GOLF COURSE A R C H I T E C T U R E

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"LIGHT TOMORROW WITH TODAY"

ELIZABETH BARRETT BROWNING



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WELCOME

The bunker equation



ADAM LAWRENCE

and bunkers are perhaps the single most recognisable visible feature of a golf course. Born on the links, they have since colonised every environment in which golf is played, from mountain, through clay parkland, to rocky desert.

Over the years they have changed from rough and ready holes in the ground filled with whatever material came to hand into manicured pits, with expensive, carefully graded sand buffed and raked to within an inch of its life. Bunkers take up an inordinate amount of greens crew time, certainly when compared to the proportion of shots hit from them, and in virtually every club member survey, they come out as the biggest source of discontent among golfers.

And yet, not only do bunkers continue to be built on virtually every golf course, they are first in line when clubs spend on renovations. When golfers see photographs of new courses, it isn't the green contouring they remark on. It is the bunkers.

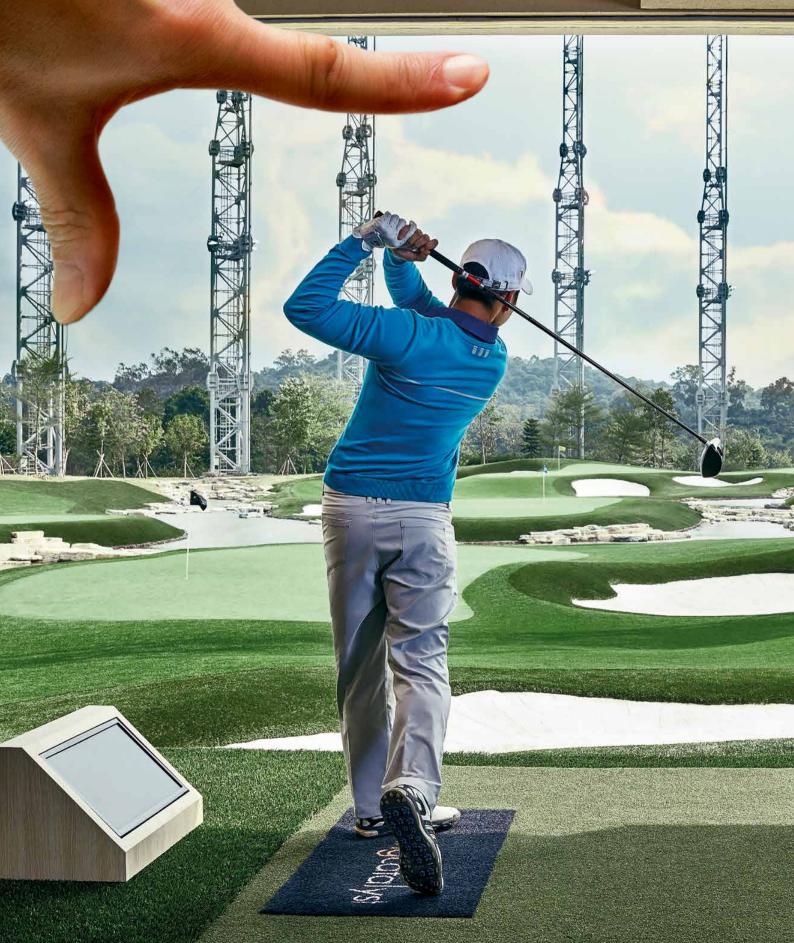
Building dramatic bunkers has long been a surefire way for a course to attract attention. Dr Alister MacKenzie's iconic American projects, such as Cypress Point and Pasatiempo, are universally hailed as masterpieces, but was it not the attention given to those courses that gave later, and perhaps less talented, architects the notion that fancy bunkers equals success? Right at the end of his career at Augusta, MacKenzie recanted on his heavy use of sand and built a course with minimal bunkers. But by then, had the damage been done?

We have seen, all across the world, a parade of bunkers built not to set up the strategy of the golf hole, but for reasons that are primarily visual. We see clusters of bunkers built where the weakest golfer, who ends up in the furthest from the green, has to carry perhaps forty yards of sand to reach the putting surface – an impossible shot for most long handicappers.

It's time for golf architecture to break away from the crutch that sand bunkers have become. For architects to use their imagination and create hazards that don't penalise the weak more than the strong and soak up money. It's time for something new.

Adam

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GOLF COURSE A R C H I T E C T U R E



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I'm really looking forward to working on many exciting projects in the coming season both with new clients as well as existing ones.

Preparing for the future and ensuring that their courses can cope with the existing and ______upcoming challenges.

Hoping the New Year will bring along a more open world and a return to normal.

Stay safe, *Caspar Bay Grauballe*



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MAIL BOX

Dear Editor

There is still a widespread and vivid debate over how many of our great old courses have become obsolete for professional tournaments and top amateur competitions as a result of increased hitting distances. The increased hitting distance is due in part to modern players' sheer physical strength, gained from healthy diets and hours of working out in the gym for which they should be praised, but even more so due to advancements in the technology of equipment. The governing bodies of golf bear much of the blame for this development as they have let the equipment manufacturers set the agenda for too long without much concern for the legacy of the game and its spirit.

In September 2020, EIGCA stated its support of measures to reduce the hitting distance. However sympathetic I find this statement and at the risk of being considered a gloom-monger, I think we are beyond a 'point of no return' as I do not have faith in the governing bodies displaying either the leadership or the courage to turn the clock back. At best, they will legislate to stop the clock where it is now but this will still not render our old classics fit for professional and top amateur events using today's equipment.

Witnessing how the game has evolved over the past three decades has left me somewhat in despair and torment. To stop the rot and return more to the original roots of the game whilst still accepting evolution, is it perhaps conceivable that the professional tours and national golf unions introduce different sets of equipment rules for some tournaments?

Could the following be viable? Modern Courses Tournaments – use of any equipment that complies with the rules permissible. Classic Courses Tournaments – only wooden woods, steel shafts and balata balls permissible and no wedges above 55 degrees loft allowed.

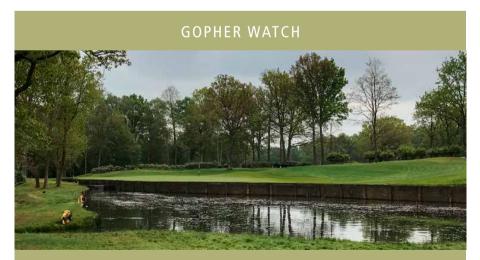
This concept would reap a number of benefits: Old classics such as Sunningdale, St Germain and St Pierre could come back on the professional tournament schedule. It would encourage something other than sheer power and require real shot-making skills, variety, imagination and finesse, all facets of the game that would make it more interesting to play as well as to watch, and closer to its original spirit.

It would open potential investors' eyes and make them realise that tournament golf can indeed be played on something other than monster-long courses that don't require five hours to complete. Even as a curiosity, even the equipment manufacturers would benefit as they would profit from additional sales of wooden clubs and balata balls.

Mere mortal golfers can continue playing their friendly games with whatever equipment on whichever course they so desire. Playing the occasional round with wooden clubs might bring them a revelation.

Henrik Lund Varna, Bulgaria

We are delighted to receive letters from readers, and the best in each issue will be rewarded with a golf shirt. Send to 6 Friar Lane, Leicester, LE1 5RA, UK, or email us at letters@golfcoursearchitecture.net



Congratulations to Ashley Allpress, who correctly identified that in our last issue, our resident gopher Sandy Par was at the spectacular fifth hole of Isle of Purbeck's Harry Colt layout. What would that same architect make of Sandy's location for this issue? Email us at *gopher@golfcoursearchitecture.net* with the name of the course for a chance of winning a *GCA* golf shirt.

PGA Frisco courses growing-in for 2022 opening

Construction complete on new Gil Hanse and Beau Welling layouts in Texas



he two golf courses at the PGA of America's new development in Frisco, Texas, have been grassed and are growing in.

The Gil Hanse-designed East course and Beau Welling-designed West course at the \$520 million development on a rolling 600-acre site in the north of the Dallas-Fort Worth metroplex are scheduled to open in summer 2022.

"It's a great luxury to be working a timeline like this one," said Hanse. "But it's not every day that we get the chance to create a golf course that we know will host multiple major championships and potentially a Ryder Cup. Opening in 2022 will allow us to get the details and conditioning exactly right. So, we can wait. And when it does open, the course and the features are going to be absolutely perfect from day one."

Before construction began, the East course at PGA Frisco was signed up to host the PGA Championship in 2027. The venue will also host the event in 2024, plus the Senior PGA Championship in 2023 and 2029, and KPMG Women's PGA Championships in 2025 and 2031. A Ryder Cup is also expected, although the earliest possible date would be 2041.

"The property here reminded me a bit of Southern Hills – the topography, along with the creek so prominently featured," said Hanse. "Of course, Southern Hills is now surrounded by Tulsa. But when Perry Maxwell built it, Southern Hills probably looked a lot like our site in Frisco does today.

"This used to be a ranch, so we focused on that, along with what is some really interesting topography,



TEE BOX

The courses have been routed over rolling terrain on the 600-acre site in Texas. Above, the green complex for the par-three fifth on the West course, and right, the approach to the par-four tenth on the East course

> good rolling ground. But everything has been done in proportion to the broad expanses we're dealing with here. In that context the bunkers are the calling card, the most visible feature out there – and they are dramatic."

The East course has been constructed by Heritage Links, while Wadsworth Golf Construction has worked on Welling's West course.

> "The West course seeks to take advantage of the natural character of the site that encompasses over 75 feet of elevation change and follows Frisco's Panther Creek," said Welling. "We've focused on highlighting the prairie setting with native field grasses, live oaks, and mesquite trees as well as created wetlands and habitat areas to build a true natural oasis amid the neighbouring, developing urbanity.

Image: PGA Frisco/Beau Welling Design

"The highly strategic nature of the golf course will encourage shotmaking and creativity from tee to green. We have designed the course with expansive fairways, averaging roughly 75 yards, to promote enjoyment for all levels of golfers as well as to inspire different routes of play. Additionally, we have worked with the PGA of America to plan teeing grounds within the fairway height of cut to promote flexibility in the course setup, further supporting a fun, yet challenging test of golf that can be both a family-friendly experience as well as a championship calibre test. We can't wait for people to play the course!" Speaking at the beginning of the project, Seth Waugh, CEO of the PGA of America, said: "Our move to Frisco will be transcendent for the PGA of America. Everything great starts with a dream. This is the beginning of a bold, new journey as we bring together worldclass partners in a world-class location."

PGA Frisco will have extensive practice facilities, including a short course, multiple short game areas and a range with teeing areas on three sides. Grassing on the practice facilities will commence in spring 2021. "Our team is still making regular visits to the project site to oversee landscaping for both golf courses as well as to review progress on the practice facilities and the 10-hole short course that is being co-designed with Hanse's firm," said Welling.

The Frisco development will include a hotel and conference centre, a retail village, and parks. The PGA of America's new offices are also now in construction.

View the PGA of America's latest footage of the courses at youtube.com/ watch?v=ujRyxG0nBt8

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Edwin Roald introduces new holes at Thorlákshöfn

Edwin Roald has completed a golf course renovation at Thorlákshöfn Golf Club in southern Iceland.

The main focus of the renovation was the relocation of three coastal holes, which were "repeatedly covered in sand blown from the beach and dunes". The project has taken place in two phases between 2014 and 2020.

"The course was rerouted, with the introduction of four new holes replacing the problematic coastal holes," said Roald. "While there is ample space for new back tees, this is not a priority. The new routing will play shorter and sweeter for the core customer, with around 200 metres shaved off the previous scorecard. There are now six par threes, two ultra-short par fours, and five par fives.

"The new routing is more compact, shortening green-to-tee walks by 40 per cent and reducing total course area from 68 to 65 hectares. In terms of pace of play, the shortened green-to-tee walks alone should save a quarter of an hour. This addresses the facility's



perceived prior shortcomings, namely course length and difficulty, as well as long green-to-tee walks."

One of the previous greens became an alternate green on the first hole. "This sets the stage for dual tees on the new par-three second hole, including existing tees whose life is prolonged by the dual design which was partially inspired by holes nine and ten at Bandon's Pacific Dunes," said Roald. From the upper tee, the hole "incorporates multiple classic template elements, including the Redan and the Road hole where the bunker is represented by ground contours within the green, set at a slight angle," said Roald. "The lower tee requires a pitch over water, along the length of the green, at an angle that reveals certain Biarritz elements in the green."



