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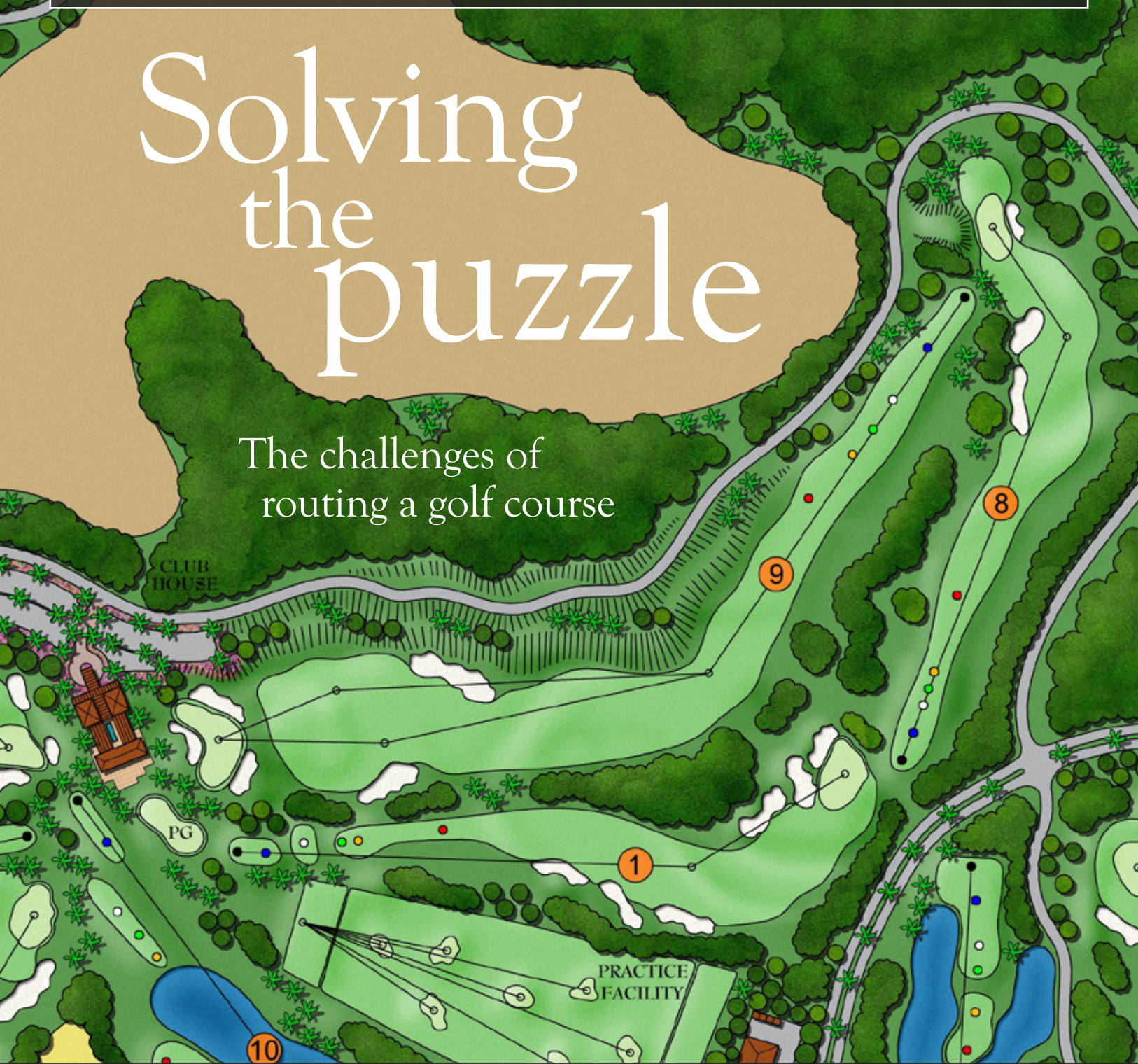
# BY DESIGN



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

## Solving the puzzle

The challenges of  
routing a golf course



Also: Design excellence • Arnold Palmer, ASGCA Fellow • Longleaf Golf & Family Club • Par



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Chapter 1

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## The value of infrastructure

After a considerable rebuild, the Chicago Cubs won the World Series. This wasn't happenstance: it was a result of hiring good professionals, patience and building solid infrastructure. Similarly, my best projects are the result of thoughtful design, collaboration and a foundation of solid infrastructure.

80 percent or more of a golf course construction is stuff that golfers can't see: like irrigation, drainage, green subsurface or soil amendments, etc. This is what quality is—unseen, but necessary and valuable. These improvements allow efficient operations, predictability and provide for a great golf experience regardless of changing weather or climate.

The same could be said about what we do as professionals: plans, meetings, coordination, engineering, permits, budgets, etc., are all things that are unseen, but necessary for the thoughtful execution of a quality golf experience. That is infrastructure and it is necessary and valuable.

One of the first processes in building the infrastructure of a golf course is to create a routing plan. Our cover story for this issue considers the process of routing the golf course, with ASGCA members sharing their perspectives on how they go about it, and whether their approach has changed in recent years. It's a great insight into a one of the most challenging, but also most rewarding, aspects of being a golf course architect.

I hope you enjoy the issue.



Greg Martin, ASGCA  
President  
American Society of Golf Course Architects

## BY DESIGN

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## ASGCA reveals Design Excellence



Honorees for the 2016 Design Excellence Recognition Program include the Atlantic Dunes course at The Sea Pines Resort, recently extensively renovated by Scot Sherman, ASGCA

Photo: Rob Tipton

The American Society of Golf Course Architects (ASGCA) has revealed the projects to be honored by the 2016 Design Excellence Recognition Program.

The program highlights innovative approaches to modern golf design and examples of exceptional problem-solving skills.

The projects included in the list are diverse in nature, covering everything from complete renovations, such as the Atlantic Dunes course at The Sea Pines Resort in Hilton Head, South Carolina, designed by Scot Sherman, ASGCA, to a short course created by Todd Clark, ASGCA, specifically for people with disabilities, at The Ken Lanning Golf Center in Jefferson City, Missouri.

The 2016 list of honorees has been selected by a panel of golf industry

leaders, which included representatives from the Club Managers Association of America and Golf Course Builders Association of America.

“Congratulations to these tremendous golf facilities, as well as the architects who provided their talent and expertise,” said John Sanford, ASGCA Vice President. “Once again this year, the projects highlighted by the Design Excellence Recognition Program show the positive impact a well-designed facility has for golfers and their community.”

