

Issue 1 | Winter 2009

BY DESIGN



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Welcome to the first edition of *By Design*, the new publication from the American Society of Golf Course Architects that has been created to promote excellence in golf design.

Throughout the following pages you'll find articles that provide perspectives and insight into golf course architecture and the broader aspects of golf. Whether you are a developer embarking on a new project, a club manager or superintendent looking at how you can improve an existing design, or otherwise involved in the game of golf, we hope you'll find something of interest.

Our cover story for this edition examines how the game of golf is growing, both through broadening its appeal in markets where the game is already established and expanding into areas where little golf is currently played. We look at how design plays an integral role in both of these scenarios.

We also have insightful contributions from irrigation expert Brent Harvey and golf consultant Henry DeLozier, vice president of Global Golf Advisors.

I would like to thank the sponsors of *By Design*; Profile Products, Rain Bird, Sportcrete and Toro. We're delighted to be supported by companies that, as leaders in their respective fields, are doing so much to advance the game of golf and encourage you to find out more by referring to the profiles on page 19.

On behalf of the American Society of Golf Course Architects, I sincerely hope you enjoy reading *By Design* and find it helpful and stimulating. We would be very interested to hear your feedback or suggestions you may have for topics to cover in future editions. Please contact us by visiting asgca.org and clicking the 'Contact' link in the top banner. If you were forwarded this copy of *By Design*, then please sign up to receive a free subscription at www.tudor-rose.co.uk/bydesign.



Yours sincerely,

Doug Carrick
President
American Society of Golf Course Architects

BY DESIGN

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COVER



The nine-hole course The Links at Terranea in Los Angeles was designed by Todd Eckenrode, ASGCA, of Todd Eckenrode-Origins Golf Design.



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Olympics 2016 | Karen McCandless

Olympics is Yes; Golf Celebrates

The golf industry has reacted overwhelmingly positively to the news that golf will return to the Olympics from the 2016 games in Rio de Janeiro. This will be the first time it has featured since 1904.

ASGCA member and global ambassador for the Olympic bid, Jack Nicklaus believes the decision will have a massive impact on golf on a global scale and encourage more people to play the game: "I think it's fantastic, an unbelievable day for the game of golf. The impact is going to be felt all over the world. People of all walks of life will be inspired to play."

Peter Dawson, chief executive of the R&A agrees that it will be hugely beneficial for the game: "We



Golf's bid representatives celebrate the decision

are excited for the national golf federations that will reap the benefits in terms of growth and support within their countries."

PGA Tour Commissioner Tim Finchem believes that this development will make golf more accessible: "No longer will it be viewed as an elite sport. The next forty years are going to be the golden age of golf globally."

The inclusion of golf as an Olympic sport is expected to promote the game through increased

governmental investment in countries where there is currently very little involvement.

"In order to jump-start interest and support of the sport, you need money," said David Fay, executive director of the United States Golf Association. "The best way to get that is through the government or the national Olympic committee. For some countries there's no substitute for it being an Olympic medal sport."

APGC 2009 | Adam Lawrence

Golf Leaders Converge in KL

Over 500 golf industry heavyweights gathered in Kuala Lumpur recently, for the third annual Asia Pacific Golf Summit. Speakers included golf legends Gary Player and Jack Nicklaus.

A panel led by golf architect Brian Curley, ASGCA concluded land issues are central to the development of golf in China. Panellists agreed that the development of affordable golf is key to the game's growth in China, but Curley explained that land acquisition issues make this difficult. "True public and affordable golf needs to be near a mass audience," he said. "Driving out of the city for an hour to get to the golf course is OK for the affluent private club member, but not for a US\$50 per round public course. But land

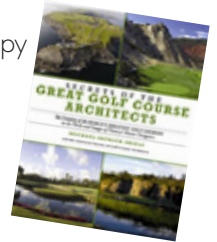
close to cities is typically either farmland that can't be touched, or it is the sort of property that's very difficult to build golf on."

Golf in Asia must move beyond aiming at the 'private jet golfer' if it is to prosper in the future, according to leading US club manager Mike Rippey. Rippey, the president of Kitson & Partners, said that the Asian industry's focus on building golf courses aimed at wealthy members of social elites had to change if the game is to grow in the region. "I'm not saying the private jet golfer is a bad business model," he said. "But sooner or later we have to ask ourselves: how many memberships can this guy collect and how many rounds of golf can he and his friends play?"

Uncover the architects' secrets

Golf course architects reveal the secrets, challenges and creative processes behind their work in a new book published by the ASGCA and the ASGCA Foundation. *Secrets of the Great Golf Course Architects* features contributions from one hundred ASGCA members including Tom Fazio, Pete Dye, Jack Nicklaus and Arnold Palmer. This behind-the-scenes book has been produced in partnership with author Michael Patrick Shiels and Skyhorse Publishing and includes more than 150 full-color photographs, drawings and course blueprints.

To order a copy of *Secrets of the Great Golf Course Architects* contact ASGCA at +1 262 786-5960 or therese@asgca.org.



New irrigation paper released

Golf irrigation company Rain Bird has published a paper focusing on a new way to calculate the efficiency of a golf course's irrigation system. The Water Window Efficiency (WWE) method measures how effective an irrigation system is at applying the desired amount of water in the shortest period of time during a nightly irrigation cycle. The paper explains how to calculate this and how it will affect golf courses and provides case studies from courses that have already worked out their WWE. Download the paper at www.rainbird.com.