THE BIG PICTURE

A sculpture featuring faces of the bodhisattva Avalokiteśvara overlooks the third green of the East course at the Vattanac Golf Resort on the outskirts of Phnom Penh, Cambodia. The Faldo Design layout opened in September 2019 and has now been joined by a contrasting layout, the West course, also designed by Faldo, which opened in 2020. "The West course offers a slightly more intimate look and feel to the resort's East, but just like the East it offers different strategic challenges with fairway positioning and shot



choice crucial for players looking to find reward and an inviting line to the green," said Sir Nick Faldo. "It certainly asks questions of golfers' game-management: long, short, left or right from the tee can find difficulty and create a complicated hole."

Both courses feature scale models of Khmer historical sites, including Angkor Wat, Preah Vihear and Bayon. "By integrating cultural inspiration into the landscape, the course has a real sense of place and its local features help to create an unforgettable experience," said Faldo.



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Tom Clark's Cutalong course opens for play



The new Cutalong golf course in Virginia is now open for play. The layout has been designed by Tom Clark in collaboration with golf journalist Ron Whitten and comprises holes inspired by some of golf's best-known classic hole designs.

"My original intention was to create another National Golf Links," said Clark. "With some of Ron's input we not only have Charles Blair Macdonald to draw from, but a host of other famous designers."

Interpretations of famous holes that feature on the Cutalong layout include a version of James Braid's 'Het Girdle' par-three fifth green at Gleneagles on the par-five third, the par-three seventeenth based on Alister MacKenzie's Gibraltar hole at Moortown, as well others inspired by the work of Harry Colt, Hugh Alison, Donald Ross, Tom Simpson, Old Tom Morris, William Flynn and others.

The site is also close to Civil War battlegrounds and Clark and Whitten have based some holes – including the 'Stockade Redan' eighth – on nineteenth century defences.

The layout also emphasises the site's mining history, featuring abandoned mine shafts, ruins and a rail line. "We have railroad tie bunkers, mine shafts have been capped and are now drainage basins, and we have used rail ruins, spikes, picks and mule shoes as tee markers," said Clark.

While all 18 holes are now open, the official opening is planned for 2 July 2021. Photo: Mike Klemme

GOOD READ "Golden Age creations are the inspiratio

the inspiration for almost all of my work"

The cover story of the latest issue of *By Design* magazine – produced for the American Society of Golf Course Architects by the team responsible for *GCA* – explores how the work and philosophies of Golden Age golf course architects continue to inspire today's designers.

"Golden Age creations are the inspiration for almost all of my work," says Drew Rogers. "During these times where we're all trying to produce more with less, it's instructive to call on the works from the early years of the twentieth century, when a course was truly arranged or routed for the best 'fit', and so little had to be done to build and maintain it."

Also in the Winter issue, Forrest Richardson – the new ASGCA president – describes his deep respect for golf course architecture's past, and his vision for the future; there are profiles of the six projects recognised by ASGCA's Environmental Excellence Awards programme; and Thad Layton of Arnold Palmer Design Company discusses his thinking behind a short

par-three hole at Fasano Las Piedras in Uruguay.

To download the latest issue and subscribe to By Design, visit www.asgca.org



The first and seventeenth greens are separated by a cluster of bunkers

18

COURSE BLUEPRINT

Cabot begins new mountain course project

Ó

Clearing work has started on a new 18-hole golf course designed by Rod Whitman of newly formed golf design firm Whitman, Axland & Cutten (WAC) at the British Columbia ski resort of Revelstoke. The course will be part of a project led by Canadian developer Cabot, which also includes a 150-room hotel and real estate.

"We are always looking at sites, all around the world," said Cabot CEO Ben Cowan-Dewar, who co-founded the firm with Mike Keiser. "This opportunity in Revelstoke is too good to ignore. Two and a half years ago, I looked at the site, and straight afterwards, I called Rod and said, 'I have an opportunity for you'." 16

Revelstoke is around 200 miles from the Sagebrush course created by Whitman that opened in 2009. Keith Cutten, a partner at WAC, says the projects are not really comparable. "This site is so much better for golf than Sagebrush. The first hole there plays straight up a hill, and the eighth is completely manufactured. None of that will be necessary here. "So many mountain courses are either on flat land in valley bottoms, with very little interest, or alternatively are on ski hills that are really too steep for good golf. This site is different – it has constant contour, but isn't too severe. The majority of the property is just gently rolling, with some big washes coming off the hillside. Very little will have to be manufactured, and I don't see us using a lot of dynamite, if any at all – there are rock outcroppings, but nothing that impedes golf." Wı

The par-four seventh green is set against the bluff

5

The par-three eighth plays across a gorge, requiring a carry of over 250 yards from the back tees

The fourth and thirteenth holes share a fairway

0

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LLIAMSON LAKE

A central hazard is planned for the landing area on the par-five twelfth

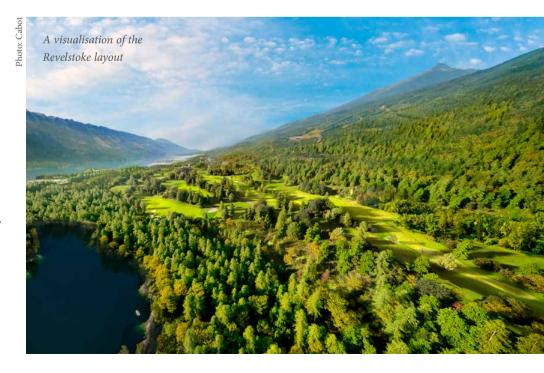
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"Although sand is rare in the mountains, there is a huge sandpit at one end of the property," said Cowan-Dewar. "And it is appropriate that it should be designed by this team. Rod is based in the neighbouring state of Alberta, and all three courses we've done in Canada have had Rod, Dave and Keith on them, so it's wonderful to have them in their new company on this one."

The course is expected to be ready for play in 2023.



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Crace completes bunker project for Tamahka Trails

Nathan Crace has completed a renovation of the golf course at Tamahka Trails Golf Club in Marksville, Louisiana.

The club is located at the Paragon Casino Resort and Hotel, which is owned by the Tunica Biloxi Tribe of Louisiana.

The main aim of the renovation was to overhaul the bunkers – the club has been unable to host top state amateur golf tournaments for almost 15 years due to their condition. Crace oversaw the replacement of all drainage lines and sand, re-shaping to eliminate steep slopes, converting around 40,000 square feet of bunkers to grass, adding small pot bunkers to four holes, and implementing the Better Billy Bunker system.

All of the standard House

New forward tees allow the course to be played from a total as low as 4,000 yards, while other tees were added and repositioned throughout, including seven new championship tees that extend the maximum course length by 150 yards.

"Tamahka Trails is the best kept secret in golf in the state of Louisiana," said Crace. "There simply is no piece of property in the southern part of the state that has the unique topography and feel that this property has. With these new upgrades it should be on everyone's must-play list, regardless of skill level."

Paul O'Brien, 1968-2020

Golf course architect Paul O'Brien, a partner at design firm (re)GOLF, died in December.

Known for his warmth and good humour, and a popular and active member of the European Institute of Golf Course Architects, Paul's legacy includes design work at Gowran Park and Naas Golf Club in Ireland.

His career began as an intern for Jeff Howes Golf Design: "It was clear from the very first time I met Paul that he loved the game of golf and had a fantastic sense of humour. Those attributes never waned, in good times and bad," said Howes.

His colleagues at (re)GOLF, Jeff Lynch and Christian Lundin, said: "It is a massive loss to us as Paul always strived to make us better and more professional. He loved the game of golf and had a passion to help others. Our hearts are broken, and we will forever honour him and his passionate approach to work."









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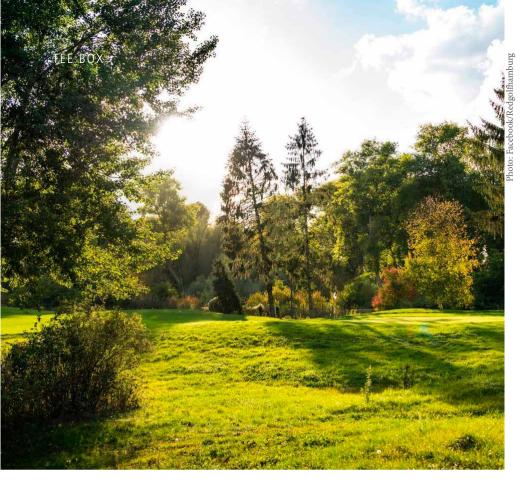
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Preissmann redesigns nine-hole course in Germany

The Moorfleet golf course in Hamburg, Germany, has reopened following a redesign project by Rainer Preissmann of Deutsche Golf Holding.

The architect has created a new ninehole executive course on the land of six of the course's original nine holes (which Preissmann laid out in 2002), and plans for a four-hole beginner loop in place of the remaining three holes.

Holes on the new course range from 86 to 328 yards - three par threes and six short par fours - for a total par of 33 and length of 2,043 yards. Players may choose to leave woods out of their bag, with the layout emphasising accuracy over power. "It can be played quickly and promises a successful experience if you concentrate on the individual holes and not play too aggressively," said Preissmann.

The project also saw the restoration of drainage and the trench system, and the club plans regular sandcapping. The irrigation system was overhauled by Dennis Brehmer of Golfplatzbau, with a Toro Lynx Central Control System installed. This was particularly helpful for grow-in: "The possibility of a precise time adjustment made a positive impression, especially when establishing the sensitive green seeds," said Preissmann.

The architect says that with biotope management and additional plantings, the golf course "presents itself as a landscape which recalls the tradition of English landscape parks".

Read more about Moorfleet, where the original construction involved making contaminated material safe, at www.golfcoursearchitecture.net

Gullane opens new short game facility



Gullane Golf Club in Scotland has opened a new short game facility designed by James Edwards.

The practice area sits on three acres including the former eighteenth green of the club's No. 3 course. That hole has now been converted into a 179-yard par three.

Edwards designed a large green with five pinnable areas, and surrounds with designated hitting areas, and three bunkers with Durabunker edging.

"These facilities will help to grow the game of golf, encourage participation at this world-class venue and help to safeguard the future engagement of all levels of golf at Gullane for many

Drew Rogers develops Lemon Bay plan



Lemon Bay Golf Club in Florida has appointed Drew Rogers to develop a master plan of golf course renovations.

The first phase of Rogers' plan focuses on renovating greens, bunkers and irrigation. "Our vision is to take those elements to another level, using what the site inherently provides, along with an overall cleaner presentation of the landscape and preservation of habitat," said Rogers.

THE INTERVIEW

with Blake Stirling and Marco Martin



"Key to the entire layout was the tremendous variety"

GCA spoke with Blake Stirling and Marco Martin about their 27-hole project at Altaona Golf in the southeast of Spain

How did the project come about? MM: The client – Mark Shaw and his Edinburgh-based firm, Hazledene Group – was looking for a piece of land to develop a new multipurpose golf and residential community. After many trips to southern Europe, the client found the perfect location... with 340 days of sunshine, good communication links, close to a historical city, and close to the Mediterranean coast.

Altaona Golf is also located just eight miles away from the modern

and recently opened Región de Murcia International Airport. The location allows any northern European golfer to escape from the cold weather and be playing golf in shorts in December with temperatures of 70 degrees [21C]!

What was the brief given to you by the client?

MM: The main target was to transform an abandoned and eroded, dry landscape into a safe community where golfers, residents, and joggers can enjoy their activities at the same time.

The full master plan of 300 hectares of residential and leisure will have the use of a 27-hole resort golf course, a golf academy and an extra nine-hole pitch-and-putt course.

BS: They wanted commanding, outstanding views on the golf course. We worked backwards, running holes in various directions, utilising the topography, adapting to existing vegetation, boundaries, and very strict environmental regulations.





mage: Stirling/Martin Golf Course Architects



The routing provides for plenty of space between the golf holes and surrounding high-end real estate

Because of the high-end real estate, golf holes were located to maximise views and beauty from the home sites. With an emphasis on safety and stunning beauty, the layout evolved. Like a great book or movie, the beginning chapters - the opening



three holes - immediately capture excitement for the golfers, drawing them in. In addition, the seventh, eighth and ninth holes on the front, and holes fifteen through eighteen on the back offer unequalled thrills and enjoyment for all levels of players and for spectators as well.

What are the highlights of your design? MM: With holes going in different directions, the key to the entire layout was the tremendous variety, so that golfers are offered 18 unique and distinct experiences. Memorability of each hole is the foundation for the final layout.

Our design has a generous amount of width, challenging golfers to approach greens from various angles. In addition, the generally larger greens have plenty of variety of pin positions, creating different ways to attack holes depending on the day.

Secondly, we wanted to produce a fun, playable golf course that was enjoyable and full of distinct experiences. As golf architects, we want to make golf fun and help the game grow in popularity. Safety also played a key part in the strategy, as ample distance between holes and spacious room and views for spectators were considered.