*In February 2017, all By Design subscribers will receive a special edition of the magazine devoted to the 2016 Design Excellence Recognition Program and including more information on all of the projects. Subscribe at [www.asgca.org](http://www.asgca.org).*

### 2016 Design Excellence Rec

**Arlington Lakes Golf Club**  
Arlington Heights, Illinois  
Renovation by Mike Benkusky, ASGCA

**Atlantic Dunes course at The Sea Pines Resort**  
Hilton Head, South Carolina  
Renovation by Scot Sherman, ASGCA

**Ken Lanning Golf Center**  
Jefferson City, Missouri  
New short course by Todd Clark, ASGCA

**Lebovic Golf Club**  
Aurora, Ontario, Canada  
New golf course by ASGCA Past President Doug Carrick, ASGCA

**Los Robles Greens Golf Course**  
Thousand Oaks, California  
Water reduction program by Jason Straka, ASGCA and Dana Fry, ASGCA

**Mountain Shadows Resort Short Course**  
Paradise Valley, Arizona  
Short course by Forrest Richardson, ASGCA

# honorees



## Cognition Program Honorees

**NCR Country Club**  
Kettering, Ohio  
Short game facility and flood prevention program by ASGCA Past President Dr. Michael Hurdzan, ASGCA Fellow

**Heron Course, The Oaks Club**  
Osprey, Florida  
Renovation by Hurdzan/Fry Environmental Golf Design

**Pelican's Nest Golf Club**  
Bonita Springs, Florida  
Renovation by Jan Bel Jan, ASGCA

**University of Southern Mississippi Short Game Facility**  
Hattiesburg, Mississippi  
Short game facility by Nathan Crace, ASGCA

**Wilmette Golf Club**  
Wilmette, Illinois  
Renovation and flood prevention by ASGCA President Greg Martin, ASGCA

## China

# Golf in China's fitness plan

The State Council of China has called for golf development to be speeded up, as part of a plan to develop the fitness and leisure industry in the country.

A press release issued by the State Council of China in late October 2016 references an official document that calls for improvements in the fitness and leisure service system, with a goal to increase the output of the sector to more than 3 trillion yuan by 2025.

The document references 'daily fitness sports' such as soccer,

basketball and volleyball, 'outdoor and fashion sports' including winter sports, equestrian and golf, plus 'sports with cultural characteristics,' like kung fu, dragon boat and lion dancing.

The golf industry hopes this news represents a softening of China's stance towards golf. As recently as 2015 the Communist Party in China had banned its members from joining golf clubs, and some recently-built golf courses were returned to farmland shortly after completion.

## New course

# New course for Arcadia Bluffs

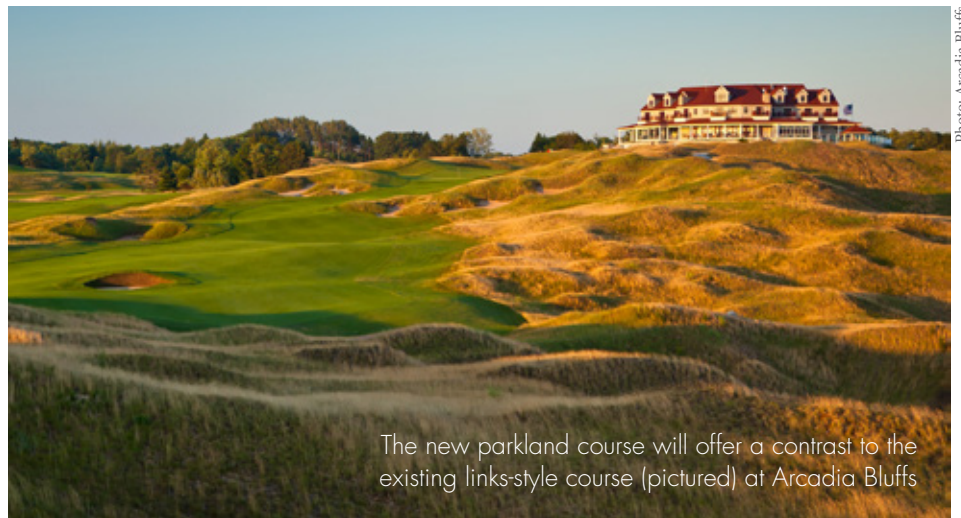


Photo: Arcadia Bluffs

The new parkland course will offer a contrast to the existing links-style course (pictured) at Arcadia Bluffs

Fry/Straka Global Golf Course Design has been hired to create a second course at the Arcadia Bluffs Golf Club in Arcadia, Michigan.

The new 'Golden Age-style' parkland course is to be created on a 310-acre site a mile south of the club's existing course. The project will also include the creation of a new practice range, short game area, putting green and clubhouse at the new site.

"The site's sandy soil conditions and natural topography make it perfect for golf," said Dana Fry, ASGCA.

"The new course will also have very large greens averaging in the 10,000 sq ft range, and be in shapes that are rectangular and in some cases more like squares. Bunkers will be flat bottomed, cut into the existing ground, with steep slopes going up to the fairways and green complexes."

The course, scheduled to open in summer 2018, will be officially named 'The South Course at Arcadia Bluffs,' and will be very different to the existing Arcadia Bluffs layout, according to Fry.



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## Renovation

## Hanse wins Pinehurst project



**P**inehurst Resort in North Carolina, has appointed Gil Hanse, ASGCA, to carry out restoration work on its No. 4 course, and to build a new short course.

Hanse has said that he will be “borrowing heavily from the look and feel of No. 2, which Bill Coore, ASGCA, and Ben Crenshaw so artfully returned to the spirit and philosophy of Donald Ross.”

Hanse and his team will look at early photos of the Pinehurst courses, in

particular of No. 4, to gain inspiration. “The original footprint for Course 4 is no longer in existence, so we will not be able to replicate holes, but we hope to draw concepts from the original Ross plans and early aerial photographs,” he said.

The architect confirmed the aim was to “have the course completely planted by August of 2018 with an opening sometime in 2019.”

The new short course should be ready for play by autumn 2017.

## Renovation

## Mungeam renovates Fox Hill

**M**ark Mungeam, ASGCA, is leading a renovation and restoration project at the Fox Hill Country Club in Exeter, Pennsylvania.

The Fox Hill course was originally designed by AW Tillinghast, and Mungeam has used an original routing plan and an aerial photograph taken in 1938 to help with his work.

Mungeam is restoring a number of bunkers that have been removed from the course since Tillinghast’s original design, and is adding new bunkers in selected places to help improve the ‘strategy and

visual character’ of certain holes. “On the eighth, for example, a great Tillinghast approach bunker had been removed fifty years ago that I wanted put back, but I also have added a right fairway bunker on the inside of the hole which balances the design and improves the strategy,” Mungeam explained. “A shot played near this bunker provides the best angle to the putting surface.”

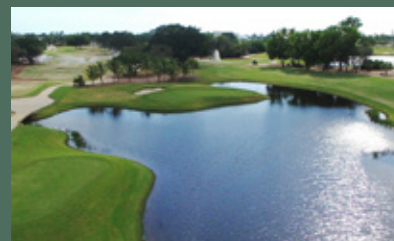
Mungeam is planning to have the work on up to 14 of the course’s holes completed by mid-December 2016. The project is scheduled for completion in May 2017.

