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Issue 15 | Summer 2013

BY DESIGN

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Proposed T

Preparing Merion's historic East course for the US Open

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I think that perhaps the most important and insightful comment in this new issue of *By Design* comes from Charlie Tickle of Daniel Corporation, a successful golf developer in his own right and now, on behalf of new owner Met Life, the operator of Reynolds Plantation in Georgia, where ASGCA held our 2013 Annual Meeting.

"The golf and real estate business model is not busted," Charlie told our meeting. "Met Life doesn't think the golf course world is busted. Golf is an expensive amenity, but it pays a dividend. Restore confidence and the future is bright."

Some commentators have suggested that the events of the last five years show that the marriage of golf and real estate developments was a mistake. But developers like Charlie are telling us differently; that golf and housing are natural partners, and the problems that have been experienced emerged largely from the housing side of the party.

Does that mean that, as housing markets strengthen, we can go back to doing exactly what we did before? No. As golf architects, we must help developers find ways to reduce the cost, both upfront and ongoing, of the golf amenity, and we must figure out ways of integrating golf and housing that doesn't make the golf component unsustainable once it is no longer supported by home sales revenue. I am proud of my fellow ASGCA members who are working with their clients to create sustainable, viable facilities. More can be done, and while the model is not broken, ASGCA members are finding ways of doing it better.



Yours sincerely,

Rick Robbins
President
American Society of Golf Course Architects

BY DESIGN

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COVER



Merion's East course has been renovated in advance of the 2013 US Open


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ASGCA

New members for ASGCA

ASGCA elected four new associate members and advanced four existing associates to regular member status during its recent Annual Meeting at Reynolds Plantation in Georgia.

Ian Andrew, Jim Cervone, Jerry Lemons and Cal Olson all progressed to regular member, having been an associate for at least three years. Andrew, based in Brantford, Ontario, has just opened the new course at Laval-sur-le-Lac in Quebec, which he designed along with Canadian professional Mike Weir. Pennsylvania-based Cervone has recently been working mostly in China, where he has built a number of new courses, including the Ordos International club in Inner Mongolia, along with fellow ASGCA member Brian Ault. Lemons, who works out of Tennessee, has a number of recent remodeling projects to his credit, while the California-based Olson's recent work includes the acclaimed Agalarov Estate course in Moscow, Russia.

Golf architects Bill Bergin, Patrick Burton, Joe Obringer and Taylor Zimbelman were elected as new associate members at the meeting. Their election brings ASGCA's membership roll to almost 180 practicing golf architects.

Bergin, who runs his own practice in Atlanta, is responsible for remodeling Donald Ross's course at the Chattanooga Golf and Country Club, as well as new courses including the Foxland Course at Fairvue Plantation (now

named Foxland Harbor) in Tennessee and the Heritage Plantation Golf Club in Florida.

Burton is a Senior Design Associate at Schmidt-Curley Design. His courses include Golden Mountain Golf Resort, Liaoning Yingkou Gold Time Golf Club and Jingshan Lake Golf Club, all in China.

Obringer is the owner of JFO Design in Georgia. His courses include Beijing South Woods Golf Club and the Agua Kun Ming (a Phil Mickelson signature project), both in China.

Zimbelman is a principal designer with Dye Designs Group in Englewood, Colo. His list of representative courses includes The Black Pearl at Pristine Bay in Honduras and the Lykia Links in Antalya, Turkey.

Additionally, three regular members achieved Fellow status with ASGCA, having been a member for at least ten years and reaching the age of 70. They are ASGCA Past President Rees Jones, San Jose-based Mike Poellot and Lindsay Ervin, who works out of Edgewater, Md.



ASGCA members gathered for the 2013 Annual Meeting at Reynolds Plantation, Ga.

Golf design

Mandell plans golf design family tree

Richard Mandell, ASGCA Associate, has begun work on what he hopes will be the most comprehensive directory of golf course architects yet created.

With the support of the ASGCA, Mandell intends to reach out to architects around the world, looking for information on their practices, their mentors and the people

that have worked for them over the years. Using this data, he will then draw up a 'family tree' of golf course design, showing who trained with who, and where, connecting many of today's architects back to the birth of the profession.

Mandell said: "I began my career working for Dan Maples, who trained with his father Ellis, who in turn got

his start with Donald Ross. Although our profession has expanded across the world, it remains fairly small and tightly knit, and I expect most architects will have similar links back to some of the great names of the past."

Anyone with information for Mandell is asked to contact him via email at richard@golf-architecture.com.

Rounds on the rise in Abu Dhabi

Figures from the Abu Dhabi Tourism and Culture Authority have revealed that a record number of overseas rounds were played in the first quarter of 2013, prompting global golf tourism industry experts to suggest the destination is becoming one of the most lucrative in the field. Abu Dhabi Golf Club, Saadiyat Beach Golf Club and Yas Links all recorded their best quarterly figures for overseas rounds in 2013's first quarter, and recorded an 89 per cent growth compared to the same period last year.