Circulation during the round played a major role as views, distances, and beauty were taken into account.

The environmental aspect was also crucial. The course's irrigation, the urban treated wastewater, and seeding with Pure Dynasty - from Pure Seed and Atlas Turf International – have all helped to create a natural landscape with autochthonous species.

The first nine opened in 2019, the second nine will be fully seeded by May 2021, with work to continue on the third nine afterwards.

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New course by Pacific Coast Design opens in India

Haldi Golf County near Hyderabad, India, has opened a new 18-hole golf course, designed by Pacific Coast Design, the Australian-based firm of architects Phil Ryan and Paul Reeves.

The golf course supports a residential development and five-star hotel built as part of a joint venture between Dream Valley Golf and Resorts & Giridhari Homes.

Indrasena Reddy, joint managing director at Haldi Golf County, said: "We are delighted to partner with the Dream Valley group and launch Haldi Golf County. We have been creating communities with the mission to fulfil the dreams and aspirations of people. Haldi Golf County is the most prestigious, exclusive riverside golf county for those who aspire for a premium lifestyle and a lush green environment. We are building a world-class golf gated community



which will redefine luxury living by offering the best-in-class infrastructure and facilities."

The project is spread over 250 acres, and the course runs alongside the River Haldi.

Prithvi Reddy, CEO of Haldi Golf County, said: "Haldi Golf County is a luxurious expanse of lush green space which features a golf club, housing units, a five-star luxury resort and clubhouse. It is the only golf course alongside a river, adding to the lush green golf course's serene beauty. We promise to offer super exciting facilities for golfers across the globe."

Dundonald prepares for new dawn

Construction work is in progress on new practice facilities and course changes at Dundonald Links in Irvine, Scotland, as part of a £25 million investment by new owners Darwin Escapes that also includes the construction of a new clubhouse with rooms, plus eighteen lodges.

Golf has been played on the land since 1911, on a course originally designed by 1883 Open champion Willie Fernie that lies across the rail tracks from Western Gailes. The land was commandeered by the military in preparation for World War II, then lay untouched until Kyle Phillips designed the new course, which opened in 2005.

"When I first arrived on site there was evidence of old bunkers – such as the bunker behind the now eleventh green and ninth fairway – that were incorporated into the new course," said Phillips. "My objectives were to integrate the natural landforms that had not been disturbed during the military use of the property in World War II seamlessly into the landforms that were designed into the new Dundonald Links course."

Phillips made some adjustments to the fifth, fifteenth and sixteenth greens in 2016 and has returned for the current project: "We are doubling the size of the practice tee as well as improving and expanding the short game area. Several of the most frequented tee grounds are also being expanded and returfed. We are also widening and reorienting a few of the walk paths and making a few adjustments to some of the bunkers. Adjacent to the new lodges, we are adding three new practice greens."

Phillips' long-standing lead shaper David Smith is on site throughout the project.

Dundonald Links hosted the Scottish Open in 2017. Phillips said: "One of my good memories during the event was when one of the commentators expressed his great admiration for the old natural linksland contours within the fairways. After which his fellow commentator gently reminded him that Kyle Phillips designed those lovely wrinkles in 2003."

"Now it's time for the next chapter in Dundonald Links' history and give this fantastic course the amazing facility that it deserves," said club manager Ian Ferguson, in a new video introducing the redevelopment. "It really is going to be one of the best venues in the UK to come and stay and play golf."

The course is expected to reopen in May 2021, with the new lodges available from July and the clubhouse and rooms opening by November.



Dundonald Links is expected to reopen in May 2021, with new lodges and clubhouse opening later in the year

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- Eric Bauer, Director of Agronomy, Bluejack National

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The Machrie completes bunker work

The Machrie Golf Links on the Isle of Islay, Scotland, has completed construction of revetted bunkers.

There are now almost 50 bunkers on the course, which reopened in 2018 following a redesign by golf course architect and former European Tour player David J Russell.

Course manager Dean Muir said: "When DJ started the redesign project, the original intention was to have none. Had they been natural, we could never have managed to maintain those bunkers, because of the flymowing and strimming, and we would have had trouble building them too. Because of our island location it is difficult and expensive to get revetting turf, and our small turf nursery could never provide enough. It is the use of EcoBunker that has made these bunkers possible."

Muir saw the EcoBunker method in use on a project in his hometown of Dunbar and realised that it could be a help at The Machrie. "After I saw photographs of the EcoBunkers built with double stacks of astroturf at the new Dumbarnie Links course in Fife, I realised they were just right for us," he said. "The bunker faces were hydroseeded with fescue: once this started to grow, it made the bunkers look even better. So, we rubbed fescue seed into the faces – you don't want a lot, but a little bit of growth makes the bunkers look much more natural. Some of our EcoBunkers are nearly three years old, and a bit of age helps the naturalisation process too. The local golfers know they are EcoBunkers, but the majority of our play is visitors, and I don't think they have any idea that the bunker faces are synthetic."

Rees Jones walks down memory lane for Coral Ridge renovation





"We used to stay in an apartment right behind the golf course, almost every winter," said Jones. "Coming out of World War II, everyone was starting over, and Dad was able to build it with his own construction team. But there was no drainage – he just built greens, tees and bunkers." Over the years, Jones Sr would regularly tinker with the layout. "Like Donald Ross, who lived next door to Pinehurst No. 2 and changed it over the years, that's what Dad did," said Jones. "And we've restored that improved Robert Trent Jones golf course, rather than the original one.

"I am finishing what he would have done if he had today's technology at his disposal," says Jones, who had the benefit of experience of hundreds of rounds on the course, but also referenced old topographical maps, historic photos and aerial imagery of



the course from 1961 in developing plans for the renovation.

The main goal of the project was "to bring the course up to date," said Jones, with a particular emphasis on raising greens and fairways to better withstand storm events, using fill generated from the excavation of ponds. "We elevated and contoured fairways, rebuilt bunkers with modern technology and enlarged the greens back to their original sizes, or a little bit larger," said Jones. Greens have also been recontoured to suit today's speeds and the total course length has increased to 7,300 yards.

The par-three eighth hole has a large tier separating two distinct portions of the green. New bunkering at Coral Ridge, as also seen on the sixth hole, left, is reminiscent of Robert Trent Jones Sr's early work

Jones says that one of the highlights of his father's design at Coral Ridge is the variety: "It has as much variety as any Florida golf course, and that's hard to do when you have a flat piece of land."

Along with design associate Steve Weisser, the Jones team emphasised that variety: "Every hole really has a different twist – there's not one single green that really resembles another, nor are the contours within the greens similar," says Jones.

Of the par-three eighth, for example, he says: "I don't think there's another hole like it anywhere. It has a very large front portion of the green, a sizeable slope up to the rear. It's really two holes in one – a distinctly different golf hole. Players can use the slope as a backstop when the pin is at the front but have to roll the ball up the tier when the pin is at the back portion."

"Eighteen is a phenomenal hole," adds Jones. "450 yards from the back, with water on the left and a Biarritz green. And one thing that has changed from Dad's course, because of the newly elevated greens, is that we have chipping areas around the greens with pronounced drops, including to the right of eighteen. The average golfer can putt, the good player can choose different clubs."

The course's new bunkering was inspired by Jones Sr's early work. "These bunkers really have a look of the courses at Banff Springs and Jasper Park that my father marked out for Stanley Thompson. They have that sculpted look you would see in brochures at the start of his career," said Jones.

Coral Ridge reopened in late 2020 to widespread praise. Jones says: "One of the members said to me: 'Magnificent. That says it all'."

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A visualisation of new bunkering on the par-three sixteenth and, inset, how the hole currently looks

TEE BOX

Palmer team to begin Teton Pines project in April

The project will also include fairway restoration ca

REKOTA EFERING STADIO

Teton Pines Country Club & Resort in Jackson, Wyoming, has appointed Arnold Palmer Design Company for a golf course renovation project.

The first phase will focus on the front nine, with contractor Ridgetop Golf Construction beginning work in April.

"The catalyst for the project was the bunkers, the liners were 10 years old and starting to breach the sand surface," said Thad Layton, senior architect at the Palmer firm. "Adding a new, heavy-duty liner evolved into a conversation about bunker styles, purpose, locations, sizes and maintenance. The plan calls for an overall reduction of 25 per cent of the sand area, which should create more avenues for play and a more interesting golf experience. The project will also include fairway expansion, tree removal, rebuilding the driving range and the introduction of a "robust" native grass palette. The designers will also rebuild the seventh, tenth and fifteenth greens.

"We proposed rebuilding the green complex on ten to create a clearer riskreward proposition," said Layton. "The realigned stream and smaller green should foster more thoughtful play all the way back to the tee.

"The fifteenth green has a severe cross slope and agronomic issues due to the adjacent aspens. The plan is to remove the aspens and rebuild a larger green with more pinnable areas and a flanking bunker to guard the right side of the green in the absence of the trees.

"At sixteen, the work falls into the

restoration category as there were bunkers previously fronting the green that we thought would look great and better define the target if we added them back."

Work will take place on the seventh hole too. "The seventh green is guarded by a lake that isn't visible from outside of 200 yards," said Layton. "Since we couldn't change the elevation of the water, we discussed a number of options to signal the location of the hazard, settling on the addition of a boulder wall around the green. This provided an opportunity to expand the green to create enticing new pin positions to tempt more aggressive play from further out."

A second phase of work, on the back nine, is planned for spring 2022.

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Par 3, Hole 17 prior to opening | Photo: Courtesy of Tanah Merah

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Ankara club previews new Lobb course ahead of spring opening

A new 18-hole golf course designed by Tim Lobb has opened for preview play in Ankara, Turkey.

Regnum Golf & Country Club Ankara is the third project that Lobb has completed with developer Fikret Ozturk in Turkey, joining the Regnum G&CC in Bodrum and Carya Golf Club in Belek.

The course is laid out on a 200 hectare site 30 kilometres from the Turkish capital and has over 70 metres of elevation change. Lobb says he worked closely with course superintendent Ufuk Dincer on "giving a wide and strategic playing experience on this rolling, open site, which is very different to most other tree-lined courses found in Turkey."

"We tried to avoid straight uphill holes and worked hard to bounce holes off the contours in a natural fashion, slowly rising and falling in altitude," said Lobb. Two returning loops of nine provide constant changes in direction, with some adjacent holes having connected fairways. Water comes into play on three holes, including the par-five fifth and alongside the approach and green of the par-three fifteenth.

The project has also seen the first Rain Bird IC System installed in Turkey. "I have been fortunate enough to design and open four courses in Turkey over the past 20 years," said Lobb. "On all projects Rain Bird was selected as the irrigation supplier. They bring a wealth of experience to the region and each individual project in Turkey. We have been working with many of the same people during this period which

gives a consistency of performance across all projects."

The course was originally set for an official opening in 2020. But with the pandemic limiting access to the site for personnel and supplies, the course is now scheduled to fully open in spring 2021.

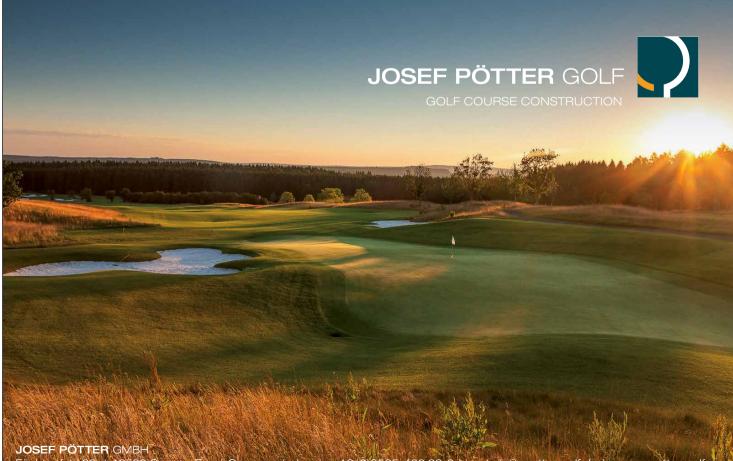
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Sentosa reopens The Serapong

Sentosa Golf Club in Singapore has reopened its Serapong course following the completion of renovation work by Andrew Johnston, the club's general manager and director of agronomy.

The project included new bunkering, regrassing fairways, new drainage, relevelling all tee boxes and minor grading adjustments.

Johnston said: "Being located in a sub-tropical climate means the golf course ages faster than an ordinary one, and these renovations are crucial to maintaining the quality of the playing

surfaces, as well as the conditions and high standards that we pride ourselves on here at Sentosa."

