THE Architecture ISSUE

RUB OF THE GREENS

WHAT MAKES A GREAT GREEN GREAT? AN EXPLORATION OF THE IDEAS AND OPTIONS BEHIND THE ARCHITECT'S DECISIONS.

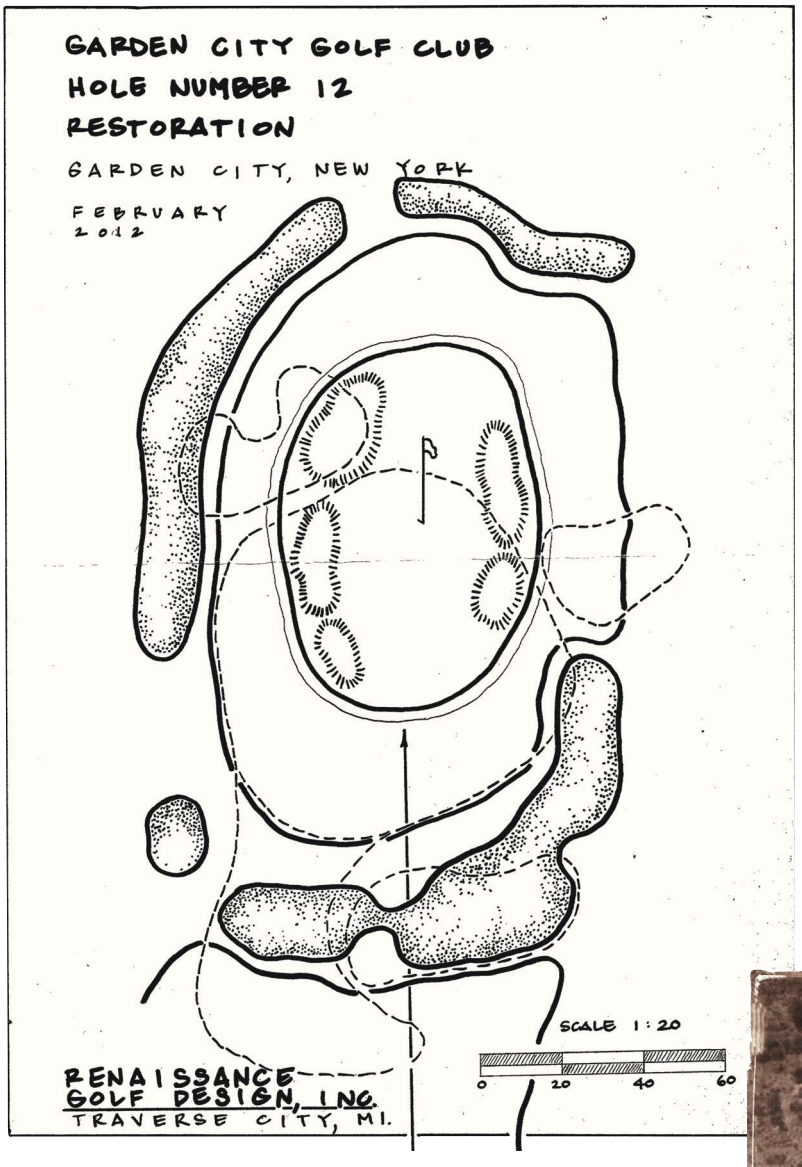
BY TOM DOAK



Internal contours on the second green at Sebonack guarantee that any putt longer than twenty feet will have to negotiate a tier or ripple. Inset: Doak with associate Brian Slawnik.

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RENAISSANCE GOLF DESIGN



In restoring Garden City Golf Club's 12th green, Doak brought the high internal ridges back to Walter Travis's intended purpose (historical aerial photo at right). The dotted lines on the diagram show what the green and bunkers had become prior to the restoration.

Ever since I started my career as a golf course architect, my style has been most associated with difficult and even severe greens. I hear the complaints often: some low-handicap golfers hate Sebonack, or Streamsong (Blue), because those greens give them fits. But our goal was as follows:

We think that to play two good shots to a par four hole and then to hole a ten-foot putt on a dead-level green is not enough. If the player is to beat par, we should like to ask him to hit a truly fine second shot right up against the flag or to hole a putt of more than a little difficulty.