Kirby designs 'a Hole in Heaven'

An exclusive mountain retreat in the Italian Alps has unveiled an innovative golf facility at 1,200m altitude. Named 'a Hole in Heaven', the course is the work of ASGCA Fellow Ron Kirby and Italian architect Paolo Gueltrini, and sits high up in the Dolomite mountains. The lodge lies on the site of a 16th century hunting lodge, transformed into a four-bedroom mountain residence. The course is comprised of nine flag positions and six tees, with three flags of different colours positioned on the green. The green is a replica of the Valley of Sin from the home hole on the Old Course at St Andrews.



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Environment

Audubon certifies 1000th course

Eagles Pride Golf Course, a U.S. military course near Tacoma, Wash., is the 1000th golf course in the world to receive designation as a “Certified Audubon Cooperative Sanctuary.”

The golf course is located at Washington state’s Joint Base Lewis-McChord (JBLM), the Defense Department’s largest military installation on the West Coast.

The Audubon Cooperative Sanctuary Program for Golf Courses (ACSP), which is endorsed by the United States Golf Association, is an environmental education and certification program that provides technical assistance and guidance to help courses protect the environment, preserve golf’s natural heritage, and gain recognition for their efforts. Since being established in



Audubon reaches landmark at Eagles Pride

1991, ACSP membership (including facilities working towards certification) has grown to more than 2,300 golf courses in the United States and 36 countries worldwide.

“We are very proud to have earned this in recognition of our commitment to sustainability and environmental stewardship, especially since we are the second Army and fifth Department of Defense golf course to be so honored

worldwide,” said Joint Base Commander Colonel H. Charles Hodges, Jr. “This certification is a significant honor as a tangible recognition of our commitment at JBLM to sustainability and responsible stewardship. We look forward to working closely with Audubon International in our efforts toward ensuring all future generations have an environmentally friendly place to work and play.”

Renovation

ASGCA architects back at La Costa

ASGCA Past President Damian Pascuzzo is about to begin a second major renovation project at La Costa Resort and Spa in Carlsbad, Calif. ASGCA Past President Jeff Brauer will collaborate on the project.

Pascuzzo, working with Brauer, led the remodel of La Costa’s Champions Course in 2011. The new project will affect all 18 holes on the current South Course, which closed at the start of May for the start of construction.

Renamed the Legends Course, the new layout will reopen in late 2013.

While the routing by golf architect Dick Wilson will remain intact, the makeover includes a complete reconstruction and redesign of all 18 greens, as well as a thorough resurfacing of tee complexes, all-new bunkering, and the planting of paspalum turfgrass in the fairways. Once complete, the Legends Course will be more spacious than the Champions Course, with

a more open look, while providing a complementary set of strategic challenges and a variety of visual encounters.

“We have a lot of respect for La Costa’s original routing and intend to maintain its integrity,” said Pascuzzo. “Our goal with the Legends Course is to give golfers a completely different type of golf course to play at La Costa. We want to keep it fun and interesting, with different visuals and some subtle nuances around the greens.”

Growth in golf vacations

A report from the International Association of Golf Tour Operators (IAGTO) has shown an average growth of nine per cent in the golf holiday sales industry over the past year. The inaugural IAGTO Annual Golf Tourism Report found that the average sales growth in 2012 increased by 9.4 per cent compared to the previous year in Europe and the global average proved to be 9.3 per cent. North America however saw an even more significant rise, recording 13.5 per cent compared to the year previously, while the Asia Pacific region saw a rise of 5.1 per cent. Operators in Latin America, the Middle East and Africa all reported growth in excess of 20 per cent.



Dubai to announce new sustainability regulations

The government of Dubai will shortly announce new regulations on sustainability that will impact on property developments, including those featuring golf. Majida Ali Rashid of the Dubai Land Department told a recent press conference that a group of experts specialising in sustainability would be created to manage the program. “The pillars will be economic, social and environmental,” she said.

Merion East

Return to a legend

This year's US Open at Merion's historic East course represents the culmination of fifteen years work by the USGA, the club, and ASGCA members Tom Fazio and Tom Marzolf. Adam Lawrence reports on how the seemingly impossible was made reality

For many years, David Graham's US Open victory at Merion in 1981 seemed as though it would be the last chapter in the history of the famous old course's relationship with American golf's greatest championship. Merion East, went the perceived wisdom, was too short to challenge modern-day professional golfers, and, perhaps even more critically, the 125 acre property on which the course sits was way too small to accommodate today's Open.

Well, for once, perceived wisdom was wrong.

ASGCA Past President Tom Marzolf, along with his mentor, Tom Fazio, ASGCA, has been the club's consulting architect since 1999. In that time, the two Toms have overseen a transformation of the course, extending it beyond the limits observers thought possible, and returning the bunkering to the patterns and styles of 1930 and Merion's greatest moment—Bobby Jones still-unmatched Grand Slam of US and British open and amateur championship victories in the same year.