**Rogers leads Quail West work**

Drew Rogers, ASGCA, is leading a major project at Quail West G&CC in Naples, Florida. Work is currently focused on the club’s Preserve Course, and will shift to the Lakes Course in 2017.

**Davis begins Northwood project**

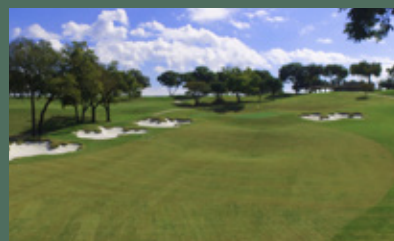
A renovation of the Northwood Club golf course in Dallas, Texas, is now underway. The project is being led by Tripp Davis, ASGCA, and a team from his design firm.

**Naples Beach course reopens**

The golf course at The Naples Beach Hotel and Golf Club in Florida has reopened following a series of renovations. Nicklaus Design and Sanford Golf Design collaborated to complete the work.

**River Forest project completed**

Greg Martin, ASGCA President, has overseen a renovation of the River Forest CC course in Elmhurst, Illinois. Martin rebuilt numerous bunkers and recontoured fairways.

**Squaw Creek restoration project completed by Colligan, ASGCA**

Colligan Golf Design has completed a renovation and restoration project at Squaw Creek GC in Willow Park, Texas. John Colligan, ASGCA, and Trey Kemp focused their work on the course’s tees, greens and bunkers.



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Brauer's new layout is scheduled to open in October 2017

### Redesign

## Brauer, ASGCA, leads redesign at Texas club

A major project will kick off early next year at the Southern Hills Golf Club near Liberty City, Texas. The club's course will close in January 2017 for a major redesign led by ASGCA Past President Jeff Brauer, ASGCA.

An area of land to the southeast of the existing course, currently covered in forest, will be repurposed. Six entirely new holes, which will play as holes 11-to-16 on the revised layout, will be developed on this area, which will also accommodate more than 100 quarter-acre real estate lots.

Holes 11 and 16 will play around an existing lake, while the new 13th hole will become the longest on the course, a 594-yard par five.

A number of new holes will be developed over the existing course, although the six opening holes will remain as they currently stand, but with renovations to improve their playability.

A new driving range and practice area will be constructed towards the north of the site.

The club will change its name from Southern Hills Golf Club to Tempest Golf Club upon its reopening, which is currently scheduled for October 2017.



### Restoration

## Andrew restores Park CC course

Restoration of the golf course at Park Country Club in the Buffalo suburb of Williamsville, New York, is nearing completion.

The course was originally designed by the Colt & Alison design firm, and hosted the 1934 PGA Championships. The current project is being led by golf course architect Ian Andrew, ASGCA.

Andrew has developed a new masterplan for the 18 holes, with the aim of restoring "the massive scale of the course."

The final phase, which is currently taking place, is the restoration of the course's bunkering. Many of the steep interior slopes, in line with the original design, will be reintroduced.

The restoration of Park CC will be completed in spring 2017.



Many of the steep bunker slopes of the original Colt & Alison design will be reintroduced



# Palmer's legacy to golf design

*By Design* reflects on the impact that Arnold Palmer, ASGCA Fellow, had on the golf design business, and what he meant to those who collaborated on his designs.

Since the death of Arnold Palmer, ASGCA Fellow, in late September, we have read inspirational and heart-warming tales from across the globe, of the impact he had on the game of golf, and the lives enhanced by his generosity of spirit.

Palmer is widely recognized as golf's first global superstar, and the person responsible for accelerating the growth of the game in the 1950s and 60s. His duels with Jack Nicklaus, ASGCA Fellow, and Gary Player captivated the golfing world and his warmth of character saw him amass legions of fans—'Arnie's Army'—along the way. He drove the sport's popularity in a way that few, if any, have managed since.

In 1972, when his peak playing years had passed, Palmer entered the golf design business. He partnered with ASGCA Past Presidents Frank Duane and Ed Seay, two of the golf design industry's great leaders, and they became a formidable team.

Palmer's design firm has since been responsible for over 300 golf courses, with his global appeal making him the ultimate 'signature' architect. The firm drove the establishment

of the sport in new territories, most notably with the first modern course in China, Chung Shan Hot Spring, which opened in 1984.

There are many highlights among Palmer's portfolio: the Old Course at Half Moon Bay Golf Links in California, one of the first Palmer designs; the dramatic Tralee in Ireland, and Tradition Golf Club in La Quinta, California. But perhaps

/// His legacy will live on through the countless lives he touched along the way and the beautiful courses that bear his name

his greatest legacy to the golf design business is the impact he had on the golf course architects that he worked alongside. In addition to Duane and Seay, who passed away in 1994 and 2007 respectively, Bob Walker, ASGCA, Harrison Minchew, ASGCA, ASGCA Past President Erik Larsen, ASGCA, and Vicki Martz, ASGCA



Photo: Brian Gomsak

Fellow, all spent large portions of their careers with Palmer.

Walker was involved in more than 75 projects with Palmer, having worked for him from 1974 to 1986. "It is remarkable how he touched so many people's lives in such positive ways," he says. "He was instrumental in my becoming a golf course architect by introducing me to his partner, Ed Seay, and recommending my employment

in his golf course design company in 1974. I sometimes wonder what direction my life might have taken had I not met Mr Palmer and for the special interest he took in me and in my career. It was an absolute honor to have worked for him, to have spent time with him and to have known him as the extraordinary person he was."





Palmer with long-time design partner and ASGCA Past President Ed Seay (above), and current Arnold Palmer Design Company principals Thad Layton, ASGCA Associate, and Brandon Johnson (top)



Photo: Andrew Redington/Staff/Getty Images

Minchew joined Palmer's firm in 1982. "Being from Augusta and saying working for him was a thrill would be an understatement at best," says Minchew. "Although he had an incredible ability to play golf in a truly exciting way, his gift was the way he engaged people—his eye contact, a smile, and the unforgettable handshake all done with a sincerity that he truly was interested in you! Those that worked with him all had the privilege of experiencing truly the person anyone would ever aspire to come close to being. I can truly say out of the public eye he was the gem that everyone thought he was. Working with and for him will always be a cherished blessing! He will always be an American hero, one that was all about having fun with those he was with, a

true giver. The world is a better place having had Arnold Palmer."

"I was privileged to work for the king of our beloved sport," says Larsen, who worked alongside Palmer from 1983 to 2011. "He was a gentleman. In fact, it isn't fair to just talk about his contributions to golf and philanthropic endeavors. He was an American hero. I would have been proud to work with him for one day, let alone 28 years."

"I have been thinking a lot about what a sincere and genuine, true 'gentleman' he was," says Martz, who joined Palmer in 1985. "When he focused on you, you were the most important person in the world. That was how he was with everyone. Personally, I value the opportunity he gave me. He was gender blind, which was unusual in the mid-80s. He told me I could be whatever I had the talent

for and wanted to be. He valued my participation within the company. It was groundbreaking. I had the wonderful opportunity to learn not only golf design at his elbow, but also off the course and how he expected you to conduct yourself in business. He was a mentor and he was my friend."