Cho Minn Thant, commissioner and chief executive officer at the Asian Tour, said: "The renovations have enabled The Serapong to retain its unique personality and characteristics that made it one of the world's top golf courses.

"We are looking forward to welcoming back Asia's best players this year to battle it out at the SMBC Singapore Open."

ON THE WEB

More great content is available at www.golfcoursearchitecture.net. Go online to read the below articles in full:

Custodians of the course



In the final article of an exclusive series for GCA, golf course architect Mike Clayton considers the role and responsibilities of green committee members.

Medinah CC selects OCM to develop master plan



Medinah Country Club in Illinois has appointed OCM Golf to develop a

master plan for its #3 course, which will

Peter Fjällman redesigns six greens

host the Presidents Cup in 2026.

Grauballe completes renovation of Simon's GC

Golf course architect Caspar Grauballe has completed renovation work at the 27-hole Simon's Golf Club in Kvistgård, Denmark.

"The project was primarily about safeguarding the course for the future and the more extreme weather we are experiencing, and we expect to see more of in the future," said Grauballe. "We introduced more drainage, an upgraded irrigation system and a complete upgrade of all bunkers."

Construction work by Nelson & Vecchio initially began in April, albeit with a slow start due to Denmark's Covid-related travel restrictions. All bunkers have now been lined with



Capillary Concrete and edged with Durabunker synthetic bunker edging.

"From a playability point of view, we took the opportunity to update the strategy of the holes and to ensure a fair distribution of challenges for the players," said Grauballe. "It has been a fantastic upgrade of the course for players as well as greenkeepers."



Peter Fjällman is redesigning six greens on the Blue course at Gullbringa Golf & Country Club in Sweden.

Global round-up

OCM completes redesign at Sandy Golf Links

Sandy Golf Links near Melbourne, Australia, is open for play.

The rebranded Sandringham golf course, which lies adjacent to Royal Melbourne on one side and Victoria on another, was transformed by OCM – Geoff Ogilvy, Mike Cocking and Ashley Mead's design firm.

"Whilst it's a shorter course, we have taken inspiration from its more famous neighbours and have built a set of greens and bunkers that we hope challenges a range of golfers and gives the public a taste of what sandbelt golf is all about," said Cocking.





Raleigh CC reopens following Franz renovation

Raleigh Country Club in North Carolina, the final golf course designed by Donald Ross, has reopened following a renovation by Kyle Franz. The goal of the \$5.5 million project was to produce an improved course for players of all abilities and retain the integrity of the course that Ross designed and built in 1948.

"We've tried to vary out the scale of the bunkers quite a bit, to where it's reflective of the best stuff of Ross that I really like here in North Carolina," said Franz.



Construction begins on first Nicklaus project in Greece

Construction work has started on a new Jack Nicklaus signature course at Kilada Country Club Golf & Residences in southern Greece.

The course, which is expected to open in 2022, is part of a development that will include a five-star hotel, sport and leisure facilities, and luxury resort homes.

"The piece of property is an exceptional environment with such natural beauty," said Nicklaus. "Mature olives trees can be found throughout, with rolling hills and great vistas from most vantage points. It's an ideal piece of property for a golf course as when a site has such wonderful natural movement and existing features, our job is to simply set the golf in there."

David Jones transforms five holes at Glasson

David Jones has completed renovation work on the final five holes at Glasson Golf Club in County Westmeath, Ireland, and the course is expected to reopen in May 2021.

"Two of the five holes were very long par fives [the fourteenth and seventeenth], so I reconfigured those, and introduced a new hole through a formerly unused and quite wild area," said Jones. "I feel the change has improved the course as those two very long holes have been replaced with two much more accessible par fours, both enjoying the same great setting but will be a lot more playable for most golfers."

The work is part of a redevelopment of the 175-acre resort and hotel.





Profile selected for San Roque Club renovation

Profile Products' Porous Ceramic was selected for use on greens as part of the renovation of San Roque Club in Spain, to help increase drainage, retain nutrients and manage water.

The renovation project was led by Turfgrass Consultancy and Atlantic Golf Construction. "We have had the good fortune to work with these project partners a number of times," said Gavin Kelly of Profile Products. "They know that our products contribute to reliable performance in grass establishment and easier long-term management of greens."

A report of the renovation at San Roque Club will feature in a coming issue of Golf Course Architecture.

INTERVIEW



ALAN MACDONNELL

A river runs through it

The River Maigue plays a central role in the layout of The Golf Course at Adare Manor. We spoke with golf course superintendent Alan MacDonnell to find out more

n 2016 The Golf Course at Adare Manor in County Limerick, Ireland, underwent perhaps the most comprehensive redesign ever seen in Europe. The estate was purchased by racehorse owner JP McManus in 2015 and, with a desire to host the highest level of tournament golf (which would ultimately be fulfilled with the awarding of the 2027 Ryder Cup), he hired Fazio Design to rejuvenate the Robert Trent Jones Sr layout, which originally opened in 1995.

One of the course's key defining features is the River Maigue, which bisects the 840-acre property and plays an important role in many of the golf holes. *GCA* spoke with golf course superintendent Alan MacDonnell to find out more.

Can you tell us about the different ways in which the course interacts with the river, and the roles the river fulfils? The course was built with the water very much at the design's forefront. The front nine features a large 15-acre lake that anchors holes three through eight. The lake is in play from the very beginning as it effectively acts as a tributary of the River Maigue, with its outfall featuring on holes one, two and three.

Following the safety of a water-free ninth, the river returns into play to

encourage drama on the way back in. Players are reintroduced to the Maigue from the tenth tee and it then continues to flirt in and out of holes as an everpresent threat. The sound of the river also plays an important role as it tests the mental game of golfers, creating a subtle announcement of the water's danger. It may well be out of sight but still very much in mind! On the back nine, players are asked to cross the river twice, at the eleventh and eighteenth, as the water plays an instrumental role in both holes' risk and rewards drama.

Teeing over the water, the bunkerless par-three eleventh is guided by the Maigue down the right-hand side to



the green and is teased into play by the rolling bentgrass approach, which penalises aggressive shots missed to the right. Similarly, for the fifteenth, the Maigue meanders around to hug the right-hand side of the hole and helps to frame the dogleg design with a defined right lining. Strategically, the river works in harmony with the bunkers on the fifteenth to narrow the fairway and approach in, as the river is prone to catching any stray balls, whilst the sizeable green-high bunkers on the left leave a nervewracking bunker shot with the river awaiting beyond the green. It's a great example of how the river is used to

create playing experiences that are as beautiful as they are strategic.

As the course reaches its crescendo, the River Maigue assumes a starring

of the manor house. Despite disaster lurking, it encourages players to take on the closing par five in two to avoid a scrutinising wedge shot

"The sound of the river also plays an important role as it tests the mental game of golfers, creating a subtle announcement of the water's danger"

role. On the final hole, water follows the action from tee to green, never leaving the player's left-hand side until they cross safely on their approach to the green, which lies in the shadow in. This truly intimidating finish will play a lead role in staging some quite spectacular scenes come the JP McManus Pro-Am in 2021 and the Ryder Cup in 2027.



At the driveable par-four fifteenth, the river presents a risk-and-reward challenge. Right, the bunkerless par-three eleventh

From an agronomic standpoint, the River Maigue and the lakes play a crucial function as drainage outlets. Particularly with our climate, we can be exposed to wet conditions, so the water features are critical for course management and maintenance programmes.

How did the redesign impact this relationship between course and river? Did it change significantly? The Maigue has always played a significant role in the golf course and while Tom Fazio's redesign was sympathetic to the original Robert Trent Jones Sr design, Tom recognised the river's full potential in regard to the layout and strategy of the course, further emphasising its presence.

The greens next to the river are undoubtedly more elevated with much steeper slopes and inclines that present a real test of short game skill. The fifteenth and eighteenth greens have been brought closer to the water following the redesign. This, coupled with the low cut turf of our runoffs and little rough, means that the water is arguably more in play than ever before.

The Maigue neighbours the whole of the driveable par-four fifteenth, tucking in very close on the right-hand side, creating a real risk and reward, whereby well struck drives could find birdie or even eagle opportunities, but offer little forgiveness for misguided shots. Equally, the eighteenth green is now only one foot from the water, posing questions to golfers who are looking to be aggressive and reach the closing par five in two, whilst also demanding a fine wedge in to hold the green and crucially avoid frustration so close to the finish.

A retaining wall was introduced here during the redevelopment that acts as a very definitive boundary of being in play or not, but also acts as a hard engineering defence to potential erosion problems that we used to experience in this location. From your perspective as superintendent, what maintenance challenges does the river present? It's certainly no small feat to care for and protect a river. At just under 40 miles long with a catchment area of approximately 1,000 square kilometres, the Maigue carries a lot of weight to it. The length of the river running through Adare Manor is just over three kilometres which, in total, means we have six kilometres of riverbanks that we have a duty to preserve, protect and ultimately sustain for future generations.

Much like any river running through a course, the Maigue brings its own unique maintenance challenges and obstacles. The river here is tidal up as far as the manor house so, during the spring tides or storm surges from the Atlantic, it does present us with challenges – but normally such challenges ease as quickly as the tide turns. Because of this, the river has



been known to break its banks during such events. Thankfully though there is never any lasting damage.

An issue we used to face prior to the redesign was the constant scouring of the riverbank. However, as part of the renovation, this is something we looked to address and eradicate to prevent further damage. We sodded to protect the banks by using deep rooting fescue on the riverbanks' tops and introduced native riverbed flora to stabilise and strengthen the banks further. This has really helped with any erosion problems previously experienced.

As a team we are duty bound to respect the watercourse and therefore every precaution is taken to protect water quality. We are all very conscious of our obligations with regards to our interactions with the river and have implemented no spray buffer zones to ensure we protect and preserve its conditions. Over the last five years, we have put a lot of work into a thorough programme to eradicate invasive and destructive species from the riverbanks at Adare Manor, such as hogweed and Japanese knotweed, which can both affect the biodiversity and the amenity value of the river.

What environmental benefits does the presence of the river, and other areas of water on the course, bring? Beyond the strategic interplay with the course, and its beautiful aesthetics, the Maigue invites a number of unique benefits, none more so than the biodiversity it encourages and homes.

Salmon and brown trout are common sights as one looks over the bridges on the fifth, eleventh, fifteenth and eighteenth holes, but on closer inspection the river is home to particularly rare species including crayfish, freshwater mussels and lamprey eels. No matter how long you have been at Adare, these subtle features are special and endlessly impressive when we do catch a glimpse.

Above the water, the Maigue invites many beautiful bird species with the likes of grey herons, cormorants, swans and ducks often sighted when we are out working on the course. Not forgetting the otters, who we are fortunate to share the course with and frequently see playing on the riverbanks.

Equally, the water also means that we have a lot of positive interaction with the relevant authorities such as The Office of Public Works, Inland Fisheries Ireland and The Maigue Rivers Trust. The Office of Public Works has a real-time water gauge adjacent to the fifteenth green, which gives us information such as water levels, water temperature and voltages, allowing us access to some expert knowledge and insight to help us protect our environment and create sustainable maintenance programmes too. **GCA**

Where are the women?

Throughout its history, golf course architecture has been a male-dominated profession. Even now, though, there are barely a handful of women in the industry. Adam Lawrence asks why? hat most golf designers, through the history of the profession, have been men isn't wholly surprising. In the early part of the twentieth century, when golf course architecture emerged, most members of most professions were men.

Among the first women ever to get seriously involved with course design were the leading British amateur Molly Gourlay, who worked with Tom Simpson on a number of projects, and her American colleague Marion Hollins, the brains behind the development of Cypress Point in California. Hollins, it is claimed, convinced Alister MacKenzie to build the famous par-three sixteenth at Cypress Point by teeing up a ball and proving that the carry was achievable.

In the near hundred years that followed Gourlay and Hollins, though, very few women have practiced golf course architecture, and one of the only women who is listed as the main designer of a course is a signature name – Annika Sorenstam. It is in this way that golf design has diverged from other professions,

which, even if they

are not now equally divided between men and women, are certainly much closer. Buildings architecture, for example, has made significant strides in this regard in recent years: figures from the *RIBA Journal* indicate that in 2018, 28 per cent of architects were female, but women made up 44 per cent of new entrants to the profession that year.

Golf architecture, of course, is a much smaller profession, and there are far fewer opportunities for people to join the business (it may be noted too that golf architects seem to be very

Canadian golf course architect Christine Fraser surveys a prospective site in Ontario



In the field, clockwise from top left, golf course architects Angela Moser, Kari Haug, Kristine Kerr, Giulia Ferroni and Jan Bel Jan

slow to retire!). Jan Bel Jan, one of the industry's few long-established women, and recently president of the American Society of Golf Course Architects, notes the importance of this factor. "As with most professions with relatively few practitioners, if there is not awareness that the profession exists, there is little likelihood that there would be many aspirants to said profession," she says. "For years, maleto-female golfers has hovered around 80/20 (in the US). So it makes sense that most golf content is about and by men, including stories involving golf course architecture."