"We began working at Merion in anticipation of the US Amateur that the club had been awarded for 2005," says Marzolf, speaking a few weeks before the Open. "At that

point, the return of the Open was a distant goal at most. When we started working there, the course was 6,480 yards. We've added many, many tees over the years—the first go around, we added ten back tees and picked up a lot of length. The US Amateur was played at 6,840. Since the Amateur and the Walker Cup, we've added more back tees, and the golf course will be just shy of 7,000 yards.

"The club decided it wanted the course to be returned to the 1930 era. We were told to put the bunkering back on the ground as it was in 1930. They had these pictures of Jones playing the course from 1930, and those excellent photos enabled us to literally hold the photographs up and work the bunkers back to exactly how they were in that era!"

Although extending the course to this extent demanded creative thinking on behalf of both architect and club, the sub-7,000 number is in itself something of a statement. For several decades, 7,000 yards was regarded as the line beyond which a course was seen to be a long, tough test. Now, championship courses are routinely 500 yards or more longer; in fact, Merion will be the first sub-7,000 yard US Open course since Shinnecock Hills in 2004.



Even though it remains relatively short by modern standards, Marzolf believes Merion will test US Open competitors to the full. “It’s tougher than the scorecard makes it look!” he says. “The yardage on the golf course is very lopsided between the two nines, because of the configuration of the routing. The back nine is 3,253 yards, par 34, with no par fives. And in that, you have a 115 yard par three! But the front nine is long by anybody’s standards, at more than 3,700 yards.”

The course’s two par fives both appear in the first four holes, and the central run of holes, by contrast, features most of Merion’s strong selection of short par fours. Marzolf says this section of the golf course helps make Merion what it is. “One key characteristic of Merion is that the long holes are extremely long, and the short holes are very short,” he says. “There’s not so much in the middle, which is one of the things that makes it such a great test.

“The shorter holes are in the middle of the golf course. A lot of players will hit irons off the tee on seven—the fairway is within six paces of the out of bounds. The eight may be a lay-up and a wedge, and the tenth can be driveable. We rebuilt the tee on that tenth hole and made

it larger, because a lot of players were hitting irons, and there were more divots on the tee. On the ninth hole, we basically rebuilt all the tees they had, because they would have blocked the view of the water feature in front of the green. As we moved the tee back, we had to lower the other tees—the members’ tee was lowered by about eleven feet. We had to do a lot of earthwork to make it look old-timey and like nothing was done. The impact of those two very long par threes is very important for the course’s defence. Merion’s par threes have great variety—you have the ninth hole at 236 yards, the thirteenth at 115, and then the seventeenth at 246! The seventeenth is one of the toughest par threes in golf. We lengthened it substantially, but we had to regrade all the tees to be able to get that new tee in. When the club saw what the yardage did to that hole, I think it gave them the confidence to go forward with the rest of the project. Those big par threes test golfers’ ability to hit long approaches, there are fewer of those today on the par fours due to the new ball.”

Merion’s tenth is an interesting hole, in that in its current form, it was not part of the course’s original routing. Architect Hugh Wilson had the tenth green