That isn't me defending my greens; that's the late Bobby Jones, describing how he and Dr. MacKenzie intended Augusta National to play.

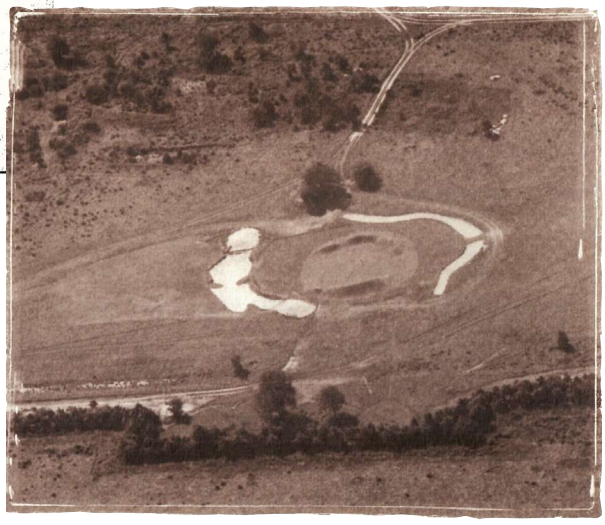
I grew up playing in the Met Area (at Sterling Farms, in Stamford), so my tolerance for difficult greens has been a little bit higher than most people's – because I know I'm in good company. From the time I started wandering around Winged Foot, and Somerset Hills, and the National Golf Links, I've been enamored with the sculptural qualities (and playing values) of the world's best greens, which are more often found on great courses. The more great courses I saw, and the more interesting greens they had, the more I came to believe this was not a coincidence.

The Big Picture

Golf is ultimately about getting the ball in the hole in the fewest shots, and because the hole is located on the green, the design of greens has the utmost influence on play.

A great green exerts its influence not just on putting, but on chipping and recovery play, too. Miss to the wrong side of the green and your odds of getting up and down will be far less than if you'd missed to the correct side of the hole. Have you ever noticed that you never see pros miss the 16th green at Augusta to the right? That's because the green has so much tilt that if you miss over there, you're likely to put your second shot into the water. If you're going in the water, better to get it over with in one.

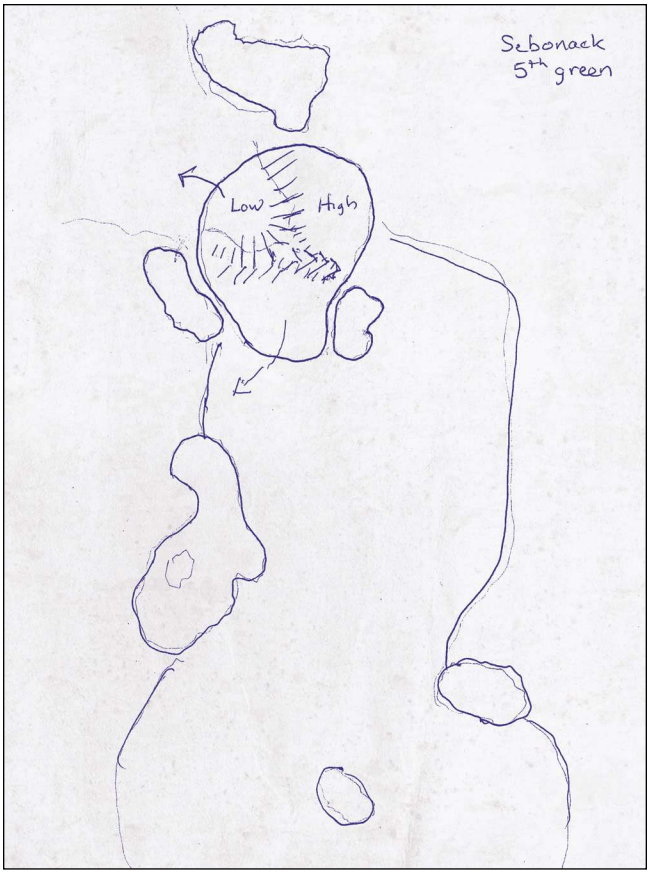
The best greens go even further. If they are designed to reward a player approaching from the correct angle in the fairway, they extend their influence all the way back to the tee shot. Think about the Road hole at St. Andrews. It's got a road to the right of the green, a deadly bunker to the left, and about 15 yards of putting surface in between – but