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Untreated bunker at The Wisley,
8 July 2009



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St Andrews | Karen McCandless

Mixed Response to Longer Road

St Andrews' famous seventeenth hole, nicknamed the Road hole, is to be extended in time for the 150th anniversary of the Open Championship in 2010. A new tee will be added and the length of the green increased by 35 yards.

The Royal & Ancient has defended its decision to modify the hole, explaining that it wants to make it more of a challenge again. A statement from the R&A said: "It has long been suggested that the seventeenth hole would benefit from additional length to restore the original challenge."

"The seventeenth was played at the same yardage in 1900 as it was in 2005 and this fueled our belief that the formidable challenge of this iconic hole should be returned for the Open Championship," said Peter Dawson, R&A chief executive.

Padraig Harrington is one of a number of players to speak in favor of the changes: "When I stood there on the proposed tee it was intimidating and that's what



St Andrews' famous Road hole

seventeen is meant to be."

Alan McGregor, chief executive of St Andrews Links Trust believes the changes will restore the hole to its former glory: "The Road hole is the most famous hole in world golf and we believe the changes will increase the challenge of the hole whilst remaining true to its spirit."

In a recent article in

Times Online, Bill Coore, ASGCA emphasised the importance of line of play remaining the same. Both Coore and ASGCA president Doug Carrick highlighted equipment as the root cause that necessitated the change. "Reducing the distance that the golf ball flies makes sense for many reasons beyond just championship play," said Carrick.

A Brief History:

The iconic Road hole green became the seventeenth when Old Tom Morris in the 1860s created a new first green, allowing the course to be played anticlockwise, rather than the clockwise route that had existed for hundreds of years. For the following century, the Road hole played as a three-shotter, becoming regarded as a par four only during the 1960s. The hole last played a decisive part in an Open in 1984, when Tom Watson's two iron second found the road, confirming Seve Ballesteros as champion.



Guidelines for golf course renovation

A new DVD and book detailing guidelines for established golf courses on how to tackle increasing operational and maintenance costs, comply with environmental regulations and deal with competition from newer courses has been released. *Excellence Restored: A Guide to Golf Course Renovation* has been produced by ASGCA in partnership with CMAA. It provides information about financing options and includes case studies of clubs who have successfully completed renovations. To order a copy of the DVD and book, visit the ASGCA website www.asgca.org or call +1 262 786-5960.

Golf leaders of the future

Leading provider of golf maintenance equipment, Toro, is working with Walt Disney World Resort and First Tee to provide an educational program for young people to immerse them in the sport, business and science of golf. The third annual Future Leaders Forum took place at Walt Disney World in Lake Buena Vista, Florida in November 2009. It provided around 50 high school students with the opportunity to learn more about a career in the golf industry.

GIS 2010 | Toby Ingleton

Industry Looks to San Diego

Over 18,000 golf industry professionals expected to descend on San Diego in February 2010 for the Golf Industry Show. The annual event combines education, networking and solutions for golf course superintendents, owners/operators, general managers, chief

operating officers, architects and builders.

Approximately 700 exhibitors are expected, including the ASGCA (Booth 3853) and *By Design* sponsors Profile Products (2929), Rain Bird (4227), Sportcrete (2647) and Toro (5317). Learn more at www.golfindustryshow.com.

Golf's Greatest Challenge

Cover Story | Adam Lawrence

From established markets such as the US to nascent ones like China, attracting more players to golf is the most important issue facing the industry. Adam Lawrence asks how course designers, and the golf business in general, can help make the game more attractive.



With golf development having stalled alongside the faltering global economy, it's important to identify the real reasons behind the game's current difficulties. Blaming the decline in property markets for golf's problems ignores one key fact: golf and real estate are not the same business, and if golf has a financial dependence on real estate, it too will suffer when markets slump. The central challenge for the golf business is to become economically self-sustaining, without the crutch of real estate. And to do that requires one thing above all else: more play.

Across the world, in mature and emerging golf markets alike, attracting more play is the single biggest issue for the industry. Golf is like any other industry whose costs are largely fixed: the marginal cost of additional sales is next to nothing, and thus the closer an operation is to capacity, the more likely it is to be economically



A successful home-grown golfer can be a catalyst for regional growth. Could Y.E. Yang do for Asia what Tiger Woods has for the United States?

successful. This is behind the adoption in parts of the daily fee side of the golf business of airline style yield management systems, which allow operators to see which tee times are in most demand, and thus charge a higher price for them, while simultaneously offering lower prices to shift less appealing slots. That said, yield management is often unpopular among customers – who likes to feel they are paying a higher price for essentially the same product? – and its applicability to members' clubs is obviously limited.

In any new business generation situation, there are two possible ways to increase sales: attract new customers to your facility, or win more business from existing users. Both are important to golf, and a strategy to develop new golfers, both juniors and adults, is vital to the game's success in every country around the world. But there is no doubt that, in golf as

in every other business sector, it's easier to make an additional sale to an existing customer than it is to attract a new customer from scratch. Too many people try golf and then either give it up or only play occasionally: the game as a whole, as well as individual operators, need to think about how to get lost golfers back.