Minneapolis-based architect Kari Haug, who is leading the European Institute of Golf Course Architects' efforts to open the business up to women, says: "While little boys grow up watching and learning from fathers or other male role models who might participate on greens committees, work as superintendents or even golf course architects, little girls usually don't have this same experience." Haug says the absence of a mentor can create a "generational gap" in professional knowledge for women golf course architects: "Most architects learn the art while working with a mentor or

as an apprentice. Skill development is facilitated through this relationship and further, mentees are introduced to the mentor's network of professional colleagues. When there are not women to mentor other women or men who are willing to step up, there are few shoulders for young women to stand upon to facilitate career development." Haug, whose mentor was American architect Garrett Gill, also emphasises the importance of role models. Hers was Alice Dye. "One of my biggest business disappointments is that I never got to meet her before her passing," says Haug. "One of my





professional goals now is to recruit women to stand upon my shoulders before another generation adds to the gap, and that is why I am enthusiastically advocating for recruitment of women in the field of golf course architecture."

Kristine Kerr of New Zealand-based Kura Golf Design, one of the very few women who has her name on a new course design, agrees with this suggestion. "People need either to be drawn to a profession or fall into it... golf course design is not widely known of as a profession," she says. "Opportunities need to be there! In terms of global golf projects and major new developments, it is very cyclical at the whim of economies and golf course design is not always in high demand. I 'fell into it' at a time when golf development was

Golf Design's Pioneering Women





Ida Dixon

Perhaps the first female golf course architect in the world, Dixon designed Springhaven Club in Philadelphia in 1904. She went on to serve as president of the Women's Golf Association of Philadelphia until her death in 1916.

May Dunn

The daughter of Scottish golfer, clubmaker and course architect Thomas Dunn, May (above, left) moved to the US in 1915 where she became the country's first female golf professional. She founded Reno Golf Club and designed the city's first course. She went on to also design and manage the nearby Tahoe Tavern Links, now the Tahoe City Golf Course.

Marion Hollins

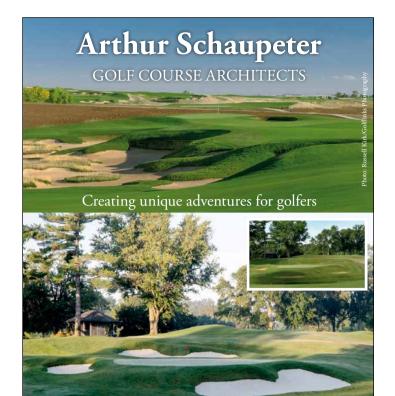
A prolific sportswoman, Marion Hollins (above, centre) won the US Women's Amateur in 1921 and was captain of the first US Curtis Cup team in 1932. Hollins was also the visionary behind the Women's National Golf and Tennis Club on Long Island and, as a golf course developer, she hired Alister Mackenzie to design both Cypress Point and Pasatiempo and introduced him to Bobby Jones for the layout of Augusta National. MacKenzie sought and valued Hollins' input into the designs; he credited her for the sixteenth at Cypress Point and insisted that she inspect Augusta National in his absence, writing: "I do not know any man who has sounder ideas." Hollins will be inducted into the World Golf Hall of Fame in 2021.

Molly Gourlay, OBE

English golfer Molly Gourlay is credited as Britain's first female golf course architect. Working in partnership with Tom Simpson, her design work includes County Louth and the Old course at Ballybunion. Gourlay also served as chairman and president of the English Ladies' Golf Association and chairman of the Ladies' Golf Union.

Alice Dye

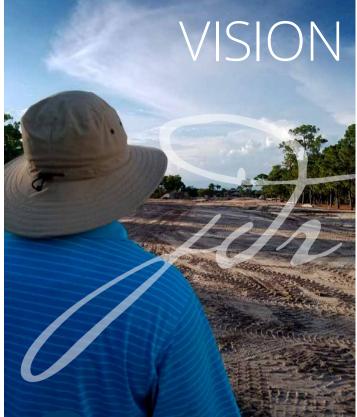
Winner of more than 50 amateur titles and a Curtis Cup player, Alice Dye (above, right) worked alongside husband Pete from the 1950s and throughout their golf design careers. Famously credited with the idea for the seventeenth at TPC Sawgrass, Alice was a strong proponent of multiple teeing areas for women, conceiving and promoting a two tee system for women. She became the American Society of Golf Course Architects' first female president in 1997.



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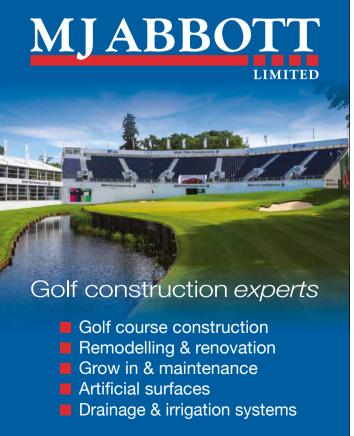


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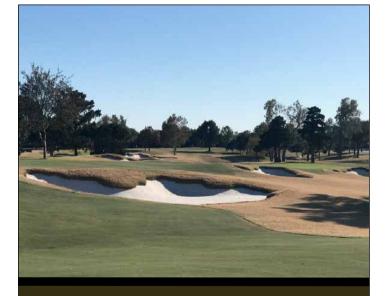




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WOMEN IN GOLF DESIGN

booming in the 1990s in Singapore, where my parents were living. I had a degree in landscape architecture and learnt the ropes with Nelson Wright Haworth, who were prolific and highly regarded. My dad was a scratch golfer and we were exposed to golf from an early age. We also moved from NZ to Australia for my parents to be involved in the development of Palm Meadows in Queensland." Kerr subsequently worked with Gary Player Design in Europe and China and credits them and NWH with giving her the expertise and exposure to win her own commissions.

Bel Jan says: "When people see others like themselves participating in a game or profession, they are likely to participate, too. When male golfers read about golf course architecture, they saw that not only as a dream, but a possible walk of life. Globally, the few women who were acknowledged as golf



Kari Haug is leading the EIGCA's efforts to open up golf course architecture to women and says she is "enthusiastically advocating" the recruitment of women in the business

support golf. Most of these women and girls were introduced to golf by a male family member or friend, just as most men have been introduced to golf."

It was a passion for golf that drew Italian architect Giulia Ferroni into

"When people see others like themselves participating in a game or profession, they are likely to participate, too"

course architects received little public recognition, so the possibility of golf course design as a profession was not seen by females, or by males who may have suggested such a career to their daughters, sisters, friends, or students."

Bel Jan continues: "In recent years, females have enjoyed an increasing presence on the golf course, on secondary school and collegiate teams, in multiple golf organisations, and with vendors and suppliers that the course design profession. She says: "I studied architecture and after university started working in the building design business. I spent a few years designing houses, offices, shops and furniture, but I ended up being not completely satisfied by that career, as golf is my passion."

Martin Hawtree provided Ferroni with the opportunity to enter the golf business. "I spent lots of time on site and in the office, and as an eager reader went through Martin's entire library," says Ferroni, who completed the EIGCA's professional diploma course in 2018 and has now established her own firm, Leeds Golf Design, in the UK.

"You have to be very committed to find your way to become a golf course designer. It is a very specific career there are very few golf design firms compared to other businesses, so the chance of entering the industry and have success can be very limited," says Ferroni. "The best candidates may be players, who are very passionate about the game and want to move forward exploring the discipline of designing golf courses. But the statistics show fewer girls play than boys, and carry on through the years. This is the core of the problem, there are fewer women in golf design because fewer girls start playing at a young age."

Although womens' golf has become much higher profile and popular in

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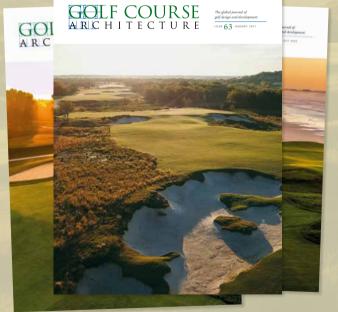
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WOMEN IN GOLF DESIGN

recent years, the public perception of the game, in much of the world, is still of domination by middle-aged and elderly men. That the urban myth that golf got its very name because it stood for 'Gentleman Only, Ladies Forbidden' should have any traction at all emphasises the point.

German architect Angela Moser, who works with some of the industry's leading lights, including Tom Doak and Gil Hanse, says: "There are not many footsteps to follow as a female in the golf industry, but big ones to fill. From Ida Dixon, May Dunn, Marion Hollins and Molly Gourlay to Alice Dye, there have always been women in golf design. These women stepped up to, advised and influenced architectural legends like Alister MacKenzie, Tom Simpson, Tom Dunn and Pete Dye, who saw them as having a valuable opinion. But no clients saw them as equal or sole designers. With a wholly different social environment, these women found the courage to speak up and are the reason for some of today's most iconic golf holes and courses.



Angela Moser began her own practice working on big new-build and renovation projects. "I am forever grateful to have an excellent mentor, colleagues and friends that treat me as one of them."

setting the standard for the liberal industry-to-be."

Moser continues: "Yes, we need to break old habits, pride and prejudices. But this does not mean supporting a

"If we continue to perpetuate a top-down approach, golf will always be governed by men"

"In a sport that has such a long history of being for 'gentlemen only', the golf industry will need more time to adapt to the social change that is happening worldwide. Today our society is already transitioning to open up clubs, workspaces and job opportunities to women. We are person because of her gender to get the numbers right. We have to look at their personality, performance, talent, potential and grit.

"I fell in love with golf design while playing amateur tournaments as a teenager and started to work in the industry to learn every aspect of the business. While I never thought to operate an excavator or bulldozer daily, I was convinced that it would not hurt to learn the craft of shaping. I try to keep my mind open and learn different styles, methods and make my own experiences to expand my knowledge. To me, it is about using those possibilities best and give back, to educate the next generation's talents, no matter what gender."

Canadian designer Christine Fraser, who, like Ferroni, got her start working for the Hawtree firm in the UK, says: "We can substitute almost any male dominated profession for golf design, and the answer to the question 'Why aren't there more women?' will be the same. Is it because men simply make better architects or writers or broadcasters? Resoundingly no – it is the result of a cyclical system that perpetuates and reinforces the historic lack of inclusion, exposure, and resources available for women to excel in this industry at the same rate as their male colleagues.

"Golf tends to be a reflection of the economic and social times surrounding it. And not unlike modern society at large, it has a disparaging history of excluding and marginalising women from the game. We have never felt entirely welcomed or considered by the institution of golf. Women today still bear the weight of overcoming a long series of inequities which was deliberately designed to unwelcome, undeserving, discouraged, and more likely to drop out of golf, consequently perpetuating the gender participation imbalance that is so detrimental to the sustainability of golf.

"People often choose to pursue careers in the golf industry because they have cultivated a love of the game, and that likely evolves from playing. And for a variety of reasons, some listed above, women and girls do not play golf at the same rate as their gender counterparts. Therefore, until we vastly increase the participation rates of women and girls, the professional gender equity will remain imbalanced. If we continue to perpetuate a top-down approach, golf will always be governed by men. We be engaged in golf course design was possible for those who knew it could be a profession and who then chose to pursue that career. The 1990s was a decade when women were very active in golf course design. If there was a time when everyone could learn that golf course design was a profession and that there were women successfully engaged in it, that was the time to illuminate the golf world and beyond.

Bel Jan continues: "Since 2000 far fewer golf courses have been built. With limited projects came limited opportunities to design or redesign golf courses. This meant a loss of talented designers who opted to pursue other work, as well as far fewer opportunities to begin a career in golf course



"Discrimination in golf isn't going to be broken down by women, it's going to be broken down by the fathers of daughters who see that their female child doesn't have the same opportunity as their son"

Alice Dye

create and enforce a gender imbalance to privilege men. We must overcome a vast array of unconscious (and conscious) institutionalised sexism to overcome barriers and constraints imbedded in golf culture."

Fraser continues: "A woman's experience on the golf course is comprehensive and nuanced and not always reflected in important management, maintenance or architectural decisions. Overlooking our experience has created a social closure where many women feel must consider grassroots intervention, and affirmative action to place women in positions to disrupt a system so entrenched as golf. Golf will be better for it."