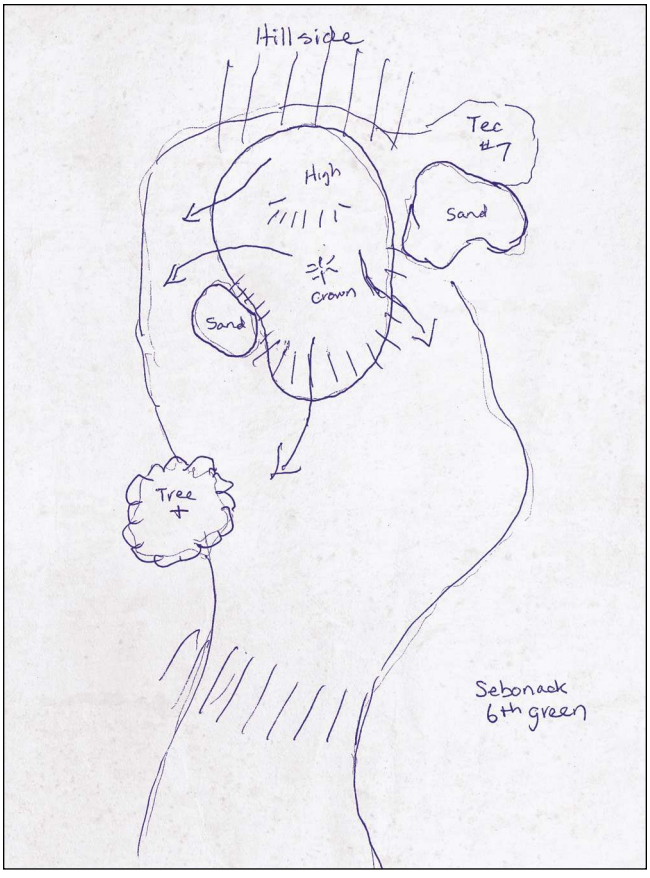


what makes it truly frightening is that it's set on a bit of a right-to-left diagonal, so that a pulled shot will sweep into the bunker, and anything too strong will scoot off the bank of the green onto the road. The only time the approach shot feels remotely safe is if you're coming in from way to the right of the fairway– but to get there you have to flirt with out of bounds off the tee, from which you're hitting blind over the sheds.

How does an architect achieve this strategic

COURTESY OF TOM DOAK







Top: Doak's sketches of the 5th and 6th greens at Sebonack. The 5th was built from plans drawn up by Jack Nicklaus; the 6th involved a more improvisational process by the shapers with minimal instruction from Doak. Both are excellent greens that work well despite the different routes to completion. Above: The team behind Sebonack on the cover of Met Golfer in December 2004/January 2005: Michael Pascucci, Nicklaus, and Doak.

ideal in green design? Through some combination of four factors: size, orientation, hazards, and contour.

Size

Most of the Golden Age courses in the Met Area have smallish greens, on average just 5000 square feet or less. To be sure, some have shrunk a bit over the years, and modern restorations focus on recovering lost hole locations at the margins; but the smaller the target, the tougher the approach, and the more good ball-striking is favored. It's no accident that the pros' three favorite courses on the PGA Tour—Pebble Beach, Harbour Town, and Riviera—also have the three smallest sets of greens.

Orientation

There are three basic orientations. The most common is the long, narrow green, which rewards a straight approach from the center of the fairway. The opposite of this is the wide, shallow green, which requires the golfer to play a high approach shot that stops quickly, or to play wide of whatever bunkers guard the opening. Last but not least is the green set at a diagonal to the fairway (a la the Road hole), which favors an approach from the side of the fairway that offers an easier angle to the flag. You can find a dozen versions of that green in the Met Area, from National to Piping Rock to North Shore to Huntington Country Club.