Arnold Palmer Design Company continues to thrive under the direction of Thad Layton, ASGCA Associate, and Brandon Johnson. "Never have I met such a fighter and a man of true integrity; he was the genuine article," Layton reflects. "It was an honor to have worked alongside him over the past 20 years, sharing his enthusiasm for the game he loved through his work. His legacy will live on through the countless lives he touched along the way and the beautiful courses that bear his name." ●



# Solving the puzzle

Routing is the ultimate puzzle for a golf course architect, with multiple elements needing to be assembled correctly for a club to thrive. Toby Ingleton learns more about the process.

The routing of a golf course can make or break a facility. Done by an expert, it will enhance the golfer experience, help increase revenues for the club and avoid unnecessary expenses—both during construction and beyond.

It's a task that golf course architects thrive on. "There's nothing I get more joy from than developing a routing," says ASGCA Past President Steve Forrest, ASGCA. But it is a complex puzzle with many pieces, which vary from project to project depending on the features and constraints of the site, and the ambitions and desires of the client.

So where do you start? Ideally, with a topographical map. "It is very difficult to appreciate several hundred acres without shrinking the view to something that fits comfortably on a table," says Forrest

Richardson, ASGCA. "This is the way we take an expanse of land and get it to a point where it can be managed between the ears.

"The topo map becomes the worksheet to capture constraints—the limits of the property, environmental zones, drainage patterns, areas of dense vegetation, soil conditions and, of course, elevation changes," he continues.

The topo map also helps to identify the unique features that could be captured in the design of the course. ASGCA Past President Doug Carrick, ASGCA, says: "Upon visiting the site for the first time, I will have a better idea of how some of the unique features can be incorporated into the design, along with any other features or prominent views that are evident during my visit."

"We can eliminate two to three weeks of work if we get a

topographical map first," adds Forrest. "We can then develop a routing and it's a lot more fun when you get to the site. You have a better sense of scale, particularly if it's a wooded site, where it is extremely difficult to judge yardages."

That two-dimensional, scaled-down view allows golf course architects to comprehend the extent of their canvas, and be fully prepared for a site visit.

## Walking the site

"When we first set foot on any property we ask ourselves, where would you want to go?," says ASGCA Past President Steve Smyers, ASGCA. "How would your body naturally move about the property if you weren't even thinking about it, if you were simply reacting to the land you saw in front of you?"





“If you were to drop someone onto a property by helicopter—a piece of land where they had never been before—they would naturally gravitate to powerful places. It might be a bluff with a long vista. It could be a convergence of environments or maybe it’s an edge, like a forest, lake or ocean. These are places where we’re just naturally drawn.”

“You look for unique and dynamic features that can be incorporated into the routing and golfing experience,” adds Art Schaupeter, ASGCA.

“Examples can range from the bold and obvious like water shorelines to the more subtle like interesting grade breaks or slight high points of ground, which can make for good green sites, landing areas or teeing areas.”

“It’s mandatory to become intimately familiar with a site,” says Smyers. “Not just a topo map, but the land itself. It’s

the only way you can lead the golfer on a journey that exposes dominant landscape settings within the property in a rhythmic, cohesive way. And when a routing does that, whether the golfer consciously realizes it or not, it all feels right.”

#### **Assembling the pieces**

Once the golf course architect has a complete picture of the site, its features and constraints, the hard work of solving the routing puzzle really starts.

There are many pieces to consider. “How do we access the site? Where is the best spot for the clubhouse? What about an entry road and parking? A range—ideally playing north—and practice area, first and tenth tees and ninth and eighteenth greens?” These are the critical elements that Forrest tries to fit

together first. “Once we have those elements in place,” he says, “we are 75 percent of the way there.”

“On more difficult sites, we may have a tight corner that needs to be considered first,” continues Forrest. “There may only be room for a short par four in and a par three out, and it becomes a case of plugging key holes in first and filling in the rest from the clubhouse. And where the constraints are so numerous, you may need to be creative or concede certain aspects of the design. For example, have two par threes back to back like at Cypress Point.”

“The actual routing process varies from project to project,” adds Carrick. “Sometimes a unique or spectacular hole will be located first, followed by the holes that connect in and out of that particular location. Sometimes it may be a sequence of interesting



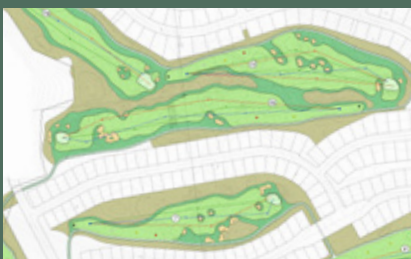
## CASE STUDY: TPC COLORADO

**Changing priorities**

Routing will often evolve over time. Art Schaupeter, ASGCA, began work on what would become the TPC Colorado layout in 2005. But in 2015, when it was decided that the layout would become a TPC course, some of the development parameters were modified to allow the golf course routing to take more of a priority.

Schaupeter highlights two big changes to the routing that have dramatically improved the layout and will create a better golfing experience: “Firstly, the original holes 7 and 8 had housing on all sides. They were re-routed, along with holes 14-16, to create a block of five golf holes, a ‘core’ golf experience. The result is fewer road crossings, less distance between holes and housing restricted to the perimeter of the block of holes.

“Also, the original holes 1 and 2 were switched with a development parcel, moving the golf holes over to the edge of a large lake. This created a better setting for those holes, and allowed the overall golf layout to be re-numbered to give the course a four-hole finish adjacent to the clubhouse,” he explains.



The TPC Colorado routing was modified to give a more ‘core’ golf experience

holes located in the middle of the golf course that are located first, or other times I will locate the clubhouse first, followed by the starting and returning holes for each nine. Sometimes an unusual shape or configuration of a property may require special attention in order to use the land efficiently, or some difficult topographical features may have to be negotiated a certain way in order to produce a good routing.”

**Dealing with complexity**

“Small or compact properties require great efficiency in how the land is used in order to get the most out of a small site, while producing a safe and playable layout,” says Carrick. “Rocky or rugged terrain requires a routing that is sensitive to the natural elevation changes, in order to minimize extensive earthmoving or blasting. On sites with dramatic changes in elevation it is important to devise a routing that climbs up softer slopes gradually, while descending over the steeper terrain. Flat sites, while easy to work with, present the most challenge in terms of creating interest on the golf course, and introducing variety in the length and direction of holes helps to provide a good framework for the course design. Environmentally sensitive sites often impact the connectivity and playability of the golf course, and it is important to minimize the distances between the green of one hole and the tee of the next hole as much as possible.”

“Literally hundreds of decisions are being made all at once,” says Richardson. “A move in one corner means something gets shifted over in another area, and then there are the ‘givens’ such as the practice range—the largest of all puzzle pieces. Add to this whatever ‘standards’ the golf architect wants to uphold, criteria such as par and length, and the way those factors get distributed.”