Steve Mona, chief executive of the World Golf Foundation, says: "There are three main reasons people who take up the game leave it – difficulty, time and cost. The last two are really more about value propositions. People will spend the time and money if they enjoy it enough. They can be overcome principally by number one – if you play better, you enjoy it more."

Thus course design has a significant role to play in making the game more appealing. Designing for speed of play is a well understood process: the work of California-based consultant Bill Yates has shown the importance

of a course routing that encourages flow and minimises the time spent waiting. But if Mona is right, that people who play better enjoy golf more and are thus more inclined to spend time and money on the game, then it's also clear that the modern quest for harder, longer golf courses is an overall negative (which is not to say that courses should be simple, open and boring, designed only to flatter poor golfers). It's also arguable that the longer a course is and the more hazards it has, the more it will cost to maintain, and the more time it will take golfers to get round. The golf architect's mantra of 'challenging for the scratch and playable for the duffer' is thus more important in these days than it has ever been. "In my observation, if the foul gets to be too big, and overwhelms the fair ground, you've got a lousy course. It's in our interests to make golf as pleasurable as possible. Golf for pleasure should

be our motto,” says five-times Open champion Peter Thomson.

The other way to approach the issues of time and cost is to mitigate them by changing the way in which golf is consumed. Around the world, there is much interest in alternative golf facilities – short courses, enhanced practice ranges that enable users to do more than just beat a bucket of balls into a field, six, nine or twelve hole operations. Such facilities clearly have a major role to play in making the game more accessible to new players, but it is arguable whether or not they will achieve much in attracting back lost golfers. The image of the standard eighteen hole round is so strong that any other form of golf is inevitably seen as a poor second best; and why would anyone who understands the joy of ‘real’ golf be satisfied by practicing on a range, however fancy? The only way to solve the time problem is not to mitigate it but genuinely to address it. Ninety years ago Dr Alister MacKenzie bemoaned that rounds that used to take two hours were now taking three, and the normal 54 hole day of golf was becoming replaced by 36 holes: we cannot go back there, but somehow, the seemingly inevitable progression towards the five or six hour round as a global standard has to be fixed. Our courses, and our golfers, need to be oriented towards a situation where a family man or woman can play eighteen holes first thing on a Saturday morning, enjoy a quick drink or lunch in the clubhouse, and be back home by early afternoon.

While lost golfers may be the business development strategy of choice in established golf markets, in much of the world, operators don’t have the luxury of a large pool of people who know about the game.



The Links at Terranea was designed by Todd Eckenrode, ASGCA as an ideal venue to introduce new players to the game; and (top) Split Rock Golf Club in Ohio where ASGCA member firm Hurdzan/Fry created a design that minimises ongoing costs

In emerging markets, the problem is one of creating golfers from scratch, a challenge made much more difficult by the way in which golf has generally expanded into new countries.

In much of the world, golf is a ‘top down’ game. In its ancestral home of Scotland, golf began as a rich man’s game, but over centuries has become part of the sporting fabric of virtually every community in the country. And in a select few other countries – the United States, Canada, Australia, New Zealand among them – golf has become accessible and appealing to people of normal means, even if it has retained an elite edge and image as a result of a small number of clubs.

Elsewhere though, golf has tended to arrive in a country as a game for

expatriates – who by their nature are affluent – and be adopted by the rich of the country. This is emphatically the case in much of Europe, Asia and Latin America, and it is a major barrier to the game’s growth on a global basis. Only in a small number of ‘new golf nations’ has the game begun to make inroads into mass participation.

This process is tied directly to the cost of golf and the availability of low-cost facilities. In Europe, for example, the Czech Republic has, over the last decade, built a substantial number of public golf courses, and thus is beginning to emerge as a nation in which mass participation in golf will eventually be a reality. In Asia, Thailand and, to an extent, South Korea, are examples of a similar trend. But

“ In my observation, if the foul gets to be too big, and overwhelms the fair ground, you’ve got a lousy course. It’s in our interests to make golf as pleasurable as possible. Golf for pleasure should be our motto.

Peter Thomson, five-times Open champion



Van Cortlandt Park, New York (an 1895 Tom Bendelow design that was renovated by Stephen Kay, ASGCA in 2001) was America's first public golf course; Kau Sai Chau (top) became Hong Kong's first public course a century later

across much of the golfing world, the lack of obvious financial rewards for developing low-cost golf has left the game as a businessman's preserve.

Land costs mean that standalone commercial development of accessible golf is unlikely to be successful in much of Asia. For accessible golf to succeed, it needs to be located close to major centres of population: while it is feasible to expect a successful Chinese or Indian businessman to drive an hour or more to his golf club, it's highly unlikely that his compatriot from the emerging middle class will be prepared to do the same. But in these fast-growing economies, sites close to cities tend either to be protected farmland and thus not available, or to be prime sites for residential or commercial development, and thus priced out of the reach of golf.

The Olympics provides the opportunity for this to change. For low-cost public golf to succeed in Asia – or indeed anywhere else – governments, at national or local level, must be involved, ideally by providing land at little or no cost. Because of golf's image in much of the world as a rich man's game,

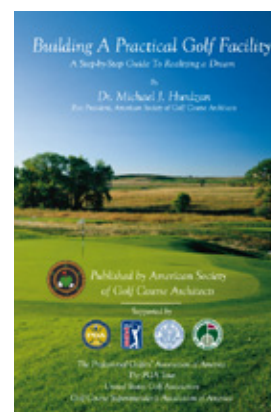
most governments in emerging nations have seen little reason to take such an active role – if anything, they have gone the other way, looking to block golf development as a populist measure. The lure of Olympic medals, and more generally, the better image of golf as a result of being accepted into the Olympic family, should help to change this situation.