Hazards

The arrangement of hazards goes hand in hand with the design of the green itself; many architects refer to this combination as the "green complex." If bunkers are tight up against the collar, the orientation of the green is emphasized, and a small green plays even smaller. Likewise, years of sand splash buildup from the bunkers may make recoveries more difficult, with approach shots that just clear the bunker deflecting far into the green.

When hazards are right in front of the green, the golfer must take an aerial approach, and the green should generally have more depth than normal to allow golfers with slower swing speeds (thus less spin) to carry the hazard and stop on the green. In windy environments, it's less common to place bunkers right in front of the green, because even the expert player may have trouble stopping an approach shot when playing downwind; you don't find many bunkers right across the front of greens at Shinnecock Hills, Maidstone or Sebonack.

Many classic courses have greens guarded by bunkers on both sides – Winged Foot West, famously, has a bunker to each side of every green except the 18th, where the unbunkered front right turns out to be the most difficult up-and-down on the entire course. Personally, I prefer to load up my bunkers more on one side than the other, and leave a place for the average golfer to bail out if he's too far away to hold the green with his approach.

Unless the green is unusually small or narrow, **contour is essential** to reward the player who approaches from the correct angle.



DAVE RICHARDS: RESORT AND GOLF

Even better golfers subconsciously play to the safe side of a green when they see one, and that impulse keeps them from scoring as low as they might if they just fired away at the flag all day.

Contour

Unless the green is unusually small or narrow, contour is essential to reward the player who approaches from the correct angle. Ideally, there is enough tilt or contour that the player below the hole can be aggressive in trying to make his putt, while the player above the hole has to be concerned about three-putting if he's too firm with the first putt. Whether it's the back-to-front A.W. Tillinghast greens of Winged Foot, or Devereux Emmet's ground-level greens at Garden City Golf Club tilting out to the back and sides, where downhill putts are considerably more difficult the good player will aim not at the hole but below it. Yet it is becoming rare to find such tilted greens on modern courses, because today's designers must be wary of green speeds that their predecessors never imagined. A 2% tilt used to be the minimum slope a designer wanted, to make sure water drained off the green surface; nowadays, the maximum slope for a hole location on a green is 2.5% or 3%, depending on whom you talk to. (The PGA Tour aims for 2.5%, but on some older courses like Westchester Country Club there aren't four different spots on every green that qualify.) With tilt, if the green becomes too fast, then the whole green becomes too fast.

Garden City also offers a famous example of a green where internal contour rules the day: the restored par-3 12th, designed by Walter Travis. Here the green is guarded by a deep cross bunker at the front, and nearly waist-high ridges inside the green along the left and right sides. The hole is always cut in the center of the box between the ridges, and the player who can hit his tee shot inside the box will have a putt for two; but if the hole is cut anywhere close to one of the ridges, to miss wide on that side leaves one of the most difficult (and literal) up-and-downs in the game.

Likewise, modern designers have started to rely more on internal contours to divide out greens into smaller, flatter target areas. Friar's Head and Sebonack are full of greens where you'll have to putt across a big contour if your approach is more than twenty feet from the hole. Golfers often quote to me the idea that a green is unfair if a good putt cannot be stopped within three feet of the hole. But a ball running far past the hole often means the golfer made a fundamental error on his approach shot. On the best courses, sometimes it's better to miss the green short, or to the side, rather than leaving yourself on the green but in the wrong quadrant.

Process

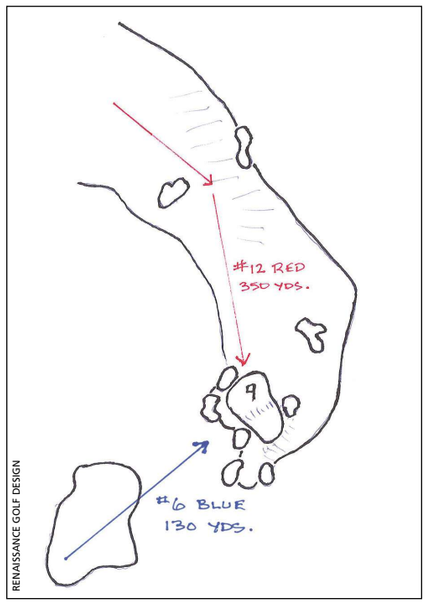
So, how does an architect decide how to design his greens and where to place the contours? We all do it differently. C.B. Macdonald had his favorite greens from Scotland and England memorized, and looked for good spots to put them; when he lacked an idea, he suggested sprinkling a few pebbles randomly over a plan of the green, and putting undulations where they fell! I've yet to hear an architect admit to using that process.

