re excited to tell the public more about the benefits of the playing field,” he explained. “The American golf industry truly is united in its efforts to help lawmakers and the general public understand all of the good things that the game and golf courses do for our country’s communities.”

World Forum of Golf Architects | Adam Lawrence

## Global golf challenges raised at World Forum

More than 170 golf industry delegates from around the globe attended the World Forum of Golf Architects at St Andrews in March. Organised by the European Institute of Golf Course Architects (EIGCA) to celebrate its tenth anniversary, the five-day event was planned in collaboration with ASGCA and the Society of Australian Golf Course Architects. Delegates included European, American and Australian designers and 11 representatives of the Japanese Society of Golf Course Architects, as well as participants from Mexico, China and South Africa.

In addition to attending various sessions covering the economics of golf,

the environment and design trends (chaired by SAGCA, EIGCA and ASGCA respectively), delegates also found time to play golf at St Andrews.

Topics addressed by speakers included water resources and the costs associated with longer courses. Australian architect George Diakogeorgiou said that golf courses should stop relying on piped town water supplies. “Golf architects need to encourage the use of treated effluent and stormwater and must design to harvest as much water for reuse as possible,” he said.

Architect Phil Ryan said the trend toward longer golf courses led to increased maintenance costs. But, in a joint presentation, Steve Smyers,

ASGCA, also a member of the USGA Executive Committee, and Dr Steve Otto of the R&A, showed research evidence indicating that distance gains by top players were now very minor at most. The impact of longer courses on time required to play a round of golf also came under the spotlight at the Forum, with the three organizing bodies of the event agreeing to work together to seek a solution.

A highlight for many was a short presentation by Rick Baril, ASGCA, concerning his company's new Stensballegaard course in Denmark, which has embraced a policy of no-raking for bunkers, with the aim of making them true hazards.



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ASGCA | Toby Ingleton

## Honors at Annual Meeting

The 64th ASGCA Annual Meeting was held in March in Ponte Vedra Beach, Florida. At the meeting, Erik Larsen of Arnold Palmer Design Company was elected president of ASGCA, taking over the role from Doug Carrick of Carrick Design.

A highlight of the event was the presentation to PGA Tour Commissioner Tim Finchem of ASGCA's highest honor, the Donald Ross Award, for significant contributions to golf and communities. The PGA Tour has provided charitable support of \$1 billion since 1994.

The meeting featured seminars on a wide range of topics central to ASGCA members' professional development. ASGCA panelists included Jack Nicklaus, Mark McCumber and Steve Smyers (who also sits on the USGA Executive



PGA Tour Commissioner Tim Finchem with ASGCA execs

Committee), with Doug Carrick moderating.

Also at the meeting, John Harvey, of RBA Group, Jason Straka of Hurdzan/Fry and Brian Curley of Schmidt-Curley were elected to the ASGCA Board of Governors. Four associate members (Tripp Davis, lead golf course architect with Tripp Davis and Associates, Jon Garner, senior designer, Nicklaus Design, Jeff Lawrence,

senior designer, Gary Player Golf Course Design, and Bryce Swanson, senior designer, Rees Jones) were also accepted into regular membership of ASGCA.

Carrick commented: "Golf course architecture is a highly specialized profession, so the tailored seminars and interaction with fellow ASGCA members are critical for our continued professional growth."

Central and Eastern Europe | Michele Witthaus

## Targeting CEE golf development

The second Golf Investment and Development Conference in Eastern and Central Europe will be held in Warsaw, Poland from 13-15 September. The choice of location reflects the growing popularity of golf in Poland and the region, as evidenced by a significant number of planned golf projects. ASGCA is an honorary patron of the conference, along with the Polish Golf Union, the PGA of Poland, the Club Managers Association of Europe, and the Central European Countries Travel Association.

The theme of this year's conference is the potential for golf industry developments in Central and Eastern Europe (CEE). Sessions will address current trends and development

forecasts, recent investment projects, financing methods and project implementation. Tourism, golf as a sport and real estate development will also be discussed.

The conference offers participants the opportunity to meet with investors, developers, leading architects, golf course and resort designers, owners and managers, local authorities and representatives of organizations supporting golf development, financial institutions and companies supplying equipment and technology for the industry.