Spencer Robinson of *Asian Golf Monthly*, one of the most respected commentators on the game in that part of the world, puts it best. "Golf will only grow when it becomes more accessible and more affordable," he says. "We need more public golf courses where anyone can turn up and play. We have to provide the opportunities. Golf in the Olympics is the biggest breakthrough the game in this part of the world could have hoped for. It will mean the building of more public golf courses, with land provided by governments. We'll also hopefully start seeing an influx of top-rate foreign coaches."

Robinson cites the example of the Kau Sai Chow club in Hong Kong. Kau Sai Chow is, in fact, the first public golf

course in Hong Kong, and one of the first in that part of the Asian continent. "It's a great model," he says. "The Hong Kong government provided the land, the Jockey Club helped to fund it, and Gary Player's firm did the design." It can't hurt that, rather than being a dull flatland track, the course is built on a dramatic site close to the ocean.

Another key angle for golf to pursue is its environmental benefits. Long used to being perceived as environmental pariahs, the game's advocates are now waking up to the fact that green open spaces, especially in the huge and crowded cities of Asia, are precious resources. "In my city of Melbourne, golf is considered very cheap by visitors. And the reason is a law that relieves golf courses from residential taxation, on the bargain that the courses exist as public open spaces," says Peter Thomson. "The Australian golf course superintendents association has found that an average golf course sequesters 80 tonnes of carbon each year. So golf is important not only to golfers, but to citizens around it, who breathe the air that golf helps to keep clean." This is a crucial message for the game to get across: properly managed, golf is an environmental asset to big cities especially. ●



Split Rock Golf Club (pictured on page 10) is one of many golf facilities profiled in the ASGCA book *Building a Practical Golf Facility*, which outlines eight 'levels' of golf and describes how individuals and communities can make golf work within their budgets and available space.

Irrigation | Brent Harvey

The Irrigation Decision



Brent Harvey

Brent Harvey co-founded Harvey Mills Design Irrigation Consultancy in 1998 with Marvin Mills. Harvey Mills Design is a professional golf course irrigation consultation company with offices in San Diego, California and Phoenix, Arizona that specializes in new golf course construction and existing system renovation. Harvey has provided irrigation design and consulting services for more than 120 domestic and international golf course projects.

It has been a difficult time for those involved in golf course development and renovation projects, as a once fast-paced industry has slowed to record levels. This has been bad news for many, but there is a flip side to the coin. It's very clear that clubs looking to replace or renovate their systems have a good opportunity to take advantage of prices which are at their lowest point for many years. We have polled distributors, manufacturers, contractors and other design professionals to reveal the scale of the effect of the downturn on the cost of irrigation.

The first factor weighing in the buyer's favor is the cost of materials. Prices have sharply declined over the past year.

Pipe is now available at its lowest price for five years. In 2009, six inch CL 200 PVC pipe, probably the most widely used pipe in golf course irrigation systems, cost an average of \$2.17 per foot. This is a 36% fall from its 2006 peak at \$3.39 per foot, and lower than at the same time five years ago.

14-gauge PE wire, the most common wire used for automatic control systems, was seven cents per foot in 2008. The price has decreased over 40% in a single year

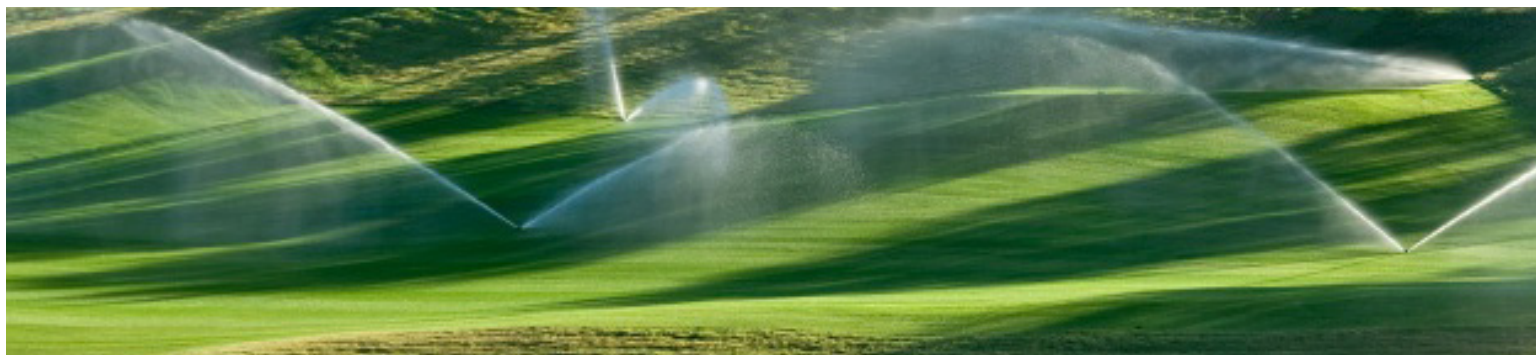
to four cents per foot, the lowest it has been in four years.