But if the golf environment has become more welcoming to women in recent years, the business realities of the game have gone the other way. "A period of time that really stood out for golf course architects was the decade prior to the economic disruption that began in 2000," says Bel Jan. "It was a fantastic era! The opportunity to design. Twenty years on, golf course architecture may be recognised and appreciated by experienced golfers, but without exposure to its practitioners, including female golf course architects, men and women are unaware of golf course design as a possible career choice. With more women playing golf at higher skill levels and who want to have golf as a career, but are not good enough to make it on tour, golf course design is an avenue – if they know the profession of golf course architecture exists, if projects exist, and if they are



The late Vicki Martz, left, worked with Arnold Palmer's design business for 25 years before setting up her own practice. She is pictured here with Jan Bel Jan, who in 2019 and 2020 served as president of the American Society of Golf Course Architects

Kerr points out that women shouldn't however be put off by the prospect of unequal pay, saying: "I have always been paid well and in line with my male counterparts, and I hope that provides some inspiration that other females can be rewarded financially in golf."

So, what is the outlook? Moser quotes Alice Dye, who said: "Discrimination in golf isn't going to be broken down by women, it's going to be broken down by the fathers of daughters who see that their female child doesn't have the same opportunity as their son." Moser says: "Transition won't happen in a day, week or year. It will slowly change, especially as golf design is such a small niche. Ultimately, what is holding back more women designers is finding clients who will make the leap to hiring us. But as more women play golf, so will more enter the industry. It will become less special and quite normal to see a woman as an architect, shaper or superintendent.

"Until then, it can only be the goal to grow interest, mentor and involve equally eager and talented women into the golf design world, working alongside the best architects of the current era." **GCA**

afforded the opportunity to be hired. In March 2020, the ASGCA hosted a Junior Design Challenge in three age groups for golfers 8-17 years old, and 33 per cent of entries we received were from girls. We know there is interest in golf course architecture from girls."

Kari Haug highlights the financial pressures: "Golf course architecture is an expensive profession. There are websites and software licenses to maintain, professional dues, travel and marketing expenses, continuing education, and so forth. While these expenses exist for male architects as well, women have the additional obstacle of making only 77 cents on the dollar as compared to men, when they can get the job. It is a fact that most men (and women) will tend to hire men for architecture jobs, and when women do get the work, compensation is often much lower than for men. Being overlooked for work, and paid less when we get it, makes keeping a business solvent quite difficult.

"I don't know for sure, but I think the difficulties in securing work and the consequential financial strain causes most female architects to eventually close up shop and leave the profession. If not financial strain, there must be some other insidious force that causes attrition, because many women have completed rigorous education, but have not stayed in the profession. Further, the financial outlook likely causes those considering entrance to the profession to choose a different career path. I know this to be true in the case of at least one promising female architect."

Extreme sports

King-Collins Design's new Landmand course in the east of Nebraska promises to be big news when it makes its debut in 2022. Filmmaker Vaughn Halyard has documented the process

ne day, ESPN executive Ron Semiao said he wanted to televise skateboarders and snowboarders on TV as if they were real athletes. He was told it was a crazy idea that went against classic sports programming principles. Luckily, the powers at ESPN also figured it was an outstanding idea. A new school of sports was born.

Stress and tension manifest physiologically. You can smell your own stress, and sense that of others. The agitation was palpable during our filming of Landmand's first cut. This was going to be a big scrape. Soil samples, seed test plots, topo maps and drainage profiles are useful. The colourful and artful masterplan delivered by Rob Collins was illustrative and informative. All of the aforementioned only go so far. None of them matter until a determination can be made if the dirt beneath the bulldozer can be scraped and shaped into fairway, bunkers, and greens that holds their collective form.

We are in Homer, Nebraska, because this is where King-Collins were selected to build the new Landmand Golf Course. We won't dwell on the history that Tad King and Rob Collins built at Sweetens Cove. If their story is new to you, without judgement, we ask you to take a moment to look them up on your digital device of choice. It quickly became clear this place was going to cause a ruckus as soon as our ugly yet surprisingly nimble rental SUV finished slogging the construction road to the top of the ridge. The plan covers hundreds of acres with thousands of acres left over.

The land

In the US we have a collection of roads defined as the Interstate Highway System. Legal speeds are in the 70mph (120kph) range. Those that have driven across the US via Interstate 80 may have noted some impressive hills that appear after extended flat views of crops near the Iowa and Nebraska borders. "Wow, those look like big hills". That thought quickly recedes into the rear-view mirror at 70mph in search of coffee and clean restrooms.

Landmand is being constructed atop some of those landforms, the Loess Hills. The Loess were pushed into place by the glacial migration and melt that created Lake Superior and Lake Michigan's shorelines. This same glacial mass delivered the terrain for Kingsley, Crystal Downs, Northland, Whistling Straits and Shoreacres. The remnants of prehistoric lakes and dunes extend inland to Beverly, Flossmoor, Olympia Fields and other notable places near thousands of golfers. In person, the Loess are even bigger. Everything around them is flat, for hundreds of miles. They offer 50-mile views on a clear day. But they are not sand, they are glacial till. Landmand will be the first major golf destination constructed on Loess' glacial till.

This first cut will break the seal on this big bang new golf course architecture investment. This is not a restoration, it is a dice-roll of virgin golf construction on land previously untested by premier golf construction. King-Collins is laser focused on the delivery of a big bang. In partnership with an owner committed to the golfarchitecture-forward development and delivery of spectacular and publicly accessible great golf, Landmand is a recipe for ruckus that many support.



We are predisposed with the hope that it doesn't suck.

A new school success, the first X Games welcomed over 198,000 spectators. Within four years, the ratings for the upstart X Games began to eclipse those of a number of flagship sports programming. ESPN tripled down year over year investment and began to expand programming to multiple seasons. The Winter X Games became a media darling that not only expanded advertiser revenue, *it increased traffic to previously* suffering ski areas married to stagnant snowboarder-banning business models. It also increased sales of equipment and forced ski manufacturers to alter their design and engineering to deliver a more 'snowboard like' experience. Old School adapts to New School.

A new new school of golf design Since the days of Old Tom Morris, arguably all subsequent golf architecture is more modern than Old Tom's. But in golf, we argue about everything. Minimalist, classic, modern, MOI, coefficients of this and that, left hand low (right hand low if you are a lefty), Stimp, and of course, 'The Ball'. We love it all. Minimalism stands out as it likely saved the modern golf industry from itself. It placed investment in golf architecture in the driver seat. Meticulous architectural restoration has blossomed in the wake of minimalism. A classic that has been corrupted, neglected, overgrown or abandoned does not necessarily retain the right to be known as a classic. One universal trait across places like Bandon, Ballyneal, St Andrews, Ballybunion, Royal St George's, Sand Hills, Old Town Club, they are all about golf first. That is not to devalue resultant lodging and membership benefits, but the main attraction, the raison d'être is the quality and unwavering

commitment to lead with the golf architecture. The golfers will follow. *Like the X Games, Sweetens is a descendant of previous forms of sport. It is most definitely a beneficiary of minimalism's renewed focus on golf architecture. It's just louder.*

Nebraska

The excellence of the remote golf business in Nebraska is legendary. From the cloistered Sand Hills, to the popular and public Wild Horse, Nebraska has an organic golf trail. In an odd way, golf in Nebraska mirrors the Colorado ski industry. Aspen, Vail and Telluride were remote before somebody said: "Hey, this could be a recreational business destination." Telluride the town was a quiet remote abandoned mining locale. Telluride the ski town is now a remote billionaire playground grown from an obscure steep powder skiing paradise populated mostly by hippies. Aspen, another classic, has morphed into a concentration of \$2,000 per night rooms and \$15,000 per night mansions. They were rough, sparsely populated landforms sculpted into recreational destinations of excellence. This mirrors successful golf investments. Lead with the activity, the accoutrements will follow.

A Landmand ruckus was not necessarily the original intent of Landmand's owner and founder, Will Andersen. Will, a single digit player, sought to build a golf course for he and the folks around his home town. He is a joy to play golf with who relishes dew sweeping with friends as the wind blows and the sun rises. He reconstructed a nine-hole oasis in his home town named Old Dane. Will's pal CJ dared him to think big. Will called the bet and long story short, he invited bids to rebuild Old Dane. This led to a cold-call-email to King-Collins. They responded and the Landmand project is the result of that email chain.

The Landmand first cut

The Laurentide ice sheet and glaciers have been good for US golf. Its retreat, melt and debris carved the ground for Greywalls, left the sand piles of Sand Valley and Forest Dunes, the rolling moraines of Lawsonia, and the alleged 150,000 or so lakes and swales marketed by Minnesota, home of White Bear Yacht Club. The glacier also forged what is now the Missouri River Valley. The Loess Hills were formed at the end of the glacier's path much like snow banks at the edge of a snow plough. These banks of glacial debris are now hills of sedimentary glacial till. Glacial till is like the food left on the edge of a dinner plate. They could be nasty parts of gristle and chewy artichoke leaf remnants. They could also surprise with a sliver of butter cream frosting hidden beneath a tasty, not-quite-melted dollop of ice cream. Landmand sits atop a dramatic glacial tilled ridge. The Landmand first cut would determine if the team was scraping gristle or spreading frosting.

The Andersen family are farmers. Excellent farmers. Growing things is not a problem for Will. He'd just as soon as hop in the truck to grab 20 tons of river sand or jump on the tractor to plant a test acre of a grass strain. They know where to grow and not to grow crops. The flat land below the glacial till is excellent farmland. They grow crops there. The land atop the glacial till was not excellent farmland so they don't grow crops there. That said, they hate waste so decided that perhaps they might grow golf where they don't grow crops. It was unknown was how well glacial till works for golf. Within moments of the first diesel belch, the group ran to the dozer tracks to review and hand sift the till. The outlines cut by the dozer blade were crisp and clean. Turns out that this mound of till was cake frosting. The dozers continued to push the moist putty. When the blade raised and retreated, the smooth landforms of the new fairways and greens stood their ground, free of crumble or collapse. The consistency of damp loamy sand



shapes were malleable and accurate. Upon dismounting the D-8 Cat, King remarked with an ear-to-ear grin: "It's like butter."

How will it play?

Some early visitors to the raw Landmand site proclaimed it too severe to build. Based on minimalist design approaches, they were not wrong. King and Collins agreed, yes, it was likely too severe to build a minimalist course, but it was too spectacular an opportunity to walk away. Landmand is why electro-diesel hydraulic vehicles were invented. The King-Collins routing is bold. Up-and-out-and-out, and-out-andback-across-and-out-and back in. A dramatic trek across ridges, rolls and ravines. Admittedly, upon an initial



The closing stretch, two par fours and a par five, runs across a ridgetop

review and walk of the routing, the severity of some of the proposed elevation changes were "worrisome". To be transparent, I thought it was a bit batshit hilly. There was nothing remotely minimalist about this master plan. Back in the day, though, Langford and Moreau would be buying rounds for the house.

The project began taking physical shape over the course of 2020. Tons of glacial till was bludgeoned into a variety of compelling lanes, softened elevation changes, and fantastical features. No two holes will ever be mistaken for each other. The shock and awe has abated. The property has big sky infinity views, outsized punchbowls, expansive landing areas that ascend ridges to the bottom of the sky. Hybrid steam shovelling The machines have won and forced the land to do the bidding of the architectural drawing. If there is an outstanding variable, it will be the delivery of visual drama. Hilltop big sky views have forced adjustments to the routing and width. The big sky is where the big wind originates. There are days when the wind blows as if you're teeing off of a bullet train platform. King-Collins have made significant expansions of strategic landing areas. Simply stated, more width. The architects eschewed a number of lower elevation nap-of-theearth routings that would have resulted in boxed dead ends and severe climb outs. Additionally, the glacial till drains well and wind-bakes into a sand like dry surface. The grass slicks like ice

when windy and wet. This necessitated reworked corridors to deliver yet more width. Another issue taken into consideration is the ability get the water to hit the grass in the windy conditions. With a 310-foot elevation change from the irrigation lake to the high point atop the fourteenth green, the irrigation and pump house infrastructure spec could service a ski resort snowmaking system.

During each of our multiple site visits, more earth was moved, softening the shock of the elevations changes. *Minimalists will still hate it.* The enormity and drama of the property is amplified by the routing. On a clear day, the views atop the ridge stretch for more miles than you can squint. Also seen is the wind coming from Montana, Wyoming and Colorado. Landmand is a big piece of golf architecture. Will Andersen was clear in his mission, build a destination that delivers dramatic and magnetic public golf.

Landmand is a polarising 'big architecture' piece of public golf. The Andersens' investment and commitment to the delivery of a great public golf destination in an area not known for dramatic golf is noteworthy. They are building a big dramatic go-to destination with a vengeance. The proximity to a corridor of roughly seven million people from Kansas City to Minneapolis will likely make it a must-see destination for the Missouri Valley and Midwest.