For more information, visit the conference Website at [www.golfpropertiesconference.com](http://www.golfpropertiesconference.com)

### Carbon benefits of turfgrass

Following the publication in the journal *Geophysical Research Letters* of a paper on carbon sequestration and greenhouse gas emissions in turf by the Department of Earth System Science at the University of California, scientists at the Toro Company's Center for Advanced Turf Technology (CATT) found an error that led to turfgrass receiving a higher CO<sub>2</sub> rating than is in fact the case.

Appropriate changes were made to the paper. "Turfgrass is actually found to be a net positive sequester of carbon," said Dana Lonn, managing director of Toro's CATT group.

### Conservation on summit agenda

At Rain Bird's 11th Intelligent Use Of Water Summit, held at the Smithsonian Institution in Washington, DC in April, environmental and water management experts gathered to discuss outdoor water conservation.

With panelists including representatives of city and state municipalities and water agencies, the summit focused on water conservation policies and legislation, programs, initiatives and trends aimed at reducing outdoor water waste.

### Profile Products acquisition

Profile Products has acquired hydraulic mulch specialist HMI Worldwide. John Schoch, president and CEO of Profile Products, said: "HMI Worldwide and Profile Products share a similar vision to expand the hydraulic mulch business throughout the world."

# Built to Last



2015 US Open venue Chambers Bay near Seattle, Washington, a sustainable design by Robert Trent Jones Jr., ASGCA and Bruce Charlton, ASGCA

© Aidan Bradley

## Sustainability has become a favored buzzword, in golf as in many other areas of life. Does it have real meaning and importance for the game, or has it just become a cliché that everyone must parrot? Adam Lawrence investigates

Sustainability is a word we hear all the time, but few of us have grasped what it really means. It is in danger of becoming a cliché, a word that everyone uses because it sounds good, but without meaning.

Defining sustainability is far from straightforward. In golf, the term came into use primarily in relation to the environment, and is most often defined in ‘green’ terms, but in the wider community, sustainability covers far more. A truly sustainable course must enhance its environment, be a viable economic proposition, and play a positive role in the social and community life of its surrounding area.

Yet sustainable golf, though hard to define, is actually a pretty straightforward concept to grasp. Like Potter Stewart, we generally know it when we see it. Harry Colt, ninety years ago, put it best. “The real test of a course,” he wrote in his book *Some Essays on Golf-course Architecture*. “Is it going to live?”

Making a golf course live means thinking about how it is to last long into the future. Like the great landscape gardeners of the eighteenth and nineteenth centuries and their aristocratic clients, those who seek to make a golf course live must think about how it will work and be perceived long after their tenure.

This article—indeed this magazine—is not enough space to truly explore every aspect of sustainability as it relates to golf course development, design and management. The best we can hope to do is to provide a few pointers.

Across golf, efforts are being made to assess and improve sustainability of developments and operations. The Environmental Institute for Golf (EIFG),

for example, is leading a coalition to examine best practices as part of its Golf’s Drive Toward Sustainability program.

“It is important to understand that sustainability includes more than just the environment,” says EIFG Board of Trustees Chairman Bob Wood, vice president of Nike. “It is the way in which you conduct your business by providing greater returns to the bottom line, providing a healthy sport for the communities in which golf operates, and by properly managing the resources the earth provides.”

The Scottish-based Golf Environment Organization is currently working on guidelines for the sustainable development of golf facilities, and, like its American counterpart Audubon International, it already has a program certifying the management of existing courses. GEO identifies nine separate categories under which sustainability should be considered: nature, landscape and heritage, water, turf, pollution prevention, waste, energy, education and awareness, and social integration.

Let’s think about a few of these in a bit more detail. Turfgrass management is central; without grass we have no golf. There has been much debate in the industry about how golf courses should balance the desire for perfect conditioning—which is a key marketing goal—with the need to keep costs down and reduce inputs of chemicals and water. Some courses, like Chambers Bay, designed by ASGCA Past Presidents Robert Trent Jones Jr. and Bruce Charlton, have addressed this challenge by going for traditional British grass species, specifically fescues, and there is no doubt that where it can be successfully maintained, fescue

allows for, even welcomes, a low input maintenance regime. Elite clubs such as the famous National Golf Links of America, have been able to adopt greenkeeping practices that maintain a healthy, fast and firm playing surface, keep irrigation to a minimum, but also largely preserve the green sheen that golfers seem to prefer. But the key to this approach is a substantial maintenance budget, allowing extensive syringing of greens to cool grass; perfectly sustainable for NGLA, tricky for others.