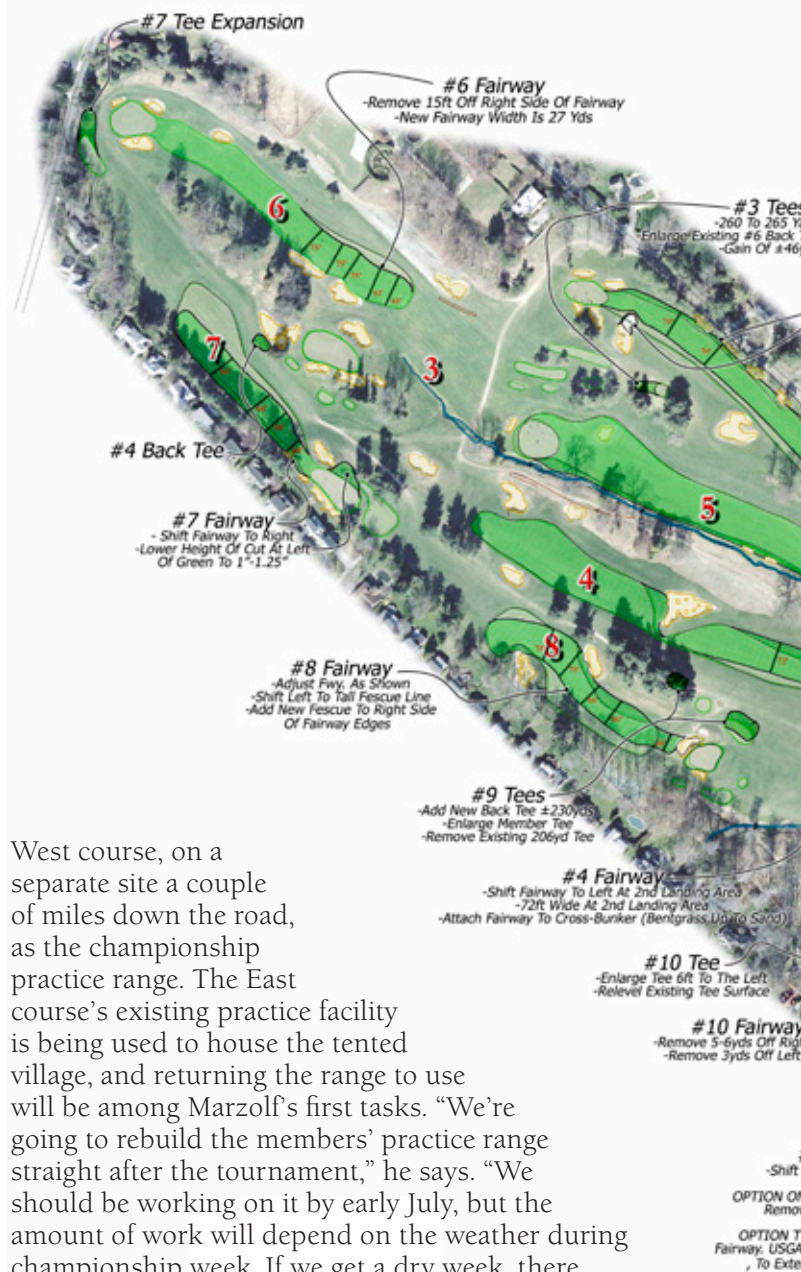
The project was a collaboration between club, architects and the USGA

back across Ardmore Avenue, but in the 1920s, when the course was reconstructed by William Flynn, the increased traffic on the road made playing across it impossible. “Ardmore Avenue was not a road when the course was done by Wilson,” says Marzolf. “When the road was put in, the routing had to change, and several holes had to change.”

The fourteenth hole is a prime example of the challenges Marzolf faced. “The tee is adjacent to the eighteenth green and in front of the clubhouse area,” he says. “We lengthened the fourteenth onto the members’ putting green. We rebuilt that area and players at the 2005 US Amateur and 2009 Walker Cup played right off the putting green. From this tee location, the adjacent Golf House Road is very close. Some players may try to hit over the bending curve of the road to get further down the fairway.”

Merion’s long-serving superintendent Matt Shaffer, regarded for many years as one of the leading figures in American greenkeeping, has played a major role in making the course suited to test the best players in the world. “The one thing that’s new this year is that the intermediate cut along the sides of the fairways is being eliminated. They’re going to go from the fairway directly into the graduated rough. There will be two heights of rough—depending on the length of the hole, the width of the first cut will vary. On a long hole, the first cut—which is mowed at 3.5 inches—is wider, 15-18 feet. On the shorter holes, that band is narrower. Matt has created a mower with the deck at an angle to bevel cut the grass, so you don’t have 3.5 inch rough right at the fairway edge. I suspect that a lot of people won’t notice that the intermediate cut is gone, but the players will!”

Once the Open is finished, Marzolf and his team will be back at Merion, helping the club put its course back into prime condition for member play. The tightness of the club’s property has meant a number of alterations to US Open standard procedure, notably the use of the



West course, on a separate site a couple of miles down the road, as the championship practice range. The East course’s existing practice facility is being used to house the tented village, and returning the range to use will be among Marzolf’s first tasks. “We’re going to rebuild the members’ practice range straight after the tournament,” he says. “We should be working on it by early July, but the amount of work will depend on the weather during championship week. If we get a dry week, there shouldn’t be too much to do, but if it’s a wet, wet week it could be much more.”

During its storied history, Merion East—host to more USGA championships than any other golf course—has been the venue for Jones’s Grand Slam, arguably the greatest achievement in the history of the game, and Ben Hogan’s legendary 1950 US Open victory, returning from a near-fatal car smash to reclaim his place at the top of golf. Now, the finest players of the 21st century have their opportunity to write their names into Merion’s story, and Marzolf is proud to have played his part in making the return possible. “It’s great to be back at Merion, and it’s great for the USGA to be reintroducing this wonderful golf course to a new generation of players,” he says. But, of course, the USGA has long wanted its Open to be golf’s



It's great for the USGA to be reintroducing this wonderful golf course to a new generation of players

Tom Marzolf, ASGCA
Fazio Golf Course Designers, Inc.

toughest test, and so the winning score of a US Open is watched more closely than that of any other tournament.