And while list prices indicate that the cost of irrigation equipment is rising, the lack of projects has led to deep discounts, meaning prices paid are actually relatively flat.

Also flat, for the first time in many years, is the cost of labor. Since 2004 when labor was \$14.70 per hour on average, the price has risen in excess of 5% per year, peaking at \$18.00 per hour in 2008. But 2009 has seen such rises end, with labor costs finally flattening out.

A change in approach from contractors is also contributing to this buyer's market. Our discussions with golf course builders and contractors have revealed that many of these firms are currently quoting on the basis of covering their overheads, rather than seeking to make a healthy profit on each project.

A typical overhead charge in the region of 10% would previously have been complemented by a similarly sized profit margin when pricing a job, with the average combined overhead and profit charge typically representing 18% of a project's total cost in 2004-2007. By 2009, the average combined overhead and profit margin was just 9%. With business so difficult to come by, builders and contractors are simply



“ Those clubs that act quickly are likely to find their investment in a new irrigation system was well timed.

focusing on pricing competitively enough to stay afloat.

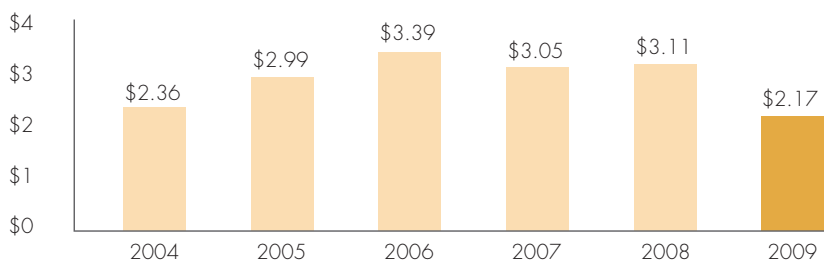
On average, the irrigation systems we have built over the past few years would be around \$3,000 per acre cheaper in the current climate. One club in California was installed in 2007 for just over \$20,000 per acre. This system has complete separation of fairway and rough, as well as a separate potable system for greens. If installed today, it would cost less than \$17,000 per acre. Another, a PGA Tour venue, was installed in 2005 for \$18,318 per acre. This system had 2,900 sprinkler heads, a separate potable mainline, and included separate rough irrigation on several holes. At today's prices, it would cost \$15,300 per acre.

As a result of the decrease in the price of raw materials and a stabilisation in the price of irrigation equipment and labor, projects we completed in the period from 2005-2007 could be completed, on average, 13 per cent cheaper today. The scale of falling costs may be different from region to region, but the general trend is the same. Already these prices are showing signs of turning so the window of opportunity is shrinking. But those clubs that act quickly, before the market recovers further, are likely to find their investment in a new irrigation system was well timed. ●



Plummeting pipe

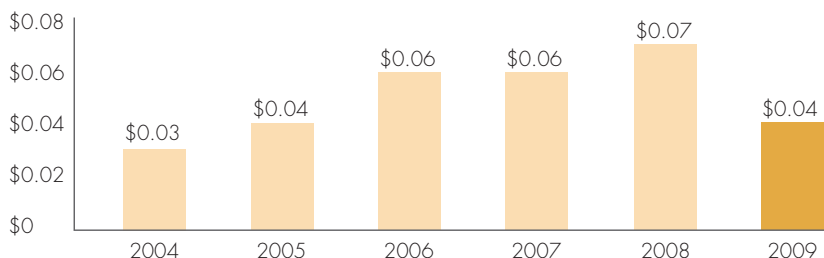
Average price of 6" CL 200 PVC per foot



Source: Allied Material Distributors

Wire woes

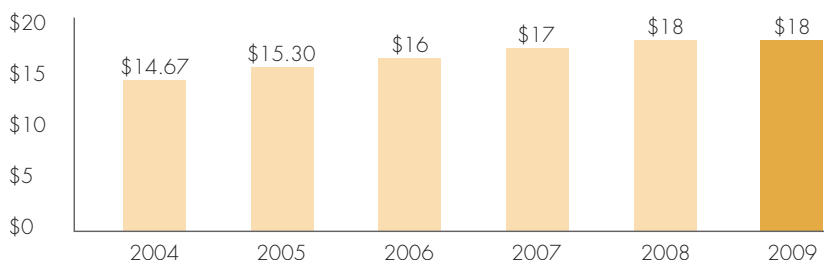
Average price of 14-gauge PE wire per foot



Source: Allied Material Distributors

Lull in labor pains

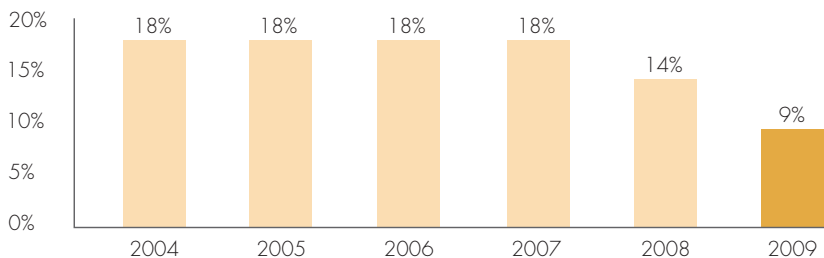
Average labor cost per hour



Source: Leading golf course irrigation contractor

Unhealthy profit margins

Average overhead plus profit as a percentage of total project cost



Source: Multiple golf course builders/contractors

“Golf may be poised for another remarkable run of growth and popularity worldwide. The methods and characteristics of this growth will be remarkably different and golf course designers will show the way.