In the US at least, even in the northern parts where it might grow, fescue may always be a minority interest. But there are plenty of other ways in which American superintendents can make their courses more sustainable. In transition zones, for example, fewer courses will continue to fight the battle to preserve bentgrass greens, embracing warm season grasses. And the practice of winter overseeding is bound to come under ever-closer scrutiny.

Bill Love, chairman of ASGCA’s environmental committee believes attitudes are a key factor. “As architects, we have to ask searching questions of our clients. What is motivating their perception of a ‘top-end’ course as being highly manicured and intensively resourced? If we can educate not only developers, but golf course staff and the local communities about the positive impacts that golf can bring, the facility has a much better chance of sitting comfortably and making a positive contribution to its local environment for the long term. Golf has for a long time been at the forefront of the sustainability movement, even when we didn’t refer



“ Making a golf course live means thinking about how that course is to last long into the future

National Golf Links of America has endured for over a century due to the sustainable nature of its design, greenkeeping and membership. But even elite clubs like this face challenges

## SUSTAINABILITY CRITERIA

### Social

- Socially desirable
- Culturally acceptable
- Psychologically nurturing

### Financial

- Economically sustainable
- Technologically feasible
- Operationally viable

### Environmental

- Environmentally robust
- Generationally sensitive
- Capable of continuous learning

*Future editions of By Design will explore the issues surrounding each of the three ‘pillars’ of sustainability in more detail.*

to sustainable practices as such. By circumstance, architects have always been leaders of the movement. Now we have the opportunity to be even more proactive in design, construction and management, to set the bar even higher and solidify the foundation for sustainability: people, planet and profit,” he says.

Golf’s use of chemicals and water has been an area of controversy for many years. Around the world, courses have made great strides towards reducing their reliance on potable water and moving towards irrigating with treated effluent or other forms of brackish water. Programs such as integrated pest management (IPM) and nutrient management, are also key.

The truth, though, is that the environmental aspect of sustainability

may well be the easy bit. Good superintendents and architects have always thought this way, and the education programs the profession has put in place are spreading the gospel. Social sustainability, by contrast, probably requires more of a mindset transformation.

For most of its history in most of the world, golf has been an exclusive game. It can and probably will remain exclusive in the sense of being aspirational and played, on average, by the better off in society.

ASGCA member architect Scot Sherman is working on a project that exemplifies how sustainable golf can be, environmentally, socially and, hopefully, financially too. Near the Austrian ski resort of Kitzbühel, Sherman and his client, a local hotel owner, are planning a new eighteen



© Larry Lambrecht

## SUSTAINABILITY TIPS

### Environmental

- Maintenance facilities are the greatest potential source of pollution, for both surface and ground water
- Waste management: construction produces high levels of waste
- Turfgrass management must aim to maximize playability while minimizing inputs

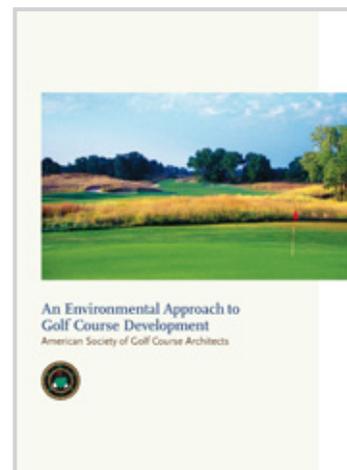
### Social

- Better access: loss of access to land is among the biggest causes of tensions between golf and communities
- Employment: are you creating jobs for local people and thus an economic multiplier effect?
- Community: are local people taken into account in your operations?

### Economic

- Energy efficient is probably a quicker win for your P&L than attempts to increase revenue
- Water is only going to become more expensive, so reducing use has obvious financial implications
- Resource-efficient businesses are more likely to be profitable

Source: Golf Environment Organization.  
[www.golfenvironment.org/knowledge](http://www.golfenvironment.org/knowledge)



ASGCA publication *An Environmental Approach to Golf Course Development* profiles real-life projects that address environmental issues and is available via [www.asgca.org](http://www.asgca.org).

hole course that will serve as an addition to the basic nine holer the owner built some years ago. But the project has been planned from the start to be as low-key as possible “The owner has said from the beginning that he *will not* spend or borrow a lot of money for the project,” says Sherman. “Because they have lived in this area for many years, surrounded by farms, they know the land and their neighbors. The owner found the best golf land close to his hotel by simply walking several pastures. He then approached each farmer with a proposal to lease their property—not buy it—for the course. Furthermore, he proposed they become involved in construction and also stay on to be the maintenance crew. So, after amazingly short discussions with a hand full of neighbors, the project had its land,

construction crew and maintenance staff without the burden of debt.