Marzolf is confident that the golf course will hold up to the assault of today's professionals, though, as Rory McIlroy proved at Congressional two years ago, no course is invulnerable if conditions are soft. This is why Matt Shaffer and his team are going to unmatched lengths to try and ensure firm conditions, but they still require the

collaboration of Mother Nature. "If it's dry all week, and firm, it wouldn't surprise me if even to four under wins, but if it's really wet and soft then it could be ten to fifteen under," says Marzolf. "But, whatever the winning score, I'm confident that the new champion will have had to play his very best golf, and I'm certain that every player in the field will know he has had the privilege of competing on one of America's greatest courses." ●

The future of practice

Around the world, golf clubs, resorts and developers are investing in practice facilities. *By Design* asks why modern practice is different from old-style beating balls, and what it can bring to your golf business.

Knowing, as every golf course owner and manager does, that time and difficulty are two of the three key obstacles to more people playing more golf, it's hardly surprising that courses around the world are investing heavily in practice facilities.

Twenty years ago, that opening sentence might have seemed a little odd. In those days, practice ranges were where dedicated golfers went to work on improving their games, or where the slightly less dedicated warmed up before heading to the first hole (the least dedicated of all, of course, just went straight to the tee and trusted to luck). Now, though, partly because golf designers have learned to create more compelling and challenging practice facilities, and partly because savvy operators have realized practice can itself be a driver of revenue, things are changing.

"In the real estate industry, 'location, location, location' is the mantra," says Pinehurst-based golf architect Richard Mandell, ASGCA Associate. "I think in golf, the new adage should be 'practice, practice, practice'. We are seeing clients put more and more emphasis on their practice facilities as a way to bring in new members and get current members to stay around the club longer."

Investment in practice facilities carries a three way bonus for golf courses. Done cleverly, it can, as Mandell says, induce existing golfers to spend longer at the course, building loyalty and offering the potential to drive increased food and beverage revenue. But it also provides an enticing environment for grow-the-game activities; one of the big problems in retaining new golfers

has always been that if someone is attracted to try golf because of the beautiful landscapes they see on TV or in friends' photos, hitting balls from a windswept practice tee into a flat and featureless field is hardly going to deliver the expected thrills. Thirdly, the best-designed practice facilities are destinations in their own right. By offering ways to work on game improvement that are in themselves competitive games, they provide a way for time-poor golfers to get their fix without committing to the requirements of a full eighteen holes.

So, the practice facility of 2025 is likely to be a multifunctional operation, incorporating traditional long and short game areas, but packaging them in a way that enables golfers to go to the course and practice their game while still playing a match or competition of some sort against their friends.

Virtually every golf club has a practice putting green, and many cities around the world also have public putting facilities in parks. The granddaddy of them all, though, the famous Ladies Putting Course, or Himalayas, in St Andrews, has recently become a popular model for other venues to copy.

As anyone who has been to St Andrews will attest, the Himalayas is a wild ride of humps and hollows. An hour spent on the green should improve any golfer's sense of pace control and understanding of how to deal with breaking putts, but, in the company of good friends, it is as much fun as golf can deliver in so short a time. Himalayas-influenced greens have been or are being built at a substantial number of golf venues around the world. Done right, it is a



The Country Club of North Carolina has seen a significant increase in usage of its practice facility since renovation

brilliant potential source of revenue for a course: putting greens of this kind will keep golfers at the course longer, induce them to order food and drink to be consumed either during or after play, and, most importantly of all, pretty much guarantee they will leave with smiles on their faces.

Such greens are also wonderful facilities for corporate or hospitality customers. If courses seek to attract conference or wedding trade, it's probably too much to expect such guests to play eighteen holes after the main business of the day is done. But an hour's putting contest, with something tasty to eat and drink, as the sun goes down? Perfect.

It doesn't have to be a putting course, of course! Short game areas, with multiple chipping and putting greens, or even short courses, are ideal for the same kind of small-scale, time friendly golf contest.

One club that has seen real benefits from this kind of project is the Country Club of North Carolina in Pinehurst, where Mandell recently rebuilt the practice facility. "We have seen a significant increase in

usage since our practice facility was completely renovated," says director of golf Jeff Dotson. "Many members have commented that the quality of the facility makes working on their games more enjoyable, and allows them to practice shots in a more similar manner to what they face on our courses. The addition of the short game area has been a huge hit. Members can practice a limitless variety of shots from different lies, and it's not unusual to see someone spend a couple of hours working on their short game. I could stay there all day and not get bored."

Practice, then, is moving beyond something you do to prepare for golf. There have always been players, determined to improve their game, who have spent hours working on the practice tee. The difference with the facility of the future, though, is that it will have been designed to attract those whose attitude to practice has been less enlightened. Make practice both fun and competitive, and, as many clubs are finding, it will be a business driver, not just a field that sits empty most of the time. ●

"The best designed practice facilities are destinations in their own right"

GOOD PRACTICE

ASGCA members have the professional expertise required to design a practice facility that can meet the needs of modern golfers, help increase the appeal of your facility to existing and potential new members and increase revenue streams for your club. To find an ASGCA member architect who can help you, contact the ASGCA via www.asgca.org/contact or refer to www.asgca.org/members.