Development | Henry DeLozier

A Changing Game

Golf course design is “re-setting” its fundamentals worldwide. These adjustments represent baseline changes in the development, use and enjoyment of golf courses. And the ripple-effects will be measured for the coming decade.

In much of the world, golf retains its pedestal as one of the world’s enigmatic delights. When one does not hate the game, one is in love with the game. When one is not bemoaning the howling winds, the straight-across rains and the lightning-fast greens, one treasures the wondrous game. How, then, will the game change and to what end?

First, planners and designers across the globe are returning to the fundamentals of the game: (a) shot-making values, (b) open space preservation, (c) respect for existing natural terrain, (d) social values, and (e) the playing of the game itself. These are primary values that have attracted golfers and golf designers for generations. There is an apparent return to the fundamentals of the game and golf designers are leading the way.

Second, investors and developers of golf-related assets – resorts and residential communities, in particular – have recalibrated their understanding of golf-driven real estate value to reduce or eliminate the previous extravagances that did not equate to increased earnings. Among the steps that developers are taking to return to fundamentals are the following:

Audience-Targeting – Planners and developers are first asking, “Who are the potential customers (resort guests, homebuyers and/or golfers) and from where will they originate?” During the white-hot development cycle of the early portion of this decade, the great questions for developers were: Where? How much? How soon? With whom? Investment bankers and developers are more alert now to the wants and needs of potential buyers and the net result is to be a better alignment of golf product and experience to the potential golfer audience.

Earth-First Planning – Land planning experts throughout the world are leading the way with planning strategies that protect existing sites and integrate new developments into the natural setting – with the inherent limitations, circumstances and site conditions. Bob Balder, a senior associate at worldwide planning giant Gensler, notes that the community of planners and project ‘visioners’ is newly empowered to reclaim the important fundamentals of the game while pairing the attractive benefits of golf with financially reliable project planning and development.

Project Sequencing – Many projects will delay the onset of golf courses within the projects for the sake of improving return-on-investment metrics. The deployment of capital

at the earliest stages of the schedule is disadvantageous to project finance performance. As such, developers are foregoing potential revenue elasticity that arises from lot premium revenues in favor of more desirable cash management tactics. According to Dr. Joseph Beditz, the CEO of the National Golf Foundation in the US, new golf course starts will reach generational lows as the US forecasts fewer than 50 new courses nationwide for 2009, which will be the fourth consecutive year to show a net decline in golf course inventory. NGF reports that the count of golf courses in the US will decline by approximately 125 courses in 2009.

Course Design Re-setting – The degree of difficulty and the construction costs are being recalibrated to make golf course developments more efficient in the use of capital and in terms of eventual pace of play characteristics. Golf course designers the world over are refining course design to contain costs by reducing the volume of earth-moving, the scope of irrigation required and the total acreage of maintained turf. Design features that add difficulty and can slow play are being reconsidered, according to many course design experts.

Third, golfers are being refocused on enjoying the game. As many golfers refrain from refitting themselves with new and different equipment



In difficult economic times, golfers are gaining a new appreciation of the enduring values of golf combined with its platform for socialization

technology, golfers are returning to playing the game for the sake of the game. Golf professionals and club executives have repatriated to the quintessential aspects of the game and, in so doing, golfers are being reminded that the game offers challenge, satisfaction and fulfillment. Golfers – in a difficult economic time – indicate a return to the appreciation for the enduring values of golf combined with the platform for socialization that golf enables.

Rounds Played – Golf rounds played remain stable in the developed nations. Despite a difficult economic phase, this key measure of market support ranges from a slight decline (less than 2%) in Europe to an increase (less than 2%) in North America. Many developing nations indicate increases in 2009 rounds played over calendar year 2008.

Participation Levels – The number of golfers is increasing worldwide. Golf is reporting a modest increase in the population of participants. This increase is modest in North America; although many industry insiders expect advanced growth from the new “Get Golf Ready” program introduced this year by the PGA of America. The popularity of golf in Europe and Asia reflects steady year-over-year growth in excess of 5%.

Player Retention – Golf professionals the world over have reinforced the

importance of remaining committed and engaged with the game. Despite economic pressures, employment declines and time-deficit concerns, golf is becoming more ‘sticky’ with its newest participants. Fewer new golfers are quitting the game.

Fourth, the social value of golf in virtually every nation has grown more robust. Golf continues to demonstrate the lifestyle values and the social affirmation that exploded in the US in the 1960s with the happy convergence of Arnold Palmer and broadcast television. The Olympic movement, which has now included golf as an Olympic-sport, will cause the enormous growth of the game in most countries.

International Instruction – PGA professionals in Europe and North America will export their knowledge of the game and advanced instructional techniques to cause the game to explode internationally. This movement of knowledge workers around the globe is underway already and the numbers will swell. Watch the BRIC- countries (Brazil, Russia, India and China) accelerate national instruction programs that will generate advanced competitive successes.

Tour Representation – Sweden and Australia have demonstrated that strong youth programs produce world-class golfers. Just as the Korean women have

impacted the American LPGA Tour, other countries will produce Tour-quality players in greater numbers. Opportunity, improved instruction programs and access to competition are factors that will fuel international growth metrics.