“The routing allows for 14 holes to be constructed by building tees, greens and bunkers—no earth moving at all. The owner also has demonstrated that the existing pasture grass can be ‘trained’ to a lower mowing height. So, I believe we will only irrigate minimally, and build bunkers with fine fescue faces left alone to seed head. Finally, the owner will renovate an existing barn to be the clubhouse and maintenance facility. The staff will also come from the family farms right there in the village.” Not every new project will be like this, but Sherman’s example is a fascinating case study for how golf could be built.

The mindset change required in golf can be summarized simply. In short, the industry needs to move away from

a view that what matters is the way the course or a club is perceived and presented today and tomorrow to one in which the longer-term future is the key goal. Superintendents and club managers alike are well used to taking decisions in this way—for example, every super knows when to favor his turf and when he can stress it—but the mindset must be spread to golfers as a whole. When club members and green fee players can look beyond the golf course they see on any given day, then we will truly be able to say that golf has focused on sustainability. ●

Environmental Institute for Golf:  
[www.eifg.org](http://www.eifg.org)

Golf Environment Organization:  
[www.golfenvironment.org](http://www.golfenvironment.org)

Audubon International:  
[www.auduboninternational.org/ge.html](http://www.auduboninternational.org/ge.html)

Growing the Game | Michele Witthaus

# Attracting the masses

When golf is introduced to a new country, too often it takes one of two tacks. Either developers look to build golf courses as an amenity for housing developments aimed at the country's wealthy elite, or the game is seen as a means of boosting tourism from overseas.

There's nothing wrong with either real estate or tourist golf. But on their own, neither will create a sustainable golf industry in a country. Tourist golf is at the mercy of the international travel market, and the success of a golf tourism destination is always threatened by the development of new resorts in new markets; while development golf, designed first and foremost to help sell houses, is hardly the most likely place to attract a mass of new participants to the game.

Golf is not, technically, a new introduction to the Czech Republic; indeed, the game has a long history in the Central European country. The first Czech courses, in the Bohemian spa towns of Karlovy Vary and Mariánské Lázně, date from the early years of the twentieth century, and a number of other golf centres sprung up in the country during the inter-war period. Both Karlovy Vary and Mariánské Lázně survived through the period of communist rule, preserved by a small number of local enthusiasts, but those venues aside, golf largely ceased to exist in the country.

The Czech golf renaissance started

in the early 1990s. Libor Jirásek, who founded probably the country's first golf design practice in 1992, says that at that time, there were six golf courses and around 1,500 active golfers in the Czech Republic. From that modest beginning, though, the game has grown steadily, with the number of players officially registered with the Czech Golf Federation now amounting to more than 60,000 (with a large number of unregistered golfers also playing the game on a regular basis) and more than 100 golf facilities, not all of which are full-scale 18 hole courses. For several years, around 6,000 Czechs have taken up golf annually, and that growth looks set to continue. There is strong interest in the game in the Czech media—a recent golf day at the Casa Serena course near the historic city of Kutná Hora to promote the annual tournament on the European Senior Tour attracted many local journalists. And British golf architect Jeremy Ford, who has worked in the country for some years, initially as part of Austrian designer Hans-Georg Erhardt's practice, and now under his own name, says that the federation has just launched an aggressive marketing campaign aimed at ramping up the pace of player growth. "They have targeted a figure of over 100,000 registered golfers by 2013," he says.

Opened in 1993, the Karlštejn golf resort south-west of Prague was the first large-scale golf project to be developed in the Czech Republic after the fall of the

communist government. Designed by Canadian ASGCA member Les Furber and his countryman Jim Eremko, Karlštejn's initial membership fee, at US\$4,800, was at the time twice the average annual Czech salary.

Furber recollects the challenge of being a pioneer. "The first challenge was to assemble the land as there were 66 different titles to these lands," he says. "The communist approach to problems and solutions was embedded in attitudes and it was difficult to get people to think creatively. For many years the authorities wouldn't allow the owners to build a clubhouse on the top of the hill, as it could be seen from the castle." Karlštejn has been followed by many more golf courses, with a number of other international designers having worked in the country.