The puzzle is further complicated if the golf course is driven by a larger development master plan. “Designing a golf community or golf resort presents another degree of complexity to the routing process.



Photo: Forrest Richardson & Assoc.

Home sites, roads, accommodations and other amenities have to be integrated efficiently and safely with the golf course,” says Carrick.

“Developers want to keep the golf course on as small a footprint as possible to maximize development opportunities,” explains Schaupeter. “I try to strike a balance between golf course acreage and golf course frontage by routing holes adjacent to each other wherever possible. This will reduce some of the development frontage but it will also reduce some of the acreage requirements for the golf course. Golf holes routed adjacent to each other will take up a little less ground than holes routed individually through adjacent developments. This also improves the golf experience as golfers aren’t playing through a





Clockwise from top left: ASGCA Past President Steve Smyers, ASGCA, walking the site at a new project near Orlando, Florida; Art Schaupteter, ASGCA, with Steve Wenzloff of the PGA Tour at the TPC Colorado site; Forrest Richardson, ASGCA, considers how to configure a routing for a course that will need to be set above landfill layers that cannot be disturbed; Recording GPS points for possible green sites so they can be studied later in detail when routing options are developed

narrow corridor of golf surrounded by houses on both sides.”

“The most complicated routing assignments get that way due to the list of constraints becoming nearly endless,” says Richardson. “Since the late 1970s we have seen more

best if it can be accommodated. This is not to say that good routings cannot be created on less than ideal land—many great courses have. But it makes the assignment infinitely more difficult, and the golf architect must be extremely clever.

never been a course there in the first place. We may have water reservoirs, existing neighborhoods, roadways and even cherished trees to preserve. Overall these can be the toughest to work out.”

## // Literally hundreds of decisions are being made all at once

and more golf courses proposed on denigrated land. That list includes old landfills, low-lying land prone to flooding and land that is leftover after housing or other development. It is not always that the golf course gets its choice of land, although that is usually

“The other category of difficult routings is when we go to re-route existing courses, as in the case of the total makeover. While we already have a canvas to work upon, it is almost always sprinkled with even more constraints than if there had

### Bringing it all together

It’s possible to have all the elements in place, but for the puzzle to remain incomplete.

“You can have 18 good golf holes and still not have a good golf course. By that, I mean that everything has to evolve from a greater context. Holes must emanate from the land. So, as architects, we have to resist any inclination to impose a hole onto the land if the design of that hole doesn’t work in harmony with its environment,” says Smyers.



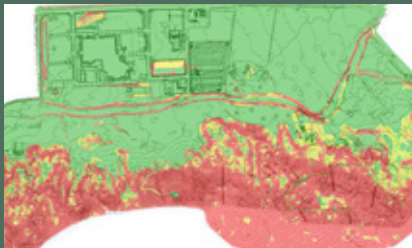
CASE STUDY:  
THE JOURNEY AT PECHANGA

**Coping with constraints**

Designed by Hills & Forrest and built on a Native American Indian reservation as an amenity to the Pechanga Tribe's casino, The Journey at Pechanga golf course in Temecula, California is situated on a beautiful piece of property with rolling terrain located at the base of the mountains.

However, portions of the dramatic site were very steep and unsuitable for golf, and there were multiple cultural areas and protected live oak trees that needed to be avoided. The first step to developing the routing was to identify the areas of the site that were not useable for the golf course.

Holes were then weaved around the multiple points of interest, turning areas that had been constraints to the golf course layout into features of the golfing experience.



The first step was to eliminate areas that would be unsuitable for golf (top images) before routing golf holes that would weave around points of interest

“You have to establish solid landscape ‘rooms’ so that as you traverse the property, you bring the golfer into landscape settings that may look and feel different from one another, but always feel in harmony with the natural environment of the site. We understand that we need a variety of shot values to test players throughout a round of golf. But for players to respond well to the golf course, to the property itself and to the overall experience, we need to take players through different landscape settings.

“Of course, if you don’t have a strong site with strong natural features, you should create them. If you don’t create strong features first, you’re going to have weak holes—maybe not weak from a shot value standpoint, but you’ll have weak holes from a memorability standpoint. That’s because, in any great golf course, the landscape features don’t come from the holes; the holes come from the landscape.”

“Almost always it is the case that numerous routings are created for a piece of land,” says Richardson. “We go back into the field to walk the land again, and sometimes over and over until we sense the routing will be enjoyable from many perspectives. The list is long. Flow, pace of play, vistas, downhill holes, uphill shots, reasonable safety and even the way the holes interact with each other—or not. It is very similar to writing a piece of music. There is structure, and it is defined by movement, bridges, melody and crescendo. I suppose the only real rule is that what goes out must always come back.”

**Changing demands**

As the golf industry evolves to address the common challenges of time and difficulty, have golf course architects changed their approach to routing?

“I do try to present clients with a wider range of routing options for them to consider,” says Schaupeter. “That might include shorter formats either incorporated into a longer course or as a completely separate layout for their evaluation. Clients



An extract from the routing ASGCA Past President Steve Maridoe created for Maridoe in Dallas, Texas. Below, field notes by Forrest Richardson, ASGCA, giving direction to shape



Image: Forrest Richardson & Assoc.

usually have a specific idea of what they are wanting to develop when they hire me, but I tell them that I will wander out ‘into left field’ with initial concepts, routings and ideas so that they can fully evaluate all of their options before we get committed to a final plan.”

“When the opportunity presents itself, I will try to return a number of holes in close proximity to the clubhouse so that golfers can play a loop of three, six or nine holes,” says Carrick. His new design at Friday Harbour Resort in





...e Smyers, ASGCA,  
...as on a plan by  
...rs



The clubhouse at Copper Creek Golf Club in Kleinburg, Ontario, was the first feature to be located on the routing plan developed by ASGCA Past President Doug Carrick, ASGCA, creating a dramatic backdrop and views over the ninth hole

Photo: Clive Barber

Big Bay Point, Ontario, which is currently under construction, will give golfers that option.

“Not only are we more often asked to look at shorter formats, but there is a genuine shift away from the par-72-must-be-above-7,000-yard threshold,” says Richardson. “The pursuit of length led to the need for width. That led to using more land, demanding more time and inflicting more cost. Today we are embracing clients who understand that the game is supposed to be fun, and fun does not always translate to giving the golfer a long and tiring journey. In terms of routing this means we are seeing more courses where the ‘rules’ are relaxed. Old presumptions are being replaced by innovative ideas. Solutions no longer need to conform as much as they need to perform.”

But in a changing marketplace, it is important not to lose sight of the factors that have made golf appealing for hundreds of years.

“To keep the youth of tomorrow interested in the game, we have to build golf courses that hold their interest,” says Smyers.