When the snowboard came to the ski areas, it was banned by many that believed it to be heretic to the sanctity of winter culture. Flash to today, snowboards likely saved the ski industry via both additional visitor revenue and design innovation. The non-traditional X Games transformed sports to the point where it has become a leading attraction in the ancient Olympic Games. The X Games entertainment value redefined centuries of status quo.

Landmand will be polarising. Whistling Straits polarises as a manufactured links on a tabletop flat

A round at Landmand will be a dramatic trek across ridges, rolls and ravines

former military base. Calusa Pines was a swamp. Landmand is the antithesis of low-dozer impact minimalist golf architecture. But if you believe in ghosts, get your Ouija board because Langford and Moreau have an opening day tee time. King-Collins and the Andersens are crafting an X Games style playground.

The more 'extreme' sports that Ron and subsequent boss Chris Steipoch added to the X Games portfolios, the higher the ratings and ad sales. Coincidentally, the more plentiful were the visits to the ski areas and subsequent mountain and BMX bike, skateboard, ski and snowboard sales. The recognition of new sports configurations grew the ancillary travel, hospitality and retail hard goods marketplace. Towns were converting swing sets and sandboxed playgrounds into skate and BMX parks. Juggernauts such as Trek Bikes are funding municipal trail networks. Some of NBC's highest rated Olympic programmes are the X-Games inspired snowboard competitions. Traditional bike and ski business boomed via infusions from a new

generation of users. Back then, the older traditionalist skiers reviled the new reality, but their kids, and the X Games saved an entire winter sports industry. The X Games literally grew the games.

The pandemic has grown the game of golf more than forced 'Grow the Game' initiatives. Landmand is poised to be a dramatic addition to the portfolio of architecture-forward public golf. The Andersens and King-Collins have channelled the ESPN X Games mojo. Let's say Sweetens is the GCA equivalent of a skate park. Landmand has the soul of an Olympic super pipe. There is a high likelihood that thousands will trek to play Landmand. It is still windy as hell and minimalists will hate it. The beauty is, they don't have to come. **GCA**

While a Disney Studios executive and producer, Vaughn Halyard spent a significant amount of time working with counterparts at ESPN and the X Games. At that time, he was the lone 'studio guy' allowed to have his own cubicle at ESPN's HQ in Bristol, Connecticut. To this day this remains a fond badge of honour.



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ON SITE

Congressional change

BETHESDA, MARYLAND

The Blue course at Congressional Country Club, host of four majors, has been stripped back. Bradley Klein reports

hen architect Andrew Green interviewed for the job at Congressional Country Club in January 2018, he pointed out a curiosity about the club's reputation. For all the legendary history of the 36-hole club, much of it thanks to three US Opens (1964, 1997, 2011) and a PGA Championship (1976) on the Blue course, the imagery and initial impression of the place seemed to revolve around the clubhouse.

Not surprisingly, at one level, since the 135,000-square foot Spanish Revival building dominates the landscape due to its scale, location on a high point, and position overlooking the start and finish of both golf courses. Green's goal, he said, "was to make the Blue course meet or exceed the clubhouse in reputation."

He might well have succeeded. After closure for all of 2020 that saw the

Blue course completely overhauled, Green and Congressional are about to unveil their work. It's not a restoration. Certainly not a modernisation. Let's call it a transformation into a new-old golf course.

Congressional occupies a lightly rolling, 380-acre tract 12 miles northwest of the US Capitol Building. It opened in 1924 as a recreational outpost for the nation's governing class. Its founding life members included five US Presidents plus leading names from industry, media and entertainment. When the club's doors officially opened on 23 May 1924, the news occupied the lead spot on the *Washington Post*'s front page.

Swimming pools, tennis courts, a bowling alley and extensive banquet and dining halls, 20 overnight rooms and a Presidential suite – all of it stood available to the nation's elite. The amenities included an 18-hole golf course designed by Devereux Emmet.

Emmett was not among the bestknown designers of the Golden Age of architecture, mainly because much of his work preceded that era and not a lot of his best work has survived intact. A lawyer by training, he was more interested in golf, raising hunting dogs and selling real estate around the burgeoning community of Garden City in the middle of Long Island, New York. It was there that he laid out an early nine-hole version of Garden City Golf Club in 1897. As brother-inlaw to the famed New York building architect Stanford White (the two married millionaire sisters), Emmet was extremely well connected to Metropolitan society.

Emmet was fond of peppering his courses with all sorts of bunker formations – necklacing, cross hazards,



The infinity green of the long par-four fifteenth at Congressional's Blue course

coffins, deep pits and diagonal echelon. He was not averse to popping mounds up and running them right into the line of play – often creating them from stone, tree stumps and other debris from the site. The approach is evident at Meadow Brook Club in New York (which no longer exists), Country Club of Farmington in Connecticut and most dramatically, in fully restored form at St. George's Golf and Country Club in New York – a club which Emmet pored over meticulously as a member, board member and occasional club champion.

Emmet's Congressional layout occupied a sparsely treed site, with most of the ground open except for dense woods covering a ravine on the front nine. Both nines began with par sixes – eventually broken up to a par four/three sequence on the front and four/four on the back. Much of Emmet's telltale bunkers and mounding were scattered throughout – some of it still evident in an early 1940s photo of the front showing deep, liner coffin bunkers and liberal use of cross hazards.

By the time Green set to work on dealing with the site, everything had changed about the golf course. practicing artillery, parachuting, munitions and commando raids, replete with close-in fighting.

After Congressional returned to civilian use, plans developed for additional golf, with Robert Trent Jones Sr, then the dean of modern golf

"Emmet was fond of peppering his courses with all sorts of bunker formations"

It didn't help that during the second half of World War Two the grounds at Congressional were requisitioned by the War Department to serve as training ground for the Office of Strategic Services – a forerunner of the postwar CIA. Under the direction of General William 'Wild Bill' Donovan, the site was overtaken by hundreds of aspiring spies and blackops trainees who lived in tents while course architecture. He was hired to build a third nine while renovating the original front nine. Thus was born the Blue course, opened in 1957, featuring a dramatic downhill par-four seventeenth hole to a peninsula green, followed by a mid-length par-three eighteenth across a pond to a green sitting under the clubhouse patio. The work proved so popular that Jones was brought back in 1959 to revamp the



original front nine – in the process completely rerouting Emmet's holes, heavily grading up the greens and removing the cross bunkering.

This was the course upon which Ken Venturi won the 1964 US Open – in a typical Washington DC swelter of searing heat and humidity. Interestingly, the routing for this began a succession of work rebuilding the Blue, in the process reshaping greens, moving bunkers to conform to landing points of modern championship golf, and framing landing areas and greens with mounding. He managed to create a contiguous 18-hole routing so that the championship venue could rely upon an entirely Blue course rather than

"Green set out to bring the holes back down to earth and create a more natural looking, older style"

event, as well as for the 1976 PGA Championship, skipped two of Jones' holes, borrowing a par three and par four from the third nine to wind up the round on that dramatic downhill par four to the green backed by the pond.

More work ensued on Congressional, with the old third nine folded into a new 18-hole Gold course when George and Tom Fazio added a fourth nine to the club in 1977. In the late 1980s, Rees Jones borrow holes in composite fashion. This involved restoring his father's par-three eighteenth hole (for the 1997 US Open), then reversing it so it played as the tenth hole for the 2011 US Open and the layout could end with its famed downhill longpar four to the lake.

As Green assessed this design legacy it was evident there was no clear template to rely upon. He set out to bring the holes back down to earth and create a more natural looking, older style to Congressional Blue.

Along with enhancing the course's championship pedigree for elite players, it had to meet the day-to-day needs of a very active membership. It also had to solve some basic agronomic and conditioning issues that had come to bedevil the place.

"It's heavy soil out here," says Peter Wendt, Congressional's director of golf course and grounds. "Basically, heavy red clay." Tree overgrowth had substantially reduced wind across the site while shading areas and making it hard to dry out. The proliferation of greenside mounding also tended to create issues, by steering water onto the green fillpad while impeding air movement. The mounding on the backside of bunkers also create low spots that trapped water. The result was a golf course with cool season grasses in a region with notoriously hot, humid summer weather and a less-than-ideal microclimate.



Above, the fifteenth (centre) and eleventh (foreground), now with its green the other side of the creek. Green is returning the course to the more open landscape of its past, as seen in aerial imagery from 1940

Most of what it takes to make a project work takes place behind the scenes, quietly, during a protracted planning process. At Congressional, Green worked closely with Wendt, club chief executive Jeffrey Kreafle and director of golf Jason Epstein, as well as the board and a specially designed Master Plan Committee. Together they updated the membership, including a full reveal at which Green walked folks through the entire plan. The last thing anybody wants is for there to be surprises – especially because the changes proposed entailed a different kind of golf course, with the standard tree line to tree line maintenance of a parkland layout giving way to something more open and more natural.

It probably helped ease concerns that at least the Gold Course would be kept open throughout – though no one could have anticipated the extra demand for golf once the pandemic hit in March 2020 and left many members homebound and looking for recreation.



Before construction could begin in October 2019, the club had to secure extensive permitting from county, state and federal authorities. This covered everything from water quality and erosion control to caliper-for-caliper tree mitigation as per local mandate. To satisfy concerns about potential runoff the club agreed to build a staggered series of retention basins, five of them at least an acre each in size, three of them half an acre

CONGRESSIONAL CC

large. That considerably complicated movement of equipment and personnel across the site during construction.

In this and everything else, contractor McDonald and Sons demonstrated their experience. When coronavirus hit, work momentarily halted to see how the state of Maryland would regulate outdoor construction. Work soon proceeded, though under extreme caution, with labourers being assigned to individual pieces of equipment and extreme care taken on a daily basis regarding sanitary procedures and social distancing.

The installation numbers are impressive. The new drainage included 156 basins and 38 miles of pipe, everything from two-inch perforated up to 36-inch solids. A new irrigation system designed by Larry Collins included an MCI pump station with a capacity to drive 4,000 gallon per minute across the entire 36-hole site.



enlarged, from 6,100 square feet to 7,200. They were then seeded to a bentgrass blend that was one part Piranha, one part Coho and two parts 007.

The fairway expansion enabled Green to get very creative with his placement of bunkers, as there is now far more

"Bunker design called for a simpler, more classical presentation than had evolved on the course"

The new Toro system for the Blue course comprised 37 miles of pipe, 39 miles of communication wire, 460 quick couplers and 2,568 Toro Infinity sprinkler heads.

Fairways went from 25 acres to 46, all of it sodded with a bentgrass blend that was half 007 and half Matchplay. The putting surfaces were all rebuilt to USGA standards at a variable depth, with a 12-inch sand subsurface that was thinned marginally at high spots and thickened marginally in the low areas. In the process the average green got room laterally to create alternative paths from tee to green. Tighter mowing lines into the hazards also enhance their prominence, since a thick collar of rough has been removed from the entry side and balls can more readily roll into sand whereas before they had to fly there.

Bunker design called for a simpler, more classical presentation than had evolved on the course. There had been 98 bunkers, averaging 954 square feet for a total of 93,450; now there are 138 bunkers at an average size of 739 square feet for a total of 102,000. Drainage is handled by the installation of Better Billy Bunker lining.

The look and variety of the bunker placement is enhanced by the cleaner look of the entire site. Congressional reduced its cart path system by about 20 per cent, in the process eliminating the harsh gray asphalt pavement and replacing it with a more exposed aggregate. Perhaps the most dramatic difference is the introduction of 31 acres of fine fescue native areas. The textural contrast with the formally maintained turfed areas now provides a powerful alternative to the old, wallto-wall groomed look. Congressional at one point used to cross-hatch its fairways, and for the 1997 US Open walk-mowed them from tee to green. Now Wendt will rely upon a traditional block mowing to simplify the presentation.

The par-72 course (par 70 for championship play) got stretched in





Construction of the new tenth hole, a short par three to a new green on the lake

both directions. The back tees from 7,574 to 7,818 yards; the forward tees from 5,935 to 5,155.

The course won't reopen until late spring 2021. But a recent October walk through revealed a number of stirring new moments that revealed shots and vistas that were never there or lost for decades. For one thing, you can now see the famed clubhouse from almost everywhere on the course – most dramatically as you approach the infinity-edge green of the 485-yard, par-four fifteenth hole.

By removing superfluous material and mounding behind the greenside bunkering, Green has made the fill pads look as if they are perched slightly just above grade. Yet many of the greens provide run up zones for the midhandicapper or someone trying to play a deft recovery. At the long par-three second hole, 275 yards from the back, what had been a front right bunker has been snuck towards the tee enough to provide room for a shot that can now use the slope behind the bunker to kick leftwards onto the green.