Czech golf is not always cheap. Jeremy Ford says that, at his recently opened Prague City course, green fees average between €85-€90 (US\$100-US\$108), and the course is running at around 80 per cent of capacity. But KPMG's most recent report on the Czech golf industry points out that the cost of playing the game in the country varies dramatically according to location, with courses around Prague and in the tourist areas of western Bohemia being especially expensive, averaging an annual membership subscription of €1,000, while elsewhere in the country, costs are significantly lower. KPMG found an average weekday green fee of €24,





Casa Serena (left) and the recently-opened Prague City course

increasing to €33 at weekends.

What makes Czech golf interesting, and a valuable case study from which the rest of the world can learn, is that the Czech golf boom has been generated from the bottom up. The country has largely created its own golf industry—Ford says that domestic Czech investors are responsible for most of the active projects of which he is aware—and golf participation has grown rapidly, albeit from a low base. Since the fall of communism, the country has experienced rapid and sustained economic growth, with GDP per capita reaching US\$26,800 in 2008, around 82 per cent of the EU average. The Czech crown has been largely stable since it became convertible in 1995, and the country's public debt is among the lowest in Europe.

It is well known that golf flourishes in countries that are economically strong. So the success of the Czech economy has created the conditions in which golf can grow, and the willingness of Czech investors to put money into golf projects, and make them available at affordable prices, has encouraged many people to take up the game.

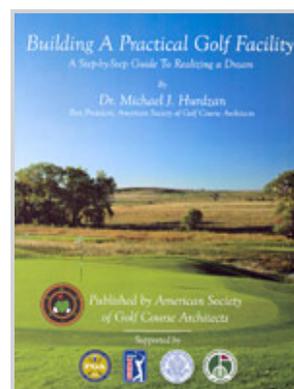
The result of this is that the Czech Republic has, from the bottom up, developed its own unique golf culture. It has done so without the emergence of a major Czech golfing star, often a feature in the growth of the game in other markets—think of the effect Bernhard Langer had on German golf as the most obvious example. In Libor Jirásek, it

has its first successful home-grown golf architect, with others in training in the firm, there are many well-respected Czech course superintendents with a growing national association for greenkeepers, and it has an active golf course owners association.

In Sweden, another country that grew golf from the bottom up, twenty-plus years of growth in the game, supported by the availability of low-cost, relatively simple golf facilities, created a demand for higher quality golf courses. There are signs this same process is starting to occur in the Czech Republic, with a number of large-scale developments currently in planning. Overseas investors, from countries as widely dispersed as the UK and Korea, are showing an interest in developing golf resorts and residential estates in the country. Courses such as Casa Serena, owned by Taiwanese electronics giant Foxconn, and Beroun, a private club opened in 2008, and also designed by Les Furber, show there are developers willing to put money behind Czech golf. Furber says he thinks there is an appetite for more, and that the country may also look to the golf and real estate model so popular elsewhere.

Crucially, though, these big-money developments are being approached on the back of an already successful national golf industry. Czechs have embraced golf, and are continuing to do so, in increasing numbers. The result is that forthcoming large-scale development

projects will have a pool of readily available golfers aspiring to better things from which to draw their membership. Investors interested in bringing golf tourists to the country—and IAGTO voted it 'Undiscovered Golf Destination of the Year' in 2007—can take on projects knowing that they have a domestic market to fall back on when the next golf destination emerges, as it always will. In short, the Czech golf industry, though still relatively small, has a solid foundation on which to grow. It is a model that more countries would do well to emulate. ●



ASGCA Past President Dr Michael Hurdzan authored this groundbreaking book making the case for alternative golf facilities and including case studies illustrating how communities and individuals made golf work within their budgets and available space.

Subject | Ian Tittershill

# The science of bunker drainage

Ever noticed how vehemently two golfers can disagree on what makes for a good course? But then, golf design is subjective and what is 'great' to one person may not be so for another. The fundamental rules of golf course construction are, however, rather less subjective. The first lesson I learned in golf construction—which is just as true today—is that drainage is key. This is never more important than in the design and construction of bunkers.

The lack of good drainage in bunkers on some of the most famous golf courses in the world remains a mystery to me. The use of bunkers as catch basins is not uncommon: the look in the superintendent's eyes when I explain that the bunker and surrounding area was designed this way is something I never get used to!