Lessons from Georgia

The 67th ASGCA Annual Meeting, at Reynolds Plantation in Georgia, enabled members and their guests to share insights on the global golf industry, and discuss a number of interesting topics. *By Design* reports on the key learnings from the meeting

The Reynolds Plantation development on Lake Oconee, halfway between Atlanta and Augusta, was an appropriate location for ASGCA's 67th Annual Meeting, which took place in late April.

For Reynolds, one of America's largest integrated golf and real estate developments, has been through tough times since the economic downturn hit, culminating in the Reynolds family, the project's initial developers, losing control of their property. But the green shoots of recovery were not long in coming: Reynolds has been acquired by insurance giant Met Life, and is now managed on its behalf by golf real estate specialist Daniel Corporation.

The firm's boss Charlie Tickle told the meeting that both he and Met Life executives still believe in the golf business as a key part of development. "Met Life doesn't think the golf course world is busted," he said. "The issue is the confidence the financial world has lost, not the golf courses. Restore confidence and there's a bright future. Golf is an expensive amenity, but it pays a dividend. The question is one for every individual development: is there a market or isn't there? The power of golf as an engine of development is clearly shown by the Lake Martin community near Atlanta. It has half as many lots as

Reynolds Plantation, but they realize much lower prices. Why? Because it doesn't have golf. We're going to make Reynolds Plantation the great recovery story of the golf world." ●



MORE THAN FORWARD TEES

LPGA professional Mary Lyons, Ann Dye and ASGCA members Jan Bel Jan and Vicki Martz joined ASGCA staff member Aileen Smith, sharing an informative discussion of the wants and needs of women golfers. The panel agreed that the pioneering work of ASGCA Past President Alice Dye has been hugely important in helping golf designers and operators understand how women play the game, but also that the discussion needs to go beyond distance—hence the panel title!

"I teach male and female golfers differently," said Lyons. "Men and women play for different reasons: men for competition, women for the fun of it. Guys ask 'who won'? Well, when women play together, we all win, and

the post-round discussion focuses on our successes."

"Women are each others' best supporters," Martz agreed. "But the way we approach design is from a male point of view, and we tend to lump all women together. Just as there are differences in male golfers, women have different games and skill sets, and we need to provide some alternate routes for them to get to the green. Women don't want their course dumbed down. But they don't feel the need to shoot par. If we take all the strategy out of golf holes to make them easier for women we destroy the interest of the game and their skill level will never get better, they'll lose confidence and they'll stop playing."

"To promote more women to play, we're talking about getting more adventurous," said Bel Jan. "Create challenges, but not challenges that can't be surmounted."

"Teachers are not taking people out on the golf course enough," said Lyons. "They should start their players short and let them achieve success. If you're not keeping score, you don't worry about a lost ball, you just drop another and keep going. Lots of my students have hydrophobia, they are terrified by water hazards."

Look for expanded coverage on ASGCA members designing facilities to welcome new players in an upcoming issue of *"By Design."*

DESIGN BRAINS TRUST

Outgoing ASGCA President Bob Cupp, along with Tom Fazio, ASGCA, Chris Cochran, ASGCA, Rees Jones, ASGCA Past President, and Jim Engh, ASGCA, all of whom have designed courses at Reynolds Plantation, shared a panel that started by discussing the venue itself, but quickly diversified into a general brains trust on the future of golf design.

“Every young golfer now, male or female, hits it far, both far long and far wide,” said Fazio. “That is a big issue from a design point of view.”

“Shorter holes are more tactical than longer holes,” said Cupp. “More people can enjoy a shorter hole than can enjoy a 500 yard par four.”

“We’re trying to fool the public into believing they’re playing a 7,000 yard golf course when actually they’re playing 6,300 yards,” said Cochran.

“The Creek Club, which opened in 2007, is the only private course at Reynolds Plantation,” said Engh. “I was told by the client ‘we want to do something very different’; well, having a client ask me to be



Jim Engh, ASGCA was asked to produce ‘something very different’ at Reynolds Plantation

a rebel is pretty much a home run. I believe a golf course should be an adventure and a learning process. If you put unique land forms out there the golf will become more interesting. Two things matter: intrigue and fun. We’re doing projects with fairways that are 300–400 feet wide, but only 75 acres or so of irrigated turf.”

Incoming ASGCA President Rick Robbins closed the discussion. “We need to focus on designing from the green backwards,” he said. “Forget the idea of everyone using the same landing zone, because even if they do, their approach shots will be very different. Let the green dictate the strategy of the hole.”