Green solved one nagging Congressional routing problem. By finding room for a new, short, downhill par-three tenth hole – only 160 yards from the back, to a wellguarded, fall away green and water on the far side – the walk around the course is now seamless.

Classic-age elements include convex mounding on the opening holes and, at the uphill par-three seventh hole, a virtual wall of sand across the front left that evokes the severity of the eleventh at Shinnecock Hills – a course with which Emmet was intimately familiar.

At the uphill, par-four fourteenth hole, 470 yards from the back tee, Green reclaimed an old drainage ditch and quirky mounding in the left rough that abutted an out-of-bounds – clearly not an ideal position. Bail out right off the tee into a safe cove of fairway and a player will then confront a second shot that is blinded by the crest of a little hill that intervenes – something Green anticipated on paper using a topographic map.

At the 610-yard par-five sixteenth, Green opened up the view around and behind the green to make the hole look like it was part of the surrounding community. The sensibility is enhanced by the presence of an ominous bunker complex in the second shot landing area that evokes the spirit of Hell's Half Acre. Any unease of spirituality is resolved, in effect, by the consoling presence just back and left of the putting surface by Hermon Presbyterian Church, a white clapboard, Gothic Revival house of worship from 1874. It makes for a perfect Currier & Ives moment.

Congressional Blue is now back – not with a vengeance but with subtlety and class. It's already on the docket for the 2031 PGA Championship and the 2037 Ryder Cup. The way the winds are blowing in Washington DC these days, the talk about Congressional initiative is real. **GCA**

ON SITE

Top of the charts

CHART HILLS, ENGLAND

Chart Hills was bought last year by the owners of links course Prince's. Adam Lawrence visited to see their work on the parkland layout





he golf construction boom of the 1990s may have been centred on America, but it didn't skip the UK. A key difference between the two, though, was that most new golf in Britain was low cost pay and play. By comparison with America, there were relatively few big money developments.

Chart Hills in Kent, to the south-east of London, was one of them. Designed by American architect Steve Smyers along with signature name Nick Faldo, it was the six-time major champion's first such project: obviously, he has gone on to build a successful design business. And, even when the Nineties design style started to go out of fashion, Chart Hills remained popular: it has always been known as a very solid, strong golf course.

But that reputation didn't stop the course from falling on hard times.

Chart Hills has a lot of bunkers, including the famous Anaconda, apparently the longest in Europe, which stretches for more than 200 metres up the side of the par five fifth hole. The sixteenth hole has a 'wall' of bunkers, 19 of them. When the course opened in 1994, there were 25 people on the greens crew. A few years ago, that number had shrunk to five. Five guys cannot maintain that many bunkers; it simply does not add up. So it is unsurprising that the condition of the course suffered.

Eventually, inevitably, Chart Hills was sold. On Christmas Eve 2019, the course became part of the Ramac Group, controlled by the McGuirk family, also the proprietors of the famous Prince's links, in Sandwich on the Kent coast. The family has been involved in the golf business for many years, and has a reputation of being a long-term investor. It is hard to imagine that Chart Hills could have a better owner.

It needed it. When Ramac took over Chart Hills, the course was in a mess. Long-time course manager Neil Lowther, who has worked there for almost twenty years, had become so accustomed to making do with very little that he was astonished to be allowed to buy greenkeeping equipment, according to new director of golf Ant Tarchetti.

The course's fairways had deteriorated to the point where they had very little grass coverage; an infestation of leatherjackets had wreaked havoc on the roots. Most pressingly of all, when the course was built in the 1990s, no subsurface drainage had been installed. Bearing in mind that the soil at Chart Hills



Fairways on the Kent layout have been capped with four inches of sand, as seen here on the fifteenth

is heavy Kentish Wealden clay, this was obviously a major problem. "The design on top was very good but below the surface it struggled," says Tarchetti.

The new owners realised very quickly that the course needed significant investment if it was to realise its considerable potential. Most especially, fixing the drainage was obviously essential. So they signed up for a large rebuilding project that has occupied most of 2020.

The works at Chart Hills are remarkable for their scale; not quite on the level of the work we profiled last year at Loch Lomond GC (which is roughly the same age as the Kentish course, and coincidentally was another high-profile big budget design that was constructed without adequate drainage), but pretty amazing because they have been handled basically in-house. Course manager Lowther has acted as project manager, and his team has taken care of a massive trenching effort, adding 100mm perforated drainage pipe to every hole – across both fairways and especially wet areas of semi-rough – with a drain every five metres.

After the trenching crew had finished their work on a hole, contractor and shaper Ian Stevens moved in and removed the top two and a half inches of soil, which was not good material and by that time basically just thatch: course manager Lowther says: "There was basically no topsoil on the course; respread during the original build was minimal. The only way forward was to strip the fairways off and start again." Stevens then capped the fairways with four inches (100mm) of sand. A total of 32,000 tonnes of sand was spread on the course to complete the project – Tarchetti says that getting so much material through the Kentish lanes to the site and then across the course to the individual holes was one of the toughest parts of the whole job!

Once Stevens had done his work, a seperate contractor, hired to do the finishing, came in to seed the new fairways. A creeping strain of dwarf ryegrass was used, chosen for its hard-wearing, drought and diseaseresistant characteristics, and the fact that it produces less thatch than the original bentgrass fairways. From the trenching team leaving a hole to the seed going down took between ten and 14 days, and Tarchetti says that the new grass germinated rapidly and created a carpet of green across the sandy surface within a couple of weeks. Mowing started quickly, initially at a height of 25mm, with a goal height



of 13mm by the time the course is ready for play. "As they mow, it makes the grass creep across the surface and fill in the gaps to produce a smooth surface," Tarchetti explains. additional hazard for golfers to avoid when playing the hole.

The results of all this work are impressive. Areas of the course that were in an especially bad state, such

"When members return, they will find a very different golfing experience from the one they have been used to."

The project was initially planned not to include any redesign work, but during the construction, the team realised that the eighth fairway was lying wet and in danger of flooding after a significant rain event, so they decided to create a waterway across it and raise the green complex slightly to ensure it stayed dry. This work has been well done, and the new stream will have shaved grass banks and be an as the thirteenth, the worst affected by the leatherjacket infestation, and consequently almost devoid of grass, are now an excellent green carpet. Even the sixteenth, the last hole to be sandcapped, because it was used as a storage location for the massive pile of sand, is in good shape. Despite a very wet autumn, including 50mm of rain in three weeks during October, the course has remained firm and bouncy: when members return, they will find a very different golfing experience from the one they have been used to.

There is still a lot of work to do. As well as grooming the new surfaces, Lowther and his team must renovate the network of bridges and paths, and also restore the copious bunkering back to its best condition. But the Covid pandemic has had its benefits for Chart Hills. Initially, the project was due for completion, and the course for reopening, in March 2022; because of the speed the team has been able to work during the pandemic, this has been brought forward, and Chart Hills will reopen for play in March of this year. It is a pretty remarkable piece of work, especially for an in-house job, and Ant Tarchetti, Neil Lowther and their team deserve a lot of credit. Chart Hills has a bright future. GCA

INSIGHT



KEVIN HOLINATY

Tee line time

Kevin Holinaty explains how innovative synthetic tee line solutions can add value to golf courses

glimpse into the future... a golf course that is environmentally sensible and requires no water or harmful chemicals. One that can be maintained with simplicity and substantial cost savings by using stateof-the-art synthetic turf systems; and, when its life cycle has come to an end, the old turf is removed and reclaimed back to the supplier where it will be repurposed into future products – a true cradle-to-cradle product solution.

Wait... is it possible that this is all achievable now?

Southwest Greens Construction, the official construction arm for the Southwest Greens Brand on a global basis, started in 2008 to make this a reality. The company's 'dot on the horizon' was set, and step by step we are closing in on this objective.

The acceptance of high-quality synthetic turf solutions in the golf industry is gaining traction. SGC leads the way, with a wide portfolio of synthetic turf systems that each serve a purpose – solutions that have been developed, besides looking at 'natural ball behaviour', to take away the issues experienced on natural surfaces. When logically thinking about synthetic surfaces, the 'less maintenance cost' concept is one of the first things that comes to mind.

Southwest Greens looks at a golf course as a sum of components. We have created solutions for tees and tee lines, fairways, rough and bunkers as well as several products for putting surfaces – ranging from small indoor surfaces to replacing greens on existing courses.

The challenges golf courses face nowadays can best be addressed by focusing on each of the components of the course, pinpointing the weaknesses, and creating a solid and long-lasting solution. We believe that breaking up the conventional golf course into components and then looking at how we can make improvements to them is a strategy that adds genuine value to the golf course industry as it adjusts to everchanging variables and confronts increasing challenges. Looking at each component as an individual

topic and then re-approaching the ways we do things creates transparency in the maintenance budget and allows for innovation. It also compares traditional surfaces with alternative surfaces in an honest way. Having said that, innovation in the golf industry needs to go hand in hand with acceptance of golfers and other stakeholders. The 'user experience', the course's aesthetics and the relationship to nature need to be considered. Case in point is the success of bunker alternatives we see in today's marketplace which get a lot of praise and are widely accepted.

A similar process is taking place for tee lines and teeing areas. Many of the world's top clubs have now opted for the synthetic alternative, due to the quality of the product, and given that traditional tee lines can be difficult to maintain and keep at a consistent and top-quality level. The comparison of investing in such an option shouldn't be made compared to tee mats on the range as the 'user experience' is not the same. The honest comparison is a natural tee area versus a quality synthetic product.

Hot, dry summers or cold, freezing winters wreak havoc on tee areas due to their need to withstand constant ball-striking from players. Tee boxes on short courses are being used so intensely that maintaining the natural grass is hardly possible and often shows in the quality.

Southwest Greens Premium Champ Tee is a solution that has been installed on a global level and stands the test of different climates and intense usage. For many years, the product had a dark green 'industry standard' colour and that has functioned with a lot of satisfaction. With SGC gaining feedback from clients and working with Shaw Industries' research and development team, the Southwest Greens brand introduced a more natural colour for the tee use 'on the course'.

Synthetic turf system tee lines are used on the FFGolf Academie at <u>Le Golf National in Paris, France</u>

In September 2020, the French Golf Federation opened its short course at Le Golf National. SGC had installed there, for the first time, its spring green colour, a simple innovation with the same quality standard, but giving the tee areas a more natural look. Although a small change, the details make the difference, and even a colour change can create more acceptance from players as positive comments about the playing experience have become the norm for quite some time now. An acceptance in look and feel, improving the journey for both clubs and their guests, is what we are after. GCA

Kevin Holinaty is president at Southwest Greens Construction

HOLING OUT

Chasing aces

New short course gives hope to players pursuing a hole-in-one

he US National Hole-In-One Registry states that each year, just 1-to-2 per cent of golfers make an ace. At The Club at Olde Stone in Kentucky, those odds have just improved.

In 2019, the club opened a new parthree layout – The Sink Hole – created by golf course architect Jerry Lemons. His brief from developer Jim 'Scotty' Scott was to create a course that "could be walked, was fun to play, and would have the opportunity for numerous holes in one."

Lemons designed nine holes that range in length from 35 to 160 yards and, while the set-up dictates the level of challenge, offers many pin locations where balls will naturally feed towards the hole.

"We were able to do lots of fun stuff here that you wouldn't normally do on a typical golf course," said Lemons. "If you wanted to, you could use your putter from your very first shot."

"All the greens are huge with a tremendous amount of undulation. They're around eight or nine thousand square feet each. If you miss the green, you've hit a really bad shot!" The course may be named after the numerous sinkholes on the site, but its moniker is also a nod towards the improved odds of that elusive ace. Olde Stone set out to track the number of holes-in-one recorded. But Kevin Childers, the director of golf at the club, says they quickly gave up: "There are certain pin positions on those greens that warrant many opportunities."

Two greens have a punchbowl feel, and several others incorporate elements from template holes, including a Biarritz green at the seventh and a fourth hole modelled on North Berwick's Redan.

The Sink Hole is already a hit – with everyone from juniors to PGA Tour

professionals. Even multiple major championship winner Brooks Koepka has put it through its paces. "When the nine-hole course first opened, Brooks was out there testing it and loving it," said Lemons.

"I tell every one of those guys before they show up on the property that we have the best short game facility in the world," said PGA Tour director of instruction Jeff Pierce. "It's fun when you consider it as just a course, but when you think of it as 15 acres of any shot you can possibly imagine... there's nothing we can't simulate, from slopes at Augusta to bunkers at Sawgrass, we have everything they'll ever see." **GCA**



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