I recently visited a prestigious golf course in Brazil, Fazenda da Grama. It is one of the most beautiful courses I have seen and is maintained in a detailed and sympathetic manner. However, the greatest challenge the greenkeeper has is bunker maintenance. In the rainy season, the course will be hit with rain every day—between two and four inches each day for over two months. Every single rain event will washout and contaminate all 90 bunkers.

Simple drainage schemes have long been used in bunker construction. A drain consisting of perforated pipe with gravel overlaid has been considered adequate (or just the only solution). The additional use of bunker liners has, in some

cases, helped keep sand on slopes and eradicated an element of contamination between the bunker sand and indigenous soils. However, the fundamental drainage principles within bunkers need to be challenged if superintendents are to be provided with a product that can be efficiently maintained.

Water moves through sand under gravity. As rain (or irrigation water) saturates the sand, the water seeks to migrate from the slopes or faces downwards to the base of the bunker. This water movement causes washout or sand movement from the slopes. As the sand is moved, the water erodes the faces and causes contamination. When the greens staff return the sand to the faces, they actually place a mix of sand and indigenous soils. This creates further problems of sand quality and reduced drainage capacity next time it rains. The water has now moved to the base of the bunker—so, ironically, the area which is the preferred place for playing bunker shots is the wettest part!

As noted earlier, standard drainage in a bunker usually consists of a pipe overlaid with drainage. The problem with this is that the moisture will only transfer from the sand (small voids) to the gravel (large voids) under gravity. A slow dripping process ensues and the bunker will eventually become drier. Clearly we need to look at the physics of water movement and develop a strategy to enhance the evacuation of water from the sand in a more efficient manner than simple gravity. The traditional



**Ian Tittershill**

Ian Tittershill is managing director of Sportcrete, which provides bunker lining systems to golf clubs worldwide.

“ Bunker construction and lining is extremely important in both construction and maintenance. Bunkers account for less than two per cent of the playing area on a typical golf course yet account for over 25 per cent of maintenance costs.

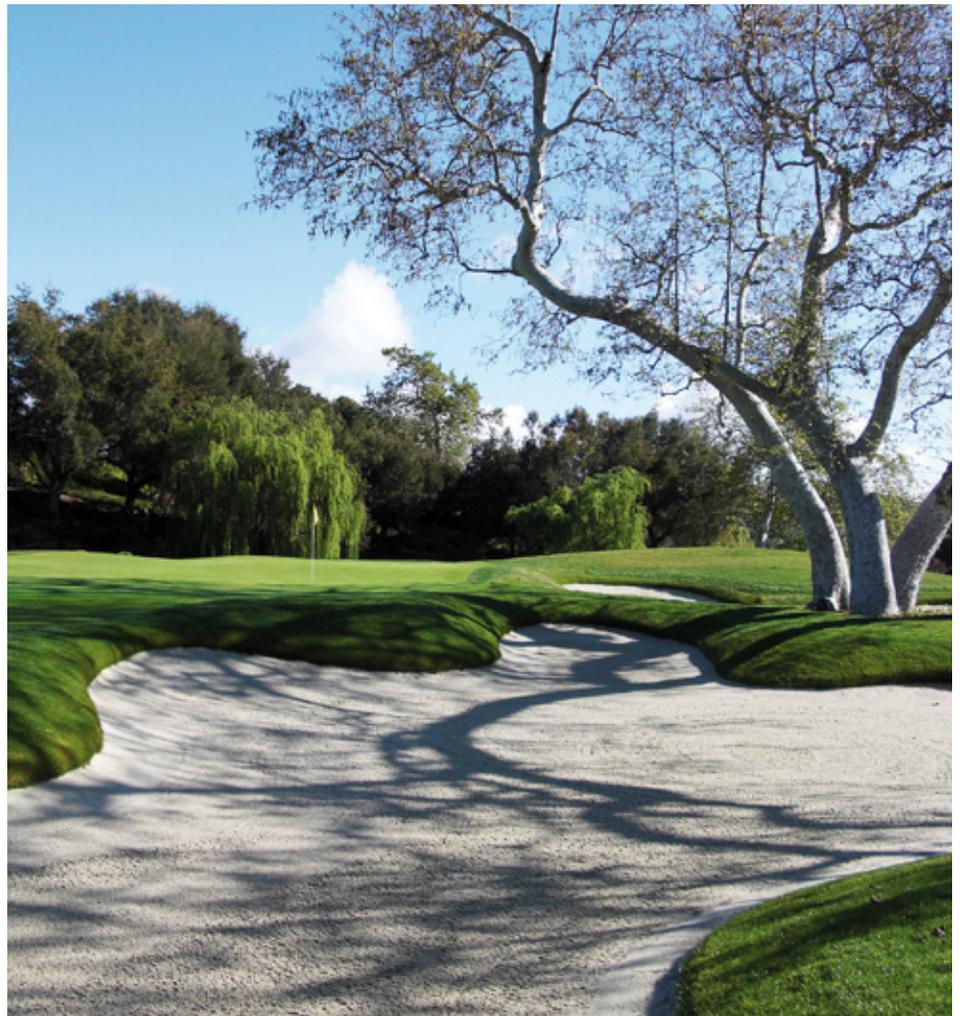
drain effectively creates a perched water table in the base of the bunker, and while this is what we want on the green to develop root growth, in a bunker it causes a soggy mess.