“Even a hundred years ago, the legendary Alister MacKenzie understood the importance of forward thinking in course design. As he put it: ‘Unless we provide golf courses full of intricate problems, players will get sick of the game without knowing why they have gotten sick of it and golf will die from a lack of abiding and increasing knowledge.’ That quote has been on my office wall since I started my own design firm in 1984 because I believe it is as true today, maybe even more so, as it was in MacKenzie’s era.

“That’s why I have always felt an obligation to stay true to what made the game of golf popular when it began hundreds of years ago and what remains its most alluring quality today—the challenge of playing a demanding game over an infinite variety of landscapes.” ●

*Routing the Golf Course* by Forrest Richardson, ASGCA, covers the early history of how courses came to be formally routed, as well as the process and considerations that go into developing routing studies and final plans.

The book is available to purchase via [www.cswebstore.net/gcsaa](http://www.cswebstore.net/gcsaa)



Par | Ty Butler, ASGCA

# Does golf need par?

Par has become the universal yardstick against which golfers measure their performance. Ty Butler, ASGCA, considers the origins of par and asks “Is it right for the modern game?”

I’ve always wondered where the concept of par developed and how it became such a significant standard by which the game measures success.

According to Robert Browning’s 1955 book *A History of Golf*, the system originated in 1890 when Mr. Hugh Rotherham, secretary of the Coventry Golf Club in Great Britain, sought to establish a standard number of shots an accomplished golfer should take playing a hole. This system became known as the ‘ground score’ and was later adopted for match play competitions at the Great Yarmouth Club. During a match, a Mr. C A Wellman is said to have exclaimed to the club secretary: “This player of yours is a regular bogey man.” This was probably a reference to the popular song *Hush! Hush! Hush! Here comes the Bogey Man*, and led to the ground score concept becoming known as the “bogey score.”

The term ‘bogey’ derives from a 16th century term ‘bogle,’ which was a Scottish goblin. Consequently, 19th century golfers measuring themselves against the bogey score considered themselves to be playing against ‘Mister Bogey.’ So from the outset, golf’s measure of success was based on the age old notion of good vs. evil!

‘Par’ appears to precede bogey by some 20 years. In 1870, golf writer A H Doleman borrowed the term from financial circles where it was commonly used to describe the normal value of a stock. Prior to the start of The Open at Prestwick that year, he asked professionals David Strath and James Anderson the expected winning total for the competition. Their response, “perfect play would produce a score of 49 over Prestwick’s twelve

## // The mythical standard of par leads to frustration and disappointment

holes,” was labeled par for Prestwick by Mr. Doleman. However, par was not firmly established until 1911, when the United States Golf Association established standard yardages for determining par and, much to the vexation of British golfers, Americans began referring to a score of one over par as a bogey!

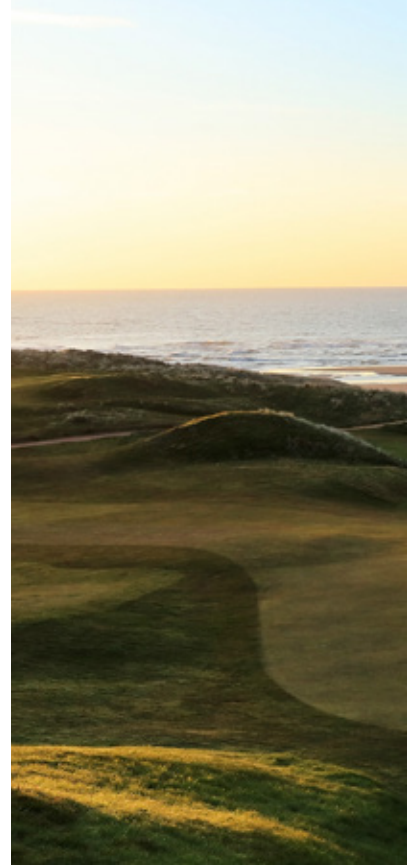
From the inception of the modern game, it appears that par evolved

as a standard by which the elite players were measured. This begs the question, what if the standard had not been set as a measurement of what was considered excellence, but against what was truly normal for the day? Had Mr. Doleman asked a group of average golfers their expectations over Prestwick’s twelve holes, he probably would have received a much different answer.

We continue, to this very day, to measure everything in golf against a standard that only few can achieve. Many golf courses have been designed for the elite golfer, with the average a secondary concern. I’ll certainly admit to having fallen prey to this approach on a couple of occasions.

Maintenance expectations for many players are influenced by what we see on television every week, not appreciating that the organizers have targeted a single moment in time for the course to look its absolute very best. And by using par as a reference, we golfers are measuring our play against the elite professionals we see on television every week. Talk about an unrealistic standard! Those guys are not just good, they’re really good!

I am not proposing that all golfers should aspire to mediocrity. But I have come to ask myself, would the average







The eighth hole at Cruden Bay, Scotland is a short par four, but could easily be a long par three. Or just a fun golf hole

Photo: David Cannon/Getty Images

golfer enjoy the game much more if there was not an impractical standard looming in the background? I am an average golfer and play most of my golf with other average golfers, and although we might hit a few really excellent shots, there are usually enough real stinkers to ensure that marking my score alongside the mythical standard of par leads to frustration and disappointment.

In the middle of a round however, when I've lost track of how far over par I am and start to simply play the course without scoring expectations, a truly remarkable thing happens... I start to take delight in the golf experience.

For me the game becomes a lot more enjoyable when the expectation of par disappears in my mind. This got me thinking, what if we could truly make par disappear? Would golf be better, worse or indifferent if the concept was no longer part of the game?

What if every course simply listed total yards for a hole? Or better yet, simply provided a diagram of the hole. There would be no expectation set of what score you should aim for, and you would simply play the game. Would this free golfers to experience an entirely different game?

I remember the first, and only time, I played Cruden Bay in Scotland. It was during an ASGCA Annual Meeting,

so our group consisted entirely of American golfers, with no caddies for assistance. This aspect alone presented quite a challenge, but despite these handicaps we were enjoying the round and the wonderful golf course. By the time we reached the eighth hole my score had become less important to me, and I was not paying homage to yardage or par and was simply playing the course as it was laid out in front of me.

The eighth at Cruden Bay is a short uphill par four, which I had mistaken for a long demanding par three. After finishing with a four I was happy with what I thought to be bogey. After it was pointed out the hole is a par four, I was ecstatic to have made par, yet disappointed to not have made birdie on a somewhat short benign hole!

But guess what? A four is a four. It makes no difference to classify it as birdie or par; my score at the end of the round was still the same. It was then I realized how strongly the concept of par can influence your experience and your approach to playing a hole.

I'm certain there are golfers around the world who love par and feel it is a sacred part of the game. And I know there are people who would assert that any endeavor to remove par would be impossible. It certainly would be difficult for the current generation of

golfers to simply erase this concept from their minds. However, if a concerted effort began now, eventually future generations of golfers would not find themselves competing against the bogey man, and as a result may take much enjoyment from the experience. That might be the best thing that could happen to the game. ●



### Ty Butler, ASGCA

A former vice president and senior project designer with Robert Trent Jones II Golf Course Architects, Ty Butler, ASGCA, now runs his own practice, Brio Golf. Based in Arkansas City, Kansas, Butler's designs include the Kaluhyat course at Turning Stone Casino Resort in New York, Sunday River Golf Club in Newry, Maine, and the newly-opened Sewailo Golf Club in Tucson, Arizona.