BUILDING SUSTAINABILITY



In separate presentations, Kellie Jerome of the Golf Environment Organization and Ryan Aylesworth of Audubon International outlined their groups’ visions for the future of golf’s sustainability efforts. Jerome said: “GEO aims to bridge the conversation between communities/governments and golf developers. We’re framing the discussion in positive terms to enable positive conversations between architects and clients. Officials, whether planners or environmentalists, are nervous about golf. It is their job to ensure only good projects go forward. Our goal is to help the other side of the table feel more confident about saying

yes. We need to frame discussions differently—not just ‘we’re not going to do damage’, but also ‘we’re going to do good’.”

Aylesworth told delegates that AI is currently engaged in a major review of all its existing programs, which it expects to complete this summer. “All our programs will have a precious metals rating system—bronze, silver, gold, platinum,” he said. “And we are developing an online platform to make the certification process less onerous while maintaining rigor. There will also be a final site visit by third party verifiers to alleviate potential bias.”

WIND POWER



Stuart Hackwell of ASGCA Major Partner Rain Bird shared some of the company’s latest product developments with the meeting. 2013 is Rain Bird’s eightieth anniversary. Hackwell told delegates that small-scale wind turbines could prove a significant benefit to golf courses. “We’re talking turbines rated at 50kW, producing around 200,000 kWh of electricity each year,” he said. “Generally speaking, they have a payback period of around five years. Electricity that’s captured can either be used on the course itself, or fed back into the network if supply exceeds demand.”

Soil sensors

Not just for the big boys

Rain Bird's Stuart Hackwell explains why every golf course, no matter what its budget, should be making use of soil sensing technology

The use of buried sensors to measure soil moisture, temperature and salinity has increased significantly in golf course irrigation management. Similar to the use of weather stations that estimate what's happening above ground, soil sensors provide the superintendent with a look 'under the hood' to understand what is happening in the root zone below the soil surface. It is estimated that five percent of golf courses in the United States use sensor technology to monitor conditions below the soil surface, so a great opportunity exists to increase the use of soil sensors to improve irrigation management and playing surface consistency.

Early attempts to monitor soil moisture were labor intensive. Gathering, recording and analyzing data required a significant amount of effort. As communication methods improved and manufacturers developed more reliable and accurate sensors, the technology has become a valuable tool in the golf industry.

Rain Bird Corporation introduced the Integrated Sensor System in 2011, incorporating a research-quality soil sensor with advanced communication technology to communicate data to the irrigation computer. Rain Bird's Soil Manager software at the computer integrates soil data with the irrigation central control software, providing sprinkler run times that can be automatically adjusted based on changes in soil moisture.

Large sensors systems have sensors in multiple locations on different holes.

Monitoring two or three points on all 18 greens, plus key tee and fairway locations requires 60–100 sensors and an accompanying \$100,000+ budget. Installing soil sensors on all 18 holes is beyond the budget of most golf courses. Rather than waiting for a golf course to justify a large capital budget to install a complete sensing system, superintendents have found the budget to invest a few thousand dollars in a 'starter' system: a few sensors, a data logger, repeater and software.

For a superintendent not familiar with soil sensors, it is a new technology to aid in daily decision-making. It

takes time to relate turfgrass response under varying conditions to soil sensor measurements. A minimum number of sensors gets the superintendent into the driver's seat and on the way to improving his knowledge of what is happening "under the hood". When portable sensors are used to take manual readings in combination with an installed sensor system, results can be monitored in several locations and related to the automated sensor data. Consistency of play is often improved as a result of careful monitoring and corresponding sprinkler run time adjustment.

“Sensors provide the superintendent with a look 'under the hood' to understand what is happening with the root zone



With a sensor system, each superintendent learns something unique and different about their golf course



One of the first Rain Bird Integrated Sensor Systems in China was installed at Shanqin Bay

Shawn Emerson is director of agronomy at Desert Mountain, a property in Arizona with six Jack Nicklaus, ASGCA-designed Signature courses. Emerson, an early adopter of soil sensing technology, has been experimenting with sensors for several years. Emerson started by installing sensors on three greens. “We chose an average, good and bad location on a green, then monitored the results to develop a relationship between the three locations,” he says. “We developed a baseline and then tried to understand the variability between locations. The more we tried to find and understand key indicators in the data, the more precise our actions became.”

Emerson has added to his sensing system over time and now has 60–70 sensors per course. He adds: “But you could start really small and develop your understanding of the technology. With less than 24 sensors, a superintendent could really make a good impact on his course.” Because of their location in the desert, Emerson was already aggressively managing water consumption, yet he estimates that Desert Mountain saves, on average, an additional 10 percent of water and power as a result of sensors, saving an additional 15 million gallons per course per year.

The philosophy of starting with a few sensors and expanding the system each year is easy to implement. The key to phasing in additional sensors is having the communication network established on the golf course. The network automatically detects new sensors

and data loggers installed within the coverage area, making it easy to expand the system over time.