Golf may be poised for another remarkable run of growth and popularity worldwide. The methods and characteristics of this growth will be remarkably different and golf course designers will show the way. Golf courses and golfers will change; but the game remains characteristically resilient, challenging and rewarding in its many ways. ●



Henry DeLozier

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Environment | ASGCA

Golf and Water

Like all other aspects of human activity, the game of golf has an effect on the environment. Professional golf architects go to great lengths to understand these effects and their training makes environmental awareness and sensitivity a fundamental aspect of their work.

Many locations where water is in short supply can attract population growth, perhaps due to a warm climate. And any centre of population brings a demand for recreational facilities, including golf.

Over time, the golf industry has become adept at creating facilities that have a positive effect on the environment, through a frugal approach to course maintenance and water use. One of the first priorities for any architect is to understand the water resources in that location and devise an approach to water use that will have the most positive impact on the environment.

The diagram to the right highlights ways in which golf is working for the environment. These include technological advances, such as efficient irrigation systems and the development of new species of grass that require less water and are more drought-tolerant, and design advances to include fewer areas of high-maintenance turf and effective water harvesting capabilities.

This is not a case of trading off environmental sensitivity and quality of golf. An environmentally sound approach to golf is also likely to lead to a more sustainable golf facility, where a sensible approach to water use and maintenance brings cost efficiencies and a sound platform for long term viability. It's a win-win situation that ASGCA members can help clients to achieve. ●

WATER RECYCLING

Golf courses are using recycled water for irrigation. As of 2005, more than 12% of U.S. courses have adopted the practice.



WETLANDS

Naturalized areas on golf courses often include wetlands and other non-turf areas, accounting for a significant acreage of open spaceland.



ASGCA

The diagram is based on the ASGCA flier titled *Golf and Water: How the Game is Working for the Environment* which was prepared by ASGCA members Bruce Charlton and Forrest Richardson and has been approved by the 11 organizations that comprise the Allied Associations of Golf.

// The golf industry has become adept at creating facilities that have a positive effect on the environment, through a frugal approach to course maintenance and water use.

BIO-FILTERING

The turf grass and open spaces of golf courses are efficient at filtering pollutants in water that runs off our highways, rooftops, and developed areas.

TECHNOLOGY

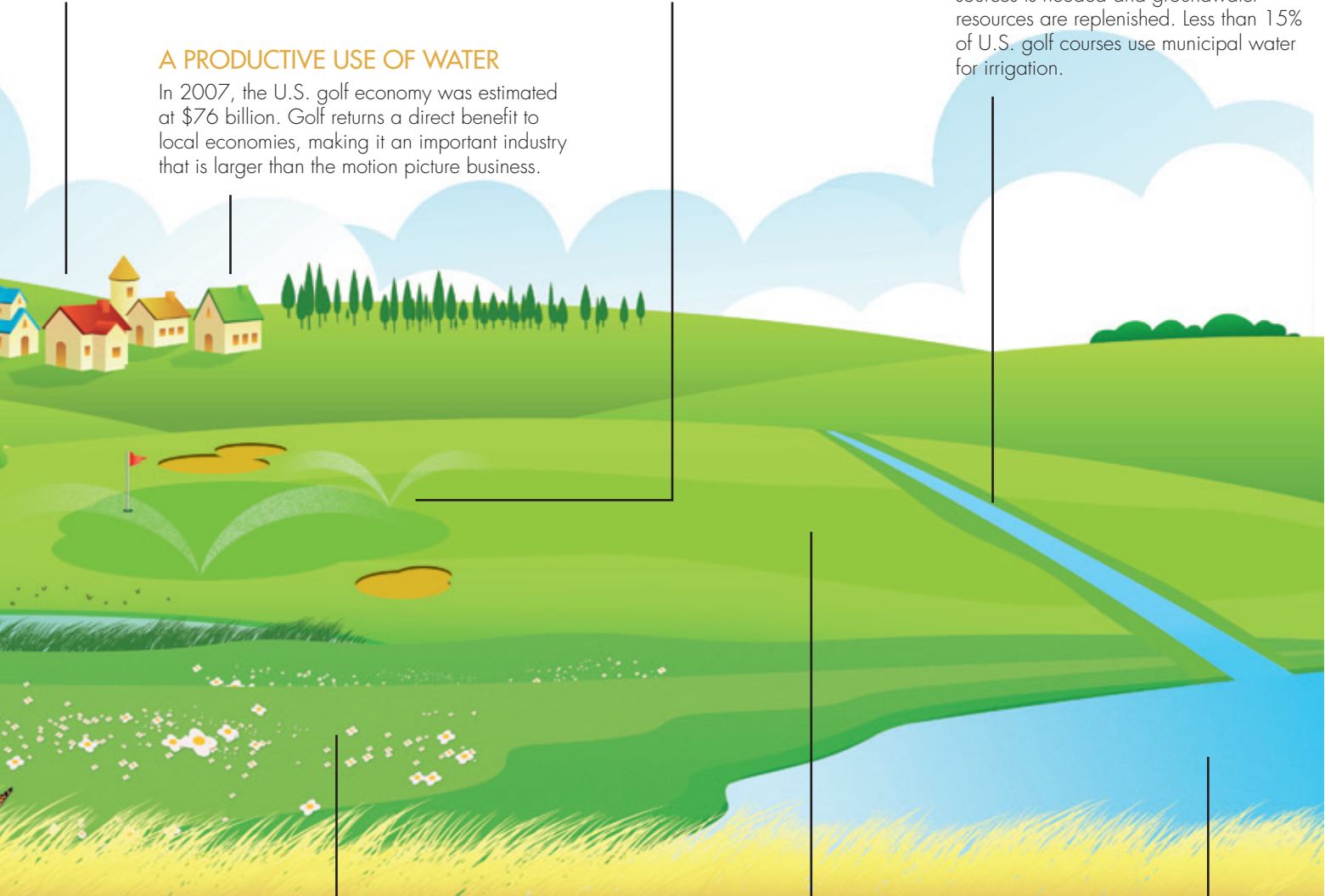
Innovations for efficient irrigation are being implemented on golf courses. Soil, plant, and weather sensors mean less water is used thanks to these advancements.