# Fun golf, down to a tee

The redesign project completed by Bill Bergin, ASGCA, at the Longleaf Golf & Family Club in Pinehurst, North Carolina, includes multiple tees to make the game more fun and accessible for golfers of any age, gender or skill level. *By Design* finds out more.

In 1987, ASGCA Past President Dan Maples took 170 acres of North Carolina land and designed and developed a golf facility that included a clubhouse, driving range, tennis courts and more. Longleaf Golf & Country Club held its grand opening in November 1998.

By 2015, U.S. Kids Golf Foundation (USKGF)—the charitable arm of the leading maker of golf equipment for kids—was looking for what their president Dan Van Horn describes as “a living laboratory for growing kids and family golf in a club environment, implementing best practices in a real-life situation.” They found this laboratory at Longleaf, buying the property and working with Bill Bergin, ASGCA, to bring their vision to reality. They renamed the facility Longleaf Golf & Family Club.

A key feature of the redesign was the conversion of the club’s traditional four tee pads per hole to a new configuration developed by USKGF.

Following extensive data analysis, it was determined that on any given course there would ideally be a total

of 600 yards of separation between each tee marker option. Beginning with 3,200 yards from the forward tees, most golf courses can be fitted with six, seven or even eight yardage options to choose from. The gap between markers on each hole is about 30 yards, but that decreases on

rather than location. Twenty-nine tees were cut into existing fairways, of which four had to be shaped and a few more may be modestly levelled in future. Because of the increased number of tees, size-per-tee could be reduced, and many existing tees could be reduced by simply adjusting mowing lines.

“ Every golfer, regardless of skill, can play at a good pace, shoot lower scores, and have more fun

par threes and increases on par fives.

With a broader range of tee locations, every golfer, regardless of skill, can play at a good pace, shoot lower scores, and have more fun.

At Longleaf they settled on a seven-tee system, following the principles set out above but also factoring in the course’s topography, choosing locations that facilitated ease of construction.

Forty tee pads were constructed, mostly related to size or conditioning

The back tees and more heavily-used middle tees may hold more than one set of markers each, and are respectively about 800 sq. ft. and between 900-1,200 sq. ft. each. The forward two-to-three sets of tees are smaller, approximately 400 sq. ft. each.

With the tees in place, the next challenge for Longleaf was to effectively communicate to golfers how to select the appropriate tees to use. A crucial part of this is clear signage.







## WHICH TEE IS RIGHT FOR ME?

Follow the instructions below to determine which tee location is right for your game.

- 1 Hit driver tee shots from the designated tee zone location toward range poles numbered 1 through 7.
- 2 Note which pole number your driver typically carries beyond.
- 3 Play the tees that correspond with that number for more enjoyment and better pace of play.



Questions? Call the Golf Staff or visit the Golf Shop | 913.682.6100 | [longleafgfc.com](http://longleafgfc.com)

On the practice range, there is a guide for golfers that shows which tee they should use based on the distance they carry their driver



“The charts and illustrations elevate this over other tee initiatives. From the pro shop and range to the first tee and scorecard, it is all packaged in a way that encourages more players to play from the correct tees,” says Bergin. On the practice range, there is a guide for golfers that shows which tees they should use, which is determined by the distance they carry their driver.

The tees are color-coded and there is even the option of using a ‘blended’ tee, essentially alternating between two adjacent sets of tee markers. With the seven sets of colored tees and six ‘blended’ options, there are 13 possible options in total yardage.

While the USKGF’s approach was initially created to target kids, it can easily be used by all golfers, including seniors, beginners and women.

USKGF’s Van Horn summarises how the work at Longleaf makes the game more fun and accessible for all players: “There are no ‘ladies tees’ or other labels. It’s not about gender or age; it’s about skill level and playing from a distance that gives the player a chance to have a par on virtually every hole.”





ASGCA members have long been working with their clients to provide teeing solutions that can help golf facilities attract and retain golfers (see, for example, the work of Jan Bel Jan, ASGCA on ‘scoring tees,’ profiled in the *Spring 2016 issue of By Design*). ASGCA members are uniquely qualified to design and oversee construction of tee complexes at golf courses in North America and around the world.

Introducing new tees is a practical and affordable catalyst for growth, by helping courses to increase the number of rounds played, enhance player enjoyment for all golfers and improve pace of play. These factors combine to help golf courses improve their operating results.

“ASGCA members must help clients determine what is best,” says ASGCA Past President Bruce Charlton, ASGCA. “Many courses will not be able to afford to build so many tees and that’s fine. Others may combine formal teeing grounds with thoughtful cut-outs in the fairway. And still others may use these ideas for better operations.”

Many high profile courses are introducing new teeing areas, including Medinah No. 2 in Medinah, Illinois (with ASGCA Past President Rees Jones, ASGCA, and Steve Weisser, ASGCA) and Sugar Creek Country Club in Sugar Land, Texas (with Jeff Blume, ASGCA).

## Since Bill’s work here at Longleaf, our total rounds are up nearly 20 percent

“The beauty of the Longleaf tee system is that you don’t lose the integrity of the design,” says Jeff Cowell, General Manager of Longleaf Golf & Family Club. “It’s not just an arbitrary layout of the tees to make a hole shorter. So most importantly, the players still feel a sense of great accomplishment and fun as they play. Since Bill’s work here at Longleaf, our total rounds are up nearly 20 percent over a year ago and I’m hearing from a lot of happy members and guests.”

“This tee system has given me a completely different confidence about playing,” says Longleaf Golf & Family Club member Emily Simeon. “I can go out and play with many people who are much better golfers than I am – and I can compete.”

If you are interested in improving accessibility at your club, contact your local ASGCA architect. Find their details at <https://asgca.org/architects>



**WHAT'S DIFFERENT ABOUT PLAYING LONGLEAF?**

With seven tee locations on each hole and a blend of six more, every golfer, regardless of skill, can play at a good pace, shoot lower scores, and have more fun. Based on driver distance, find your recommended tee locations from the chart below:

Driver Distance	Recommended Tee
100yds - 125yds	Blue 1
125yds - 150yds	Gold 2
150yds - 175yds	Green 3
175yds - 200yds	Orange 4
200yds - 225yds	White 5
225yds - 245yds	Purple 6
250yds - 275yds	Red 7
275yds - 295yds	Black 8

**COURSE RATING/SLOPE**

HOLE	MEN	LADIES
BLUE 1	58.7/92	59.6/94
GOLD 2	59.6/94	61.0/90
GREEN 3	61.4/98	65.1/90
ORANGE 4	63.7/108	68.3/112
WHITE 5	66.9/110	71.5/118
PURPLE 6	67.8/117	73.0/124
RED 7	71.4/128	76.0/141

**LONGLEAF**  
Golf & Family Club  
SOUTHERN PINES, NC

**LONGLEAF** U.S. Kids Golf ACADEMY

Play our Standard tees to create a new experience each visit. Use the arrows to select the correct tee during the round.