Generally, architects fall into two camps: those who try to plan out the green's details in advance on paper, and those who design in the field, sculpturally.

The collaboration at Sebonack was a great illustration of the two schools, because Jack Nicklaus and I had opposite approaches to building greens. On our first walk-through, there were three or four holes where Jack stood in the fairway and sketched out his idea for the green up ahead – specifying the size (tailored to the length of the approach shot), the shape, and how the different hole locations would fit together. The only problem was that he did it all from 150 yards away, and sometimes we'd have trouble figuring out how to tie his green into the surrounding terrain, particularly if there was a slope coming in from one side. Jack's approach worked much better on greens like the short par-4 5th, which was in a low area and had to be built up with fill.

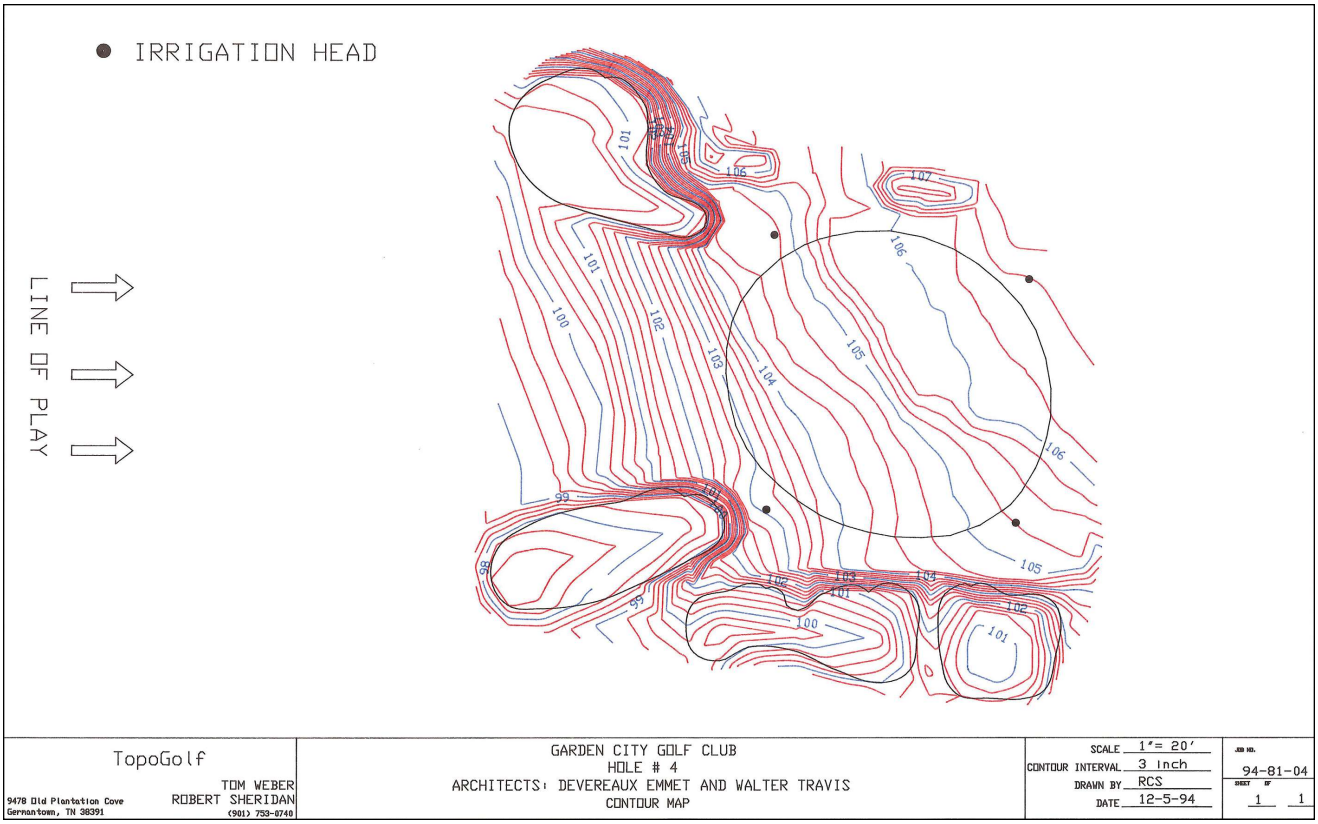
On other greens we started my way, with more of a trial-and-error approach. On my first solo design in 1987, I sat on the bulldozer and shaped every green myself. Though I wasn't really good enough on the machine to build something precisely to plan, I was smart enough to know when I was getting to something good, and let my idea evolve as I was shaping. Nowadays I've got three associates who are much more practiced than I am; one of them, Brian Schneider, even spent a couple of years mowing greens at places like Augusta and Merion and Pine Valley and Shinnecock Hills, so he's not afraid of building contour into greens. We don't want to cut out that middle step of letting the design evolve as it's being shaped, because I know that's how some of my best greens came to be.