Imagine having bunkers that are consistent throughout. No matter how much rain falls, the faces are the same as the base, and the sand remains on the faces. When discussing bunker construction with Stephen Byrne, course manager at the Wisley club in England, he indicated that consistency was his priority.

Bunker construction and lining is extremely important in both construction and maintenance. Bunkers account for less than two per cent of the playing area on a typical golf course yet account for over 25 per cent of maintenance costs. It would be fair to say that more money is spent on bunker maintenance than green maintenance on a modern golf course.

The challenge is to have bunkers designed, constructed and lined to enable maintenance and work with natural conditions and environment. It is impossible to keep sand on 90 degree slopes, so bunkers should be designed with maintenance in mind.

Our Sportcrete lining system is one product available which has been specifically developed to enhance the drainage of bunkers. Sportcrete is a system that works with the natural movement of water within sand and encourages the movement rather than fights it. At Sherwood Country Club in California, for example, where our system was installed as part of a bunker renovation led by Nicklaus



Sherwood CC in California has Sportcrete bunkers

Design in 2009, director of agronomy Sean Dyer reckons he is saving 175 man hours of labour—and around 30-40 tons of fresh bunker sand—every time there is a storm. “As long as the piped drainage works, there seems to be no limit to how much rain the bunkers can take,” Sean told me.

Systems like Sportcrete may add to upfront costs, but long-term savings can be significant. We all look for bunkers that are maintainable and in the truest sense of the most used word in the industry these days, sustainable. Now, there’s a thought: sustainable bunkers. ●

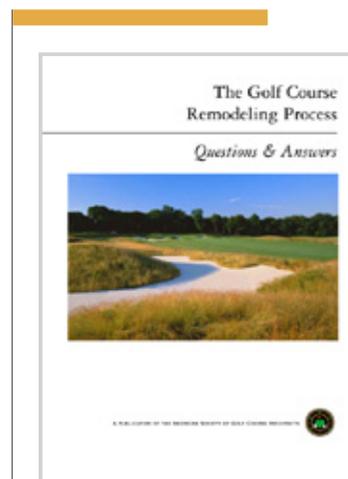
Renovation | ASGCA

# Remodeling the golf course

Golf clubs are under constant pressure to attract new players, and remodeling can improve a course's prospects. A remodeling program can address maintenance problems, design or aesthetics, and even restore historic value.

Remodeling provides the opportunity to rebuild greens, correct poor turf and drainage conditions, or upgrade bunkers. Other activities to consider during renovations are irrigation system replacement, adjustments to the level of difficulty of the course, changes to tees to make the course longer or shorter, or adaptations to suit a particular golfer type. The remodeled course may even attract regional or national tournaments.

Goal-setting for any remodeling project should be a joint process, involving the golf course management, owner, superintendent and club members. A professional ASGCA architect can offer reliable advice on considerations such as existing conditions, safety matters and the scope of work. The architect can also advise on budgeting, funding sources, planning and scheduling. ●



More information is available in the ASGCA publication *The Golf Course Remodeling Process*, available via [www.asgca.org](http://www.asgca.org).