HOLE	1	2	3	4	5	6	7	8	9	OUT	10	11	12	13	14	15	16	17	18	IN	TOTAL
BLUE 1	220	156	76	90	300	83	185	265	177	1540	174	83	212	223	280	187	251	76	195	1481	3241
GOLD 2	257	195	102	97	326	95	225	298	203	1796	216	96	242	240	312	223	262	87	215	1933	3719
GREEN 3	281	240	135	118	349	120	240	343	226	2068	247	107	275	278	311	347	325	183	229	2232	4320
ORANGE 4	317	270	153	143	390	132	269	388	244	2324	287	130	300	339	420	391	377	135	278	2549	4875
WHITE 5	342	322	171	153	400	138	301	448	290	2555	304	145	328	377	431	369	427	191	324	3024	5379
PURPLE 6	381	343	187	177	452	146	345	505	319	2907	352	184	340	387	483	393	444	200	342	3125	6032
RED 7	409	404	201	185	534	177	378	532	335	3147	392	208	360	423	525	391	507	233	388	3433	6402
PAR	4	4	3	3	5	3	4	5	4	35	4	3	4	5	4	5	3	4	34	71	3678
HANDICAP	11	1	7	15	13	9	3	5	17		8	10	14	2	6	16	16	12	4		

DATE: \_\_\_\_\_ SCORE: \_\_\_\_\_ AFTER: \_\_\_\_\_

The club’s scorecard clearly communicates how to select the appropriate tee location



# If you aren't following ASGCA on social media, here's some of what you're missing:

 **asgca1946** 

When cost is a factor in reducing your course's annual maintenance costs, look to @asgca1946, @gcsaa and @GCBAA. <http://tinyurl.com/gq7eesz> #asgca



 **ASGCA** 

Chicago Cub Kris Bryant owes it all to ASGCA (sort of). The "New York Times" reports Bryant was raised by his father on "The Science of Hitting," from Hall of Famer Ted Williams, with illustrations from ASGCA Past President Bob Cupp. <http://tinyurl.com/zg3yneg> ma



 **asgca1946** 

ASGCA Founding Member Donald Ross: "When I was a young man in Scotland, I read about America, and that the American businessman was absorbed with making money. I knew the day would come, he would relax & want some games to play, & I knew that game would be golf. I read about the start of golf in the US, so I learned all about the game; teaching, playing, club making, green keeping, golf course construction & came to the America to grow up with a game in which I had confidence. Golf has never failed me." @asgca1946 #ASGCA



 **Ian Andrew, ASGCA**  
@IanAndrewGolf 



Work on 5th partially done #TreesGone 8th ongoing. #Knollwood




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 **ASGCA** 

ASGCA remembers Bruce Borland, ASGCA, who died this week in 1999 in the plane crash that also took the life of Payne Stewart and four others. #RIP #bf



 **asgca1946** 

A #tbt memory of two-time ASGCA Past President James Harrison. A disciple of ASGCA Founding Member Donald Ross, Harrison designed largely in Pennsylvania, including Sewickley Heights Golf Club (now being renovated by Jim Cervone, ASGCA). @asgca1946



 **bergingolf** 

Par Three of the Week - 3  
Staying with short 3's for a while, the 131 yard 6th at the Oaks in Tulsa can bedevil the best of players when the wind blows, which is always. #bergingolfdesigns #oakscountryclub #tillinghast #asgca #golfdigestbestrenovation2015 #golfcourserenovation



 **Drew Rogers**  
@JDRgolfdesign 

Not a bad pedigree for @TheClubatOS Been ten years since we cut the ribbon. What's next?



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 [www.instagram.com/asgca1946](http://www.instagram.com/asgca1946)





“ Asking for a favorite golf hole is like asking for my favorite golf course—there are too many great ones to just choose one!

## Billy Fuller, ASGCA

**B**illy Fuller, ASGCA, a graduate of North Carolina State University, worked for many years as a golf course superintendent, at clubs including Kiawah Island Resort and Augusta National, where he oversaw operations for five Masters tournaments. He moved into the golf course architecture industry in 1988, joining Cupp Design, where he worked as a design associate and senior agronomist. Fuller’s time at the firm saw him carry out work on more than 100 new courses.

The Atlanta-based architect established Billy Fuller Golf Design in 2004. His design portfolio includes the courses at Ballantrae Golf Club in Pelham, Alabama, Reunion Country Club in Jackson, Mississippi, and Estuary at Grey Oaks in Naples, Florida.

### How is your game?

I play to an eight handicap. I love playing golf, and try to do so when time allows. With a 12-year-old son, I also play soccer, lacrosse, ultimate frisbee, baseball and ping pong, so getting some time to play out on the course can be tough between all that. But I love doing so when possible.

### Which three people would make up your dream fourball?

My ultimate fourball would include Bob Cupp, John Lawrence and Jerry Lemons. Maybe with Bill Murray as

a caddie! I miss my rounds with Bob Cupp, who sadly passed away earlier this year. We had so much fun! I believe he is master planning the ultimate 18 with St. Peter as we speak. There won’t be any practice facilities though—you don’t need to practice in heaven because your game is always perfect!

### What is your favorite hole in golf?

My favorite golf hole is any great short par four—it doesn’t have to be drivable, but those holes that are always tempting you to go for it are just great. I just finished converting a medium par three to a short par four at Cherokee Plantation in Georgia. I think it’s a really fun hole! Bob Cupp always tried to include one on all his courses, and I always looked forward to those holes whenever we played our courses. But asking for a favorite golf hole is like asking for my favorite golf course—there are too many great ones to just choose one!

### If you could change or add one rule, what would it be?

All out of bounds would become lateral hazards to help speed up play.

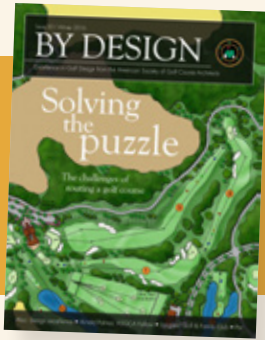
### What project are you currently working on?

I am currently in the master planning stage of a project at the Cypress Tree Golf Course at the Maxwell Air Force Base in Montgomery, Alabama. They have 36 holes spread over two 18 hole tracks—the University Course and the River Course. There are several holes adjacent to the base’s runway on the University course, which can no longer safely be used. Some holes on the River course are prone to major flooding when the Alabama River rises, so those will be eliminated. We will use nine holes from the University Course and nine holes from the River Course and leave the rest for green space. The end result will be two very contrasting nines. ●



Fuller has just converted a medium par three to a short par four at Cherokee Plantation in Georgia





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