WATER HARVESTING

Many golf courses collect storm water for irrigation use. New technology can enhance the recharging of ground water reserves. Ultimately, less water from other sources is needed and groundwater resources are replenished. Less than 15% of U.S. golf courses use municipal water for irrigation.

A PRODUCTIVE USE OF WATER

In 2007, the U.S. golf economy was estimated at \$76 billion. Golf returns a direct benefit to local economies, making it an important industry that is larger than the motion picture business.



NATURALIZATION

Golf courses are becoming more natural as fewer acres of high-maintenance turf grass are planted and out-of-play areas are converted to non-irrigated natural habitat.

TURF GRASS SCIENCE

Research funded by golf has yielded new grasses that require less water and are more drought tolerant. Parks, sportsfields and lawns benefit from this research.

DROUGHT READY

Golf course architects are planning ahead for flexibility in water use. Capturing stormwater and planting drought tolerant turfgrasses are preparing golf for the future.

“ Does the occasional weed in a fairway – or even, heaven help us, in a green – really matter that much?

Conditioning | Adam Lawrence

Will Golf Eat Itself?

Golf operators are having to work as hard as ever to make money. But the industry itself must accept some of the responsibility for the scale of this challenge. Operators, designers, superintendents, writers – and pretty much everyone else in the industry – have worked together over the years to produce a situation where golfers, the lifeblood of the game, believe that perfect conditioning is the be-all and end-all, that a better conditioned course is a better course. The issue is not just about environmental sustainability, vital though that is. No, the problem is more deep-rooted: we in the industry have been party to a perfect prisoners’ dilemma: millions of golfers around the world rate conditioning above all, but who at the same time find golf too expensive, and thus play less than they might. And, in the quest to persuade these golfers to return, what do we do? We work to improve the conditioning still further, of course – because that’s what the surveys tell us players want.

This is a potential disaster for the game. No operator can announce ‘We are more interested in providing decent conditions on an interesting course at an affordable price’, because they all fear that the message of perfect turf coming from the

course down the road will win out. So the Darwinian death march of improvements in greenkeeping continues: turf gets smoother, more weeds are zapped... and fewer and fewer golfers turn up, because the million-dollar maintenance budget (on top of the costs of the grandiose clubhouse, of course) means the green fee is higher than they are prepared to pay.

Economic realities, especially in the United States, where the golf and real estate boom of the last two decades means that players have more choice over where to spend their golf dollars than ever before, may have an impact on this. But cost-cutting that is forced on operators by commercial realities will not fix the central problem of golfers’ own desires. The industry, which has spent so much time and money creating the monster, will have to find a way to fix it.

Telling millions of golfers around the world that what they have been led to believe over many years is, in fact, wrong, and bad for the game they love will not be easy. At every level of the golf industry, messaging will have to change. TV commentators misguidedly exulting over green speeds are a direct cause of pressure on superintendents around the world to mow their



Adam Lawrence

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greens lower, thus increasing maintenance budgets. Golf architects around the world need to stop signing up for projects flattening greens in order to allow them to be cut lower and made faster still and instead lobby clubs to add contour to greens, enabling interesting golf with lower maintenance budgets. Superintendents, who have made great strides as a profession in becoming more business-focused, need to redouble their efforts in this direction, doing, if necessary, detailed cost-benefit analyses of how much money will have to be spent to achieve particular levels of conditioning: hopefully, presented with the cold facts of what their obsession is costing, club committees will begin to see the light. Does the occasional weed in a fairway – or even, heaven helps us, in a green – really matter that much?

No-one can pretend that this new golfing paradigm – stressing fun over flash, affordability over extravagance and rejecting the self-defeating obsession with conditioning – will be easy to bring about. But if golf courses are to achieve economic sustainability, especially without the crutch of real estate to subsidize their costs – then the battle must be joined, by everyone connected with the industry. ●



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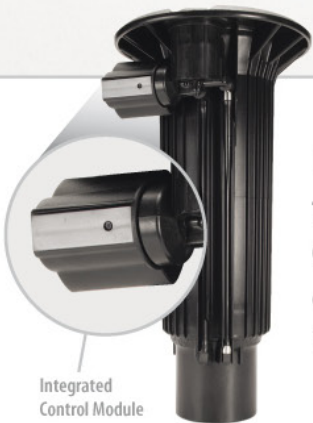
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