## Remodeling checklist

- Development of initial goals & objectives
- Golf course architect's initial site visit & research into the course's history/design
- Preparation of preliminary plans, options, priorities & budget
- Presentation & discussion of approaches, ideas and project components
- Preparation of master plan (illustrative plan, descriptions and accompanying costs/phasing)
- Approval of the master plan
- Construction plans and specifications for bidding/negotiation
- Solicitation of bids from golf course builders
- Award of contract for improvements
- Field observation and interpretation by the golf course architect during the work
- Grow-in of disturbed areas

# ASGCA Major Partners and Patrons program

## Supporting Education in the Golf Course Industry

ASGCA would like to thank the following companies – Major Partners in golf course renovation, water management and environmental educational programming:



ASGCA Patrons support ASGCA members in their efforts to create golf courses – both new and renovated – that are aesthetically pleasing, technically sound, environmentally sensitive and economically viable. Whether a manufacturer or distributor of golf course products, a golf course builder or provider of a service to support the development and construction process, ASGCA Patrons provide a broad set of solutions useful in many golf course projects. Visit the Resource Directory at [www.asgca.org](http://www.asgca.org) to learn more about how these companies can support your project.

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“ It is in the mass market—the clubs, daily fee and resort courses that everyday golfers frequent—where improvements in design and construction will have the greatest effect

Subject | Adam Lawrence

# The new golden age?

Talking about a new golden age of golf design, when the golf development industry, in some parts of the world, is mired in the deepest depression in living memory, might seem a little eccentric. But I am convinced that the overall standard of work being done by golf architects around the globe at the moment is higher than it has been, at least since the original ‘Golden Age’ of the 1920s.

It’s tempting to demonstrate this by pointing to some of the truly great golf courses constructed recently. But the very best courses are outliers with only a tangential impact on the way the overwhelming majority of golfers come to love and pursue the game. The revival of interest in classic styles of design that Pete Dye instigated in the sixties and seventies, and which has come to fruition in the last decade and a half has made a big difference to the Top 100 rankings but most golfers experience such courses rarely if ever.

It is in the mass market—the clubs, daily fee and resort courses that everyday golfers frequent—where improvements in design and construction will have the greatest effect. At this level, creating courses that are more fun to play will have a real impact on the game’s prospects.

From my (fairly extensive) travels around the golfing world, I am

convinced that there has been a real change in the quality of work being done by golf architects and builders at every level. Gone, mostly, are the boring holes flanked with shallow, saucer-shaped bunkers and greens with little or no interest. The realization that average golfers can deal with contour and short grass far better than they with sand, rough or water has begun to penetrate, and even designers who previously preferred to build relatively flat greens are starting to add slope.

In emerging markets where the first courses were built ten or twenty years ago, I have seen new venues of a much higher standard. The result is capitalism in the raw: competition forces older courses to upgrade their facilities. Good news for golfers, who get better, more interesting courses, and good news for the industry at a time when work is hard to come by.

The architects of the Golden Age had many advantages over today’s, especially better land. Not everything was in their favor, though: where construction was needed, they had only basic tools. Their work has the patina of time; shaping that was raw and angular has softened.

Today, we live in a world where anything is possible if the budget allows. That has enabled some great



Adam Lawrence

Adam Lawrence is editor of *Golf Course Architecture* and a contributor to *Golf Monthly* and *Golf World* in the UK. Educated at Oxford University, he has been a journalist throughout his professional life.

courses to be constructed on land initially highly unsuitable for golf, but it has also led to sites being over-worked, and money spent that perhaps need not have been. The economic realities of today’s golf industry, though, are unlikely to permit many more paens to excess.

One key legacy of the golf and real estate model is a tacit acceptance that golf alone cannot be a commercial proposition, other than in exceptional circumstances. This is a destructive position for golf, relegated, even in the eyes of many in the industry, to the position of an amenity. New business models are required, models that put golf back at the center of developments, rather than a use for the poorest land on a property and a stormwater detention capacity. How this is to be done, I cannot say (it will surely involve a dramatic reduction in the kind of budgets people expect): but I’m convinced it’s the golf design profession’s big task.

There are, still, poor courses being built, and poor renovation work being undertaken. But if I’m right about the general standard we can surmise that competition will see the poor crowded out by the good, and the quality of the average golf course trending upwards over time—great news for everyone who loves golf. ●



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### Sportcrete

Sportcrete has been developing its bunker lining system for golf courses for the past 15 years. The system involves spraying environmentally friendly material on to 50mm of specified stone installed throughout the bunker, creating an engineered porous base and a hydraulic draw effect for drainage.

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