Superintendents point to a variety of factors that can be managed with a sensor system: When to syringe? When to irrigate? When are salts high in the soil profile, requiring flushing of the soil profile? When are conditions right for weed seed germination? What are indicators to help manage disease pressure? With a sensor system, each superintendent learns something unique and different about their golf course.

The biggest advantage a soil sensing system offers for water management is the answer to the huge question: “when do I need to irrigate?” As an example, the user can decide when to irrigate based on a minimum soil moisture percentage rather than a simple every second night watering schedule. If the soil moisture has not declined to a critical threshold, the user can choose to delay irrigation until the next night. For a golf course located in a cool season climate and irrigating 300,000 gallons per night, the effect of delaying irrigation on a few occasions can quickly save a million gallons a year.

Soil sensing technology is gaining interest outside the United States. Shanqin Bay Golf Club on Hainan Island, China is designed by architects Bill Coore, ASGCA, and Ben Crenshaw. Superintendent Chris May installed one of the first Rain Bird Integrated Sensor Systems in China at Shanqin Bay earlier in 2013. He is excited about the technology. “Hainan is a high humidity climate similar to the Caribbean,” he says.

“We have significant disease pressure and soil sensors let us manage soil moisture closely to prevent disease and conserve water. I think this is going to be a very useful tool for superintendents in China and throughout South-East Asia.” The sensor system uses a 2.4 GHz radio signal which enabled it to be the first sensor system to receive licensing for use in China.

ASGCA Past President Erik Larsen summed matters up well during a recent ASGCA Annual Meeting when he commented: “I am excited about soil sensing technology. This is important and something that everyone should consider for their course. It’s not just for high-end properties, even the \$25 green fee municipal course should be looking at soil sensors to conserve water and improve playability.” ●



Stuart Hackwell

As International Sales Manager with Rain Bird Corporation, Stuart Hackwell works with golf course specifiers on water management projects worldwide. Based in Tucson, Arizona, he has been with Rain Bird for 21 years.

Golf and real estate

Natural bedfellows

Adam Lawrence says golf architects, masterplanners and developers can find better ways of integrating golf and real estate.



Adam Lawrence

Adam Lawrence is editor of *By Design* and *Golf Course Architecture*. He is also a leading commentator on the global golf development business.

Attending the recent ASGCA Annual Meeting in Georgia and hearing a leading US golf developer assert that golf and real estate still belong together was a lightbulb moment for me.

Ever since housing markets in the US, Europe and many other countries came under pressure in 2008, leading to a virtual halt in the development of golf and real estate projects, it has been fashionable to assert that the business model that sees housing intermingled with golf holes is broken, and that we won't see many projects of this kind in the foreseeable future.

I take a different view. To me, golf and housing are natural bedfellows. Since developer Walter Tarrant and architect Harry Colt built the St George's Hill estate south of London in 1912, we have over 100 years of evidence that golf adds value to homes, and vice-versa. The model, in my eyes, is not broken. It might be slightly battered, and it might be in need of improvements, but essentially it still works.

Some of the changes that must happen are at the level of masterplanning. Pretty much everyone in golf now understands that hole after hole lined on both sides with housing may be a short

term win for developers, creating a vast number of golf-frontage lots, but longer term, it results in a golf course that is doomed to mediocrity. Rather, put the houses in clumps, which will help create a community feel, as well as making the development more pedestrian friendly and, by the way, making the golf course feel more integrated. Keeping the footprint of the golf course compact is good for sustainability; it also encourages people to walk the course, rather than riding a cart, with obvious benefits for health. It is good to hear from architect Brian Curley, ASGCA, that almost all his firm's projects in China are now focused on core golf.

But there need to be changes to the type of golf design that is deployed on real estate developments too. Many developers believe homebuyers like to see acre after acre of finely maintained turf, but in a world where water is precious and maintenance budgets under pressure, reducing the area of turfgrass that is mowed, irrigated and fertilized is absolutely essential. Moreover, much of the push for longer courses—even on developments that have no intention of ever trying to host a professional or leading amateur event—comes, again, from the desire to maximise golf frontage.

This is wholly understandable, but the best advert for a development is a golf course that is popular and economically thriving. Advocates of longer courses say that, as long as there are sufficient forward tees, they are playable by all, but this misses the key point. Length is essentially directly opposed to sustainability; longer courses cost more to maintain, take more time to play (even from shorter tees, never mind the inevitable tendency of golfers to play further back than they really should) and demand more land. What the Tee it Forward campaign and the work of activists like Arthur Little is revealing is that 6,500 yards, planned intelligently, is plenty of golf for the vast majority of players.

Across the world, there are huge opportunities for golf to support the development of much-needed housing, and for that housing to support the growth of golf. In countries such as India, Nigeria and Brazil, where a huge emerging middle class is looking for better, more secure homes, golf estates will boom. The game will boom with them, if developers, masterplanners and golf architects learn to work together more intelligently and produce projects that hit the spot for golf and housing alike. ●



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