The first green we built at Sebonack was the par-4 6th. After we'd walked through all the initial clearing work, I asked my lead associate for the job, Jim Urbina, to rough in three greens before



RENAISSANCE GOLF DESIGN

Top: Brian Schneider gesticulates some thoughts about a green during the design of "The Loop" at Forest Dunes Golf Club. Left: This sketch from the reversible "Loop" shows one green being approached from two different angles, creating two very different orientations.



Mr. Nicklaus got back to look at them. There was a lot of back-to-front tilt on that green site to start with, so I told Jim to hold up the front left of the green with a bunker, about three feet higher than existing grade, and to put a couple of contours through the green to break up the tilt and direct some of the drainage to the sides instead of the front. It was a five-minute discussion, with no plan; the result was the only green we built that Jack didn't want to tinker with at all. In fact, I've noticed that Jack has been using the internal contours in that green a lot on his own projects recently.

The difference between our two approaches is not just an artistic one; our methods also emphasize different parts of the game. Jack's greens, working from the inside out, are all planned around the approach shot – which Jack can hit consistently, so the greens reflect his generally positive viewpoint. My greens, working from the outside in, focus more attention on the recovery shots around the green, and making some more difficult than others. (If you come and watch me at work, sometimes I look like Seve Ballesteros, scoping out a little pitch shot without a club in my hands.) The surprising thing, for most people, is that neither Jack nor I are thinking so much about putting as long as the grades are reasonable. If there's a severe slope in the green, I make sure there's a counterslope somewhere you can use to slow down a downhill putt.

I tend to think about the approach shot from the left or right sides of the fairway, and how to reward one over the other. I once told my associate Eric Iverson that if he made the green look as different as possible from opposite sides of the fairway, that would be a great start to an interesting hole.

My latest project, which opens this summer at Forest Dunes in northern Michigan, is probably the most complex we've ever done. It's a fully reversible 18-hole course, designed to be played clockwise one day and counter-clockwise the next – playing back down the same fairways into the backs or sides of the greens as you saw them the day before.

For this project, it was necessary to keep the green designs more simple, as there are many wild greens that would never hold a shot if played from a different angle. We had to reach deep in our catalog of ideas to come up with a playbook of green designs that would work two ways: primarily punchbowls, crowned greens, tilted greens, and flattish greens with internal contours.

As it turned out, the most interesting greens are the ones where the routing changes direction, so you approach not from the back of the green, but the side. The sixth hole is a short par-3, played to a wide and shallow green with bunkers front and back; but when you play to the same green the day after, it's a short par-4 coming from 90 degrees to the left, so the target presents itself as long and skinny.

Either way you play it, though, the recovery shots around the green are the same, and the best holes tend to be the ones that play into the most interesting greens. ■

Top: A topographical map of the fourth green at Garden City GC. Blue lines indicate one foot of elevation change between them, and red lines show three inches; the closer the lines, the steeper the slope. The green has two tiers and a very distinct left-to-right tilt. Below: Eric Iverson at work.

