Laser focus

Nick Scigliano and Frontier Golf take GPS technology to the next level in accurately reconstructing the existing greens at The Olympic Club's Lake Course.

By Jason Stahl

When Nick Scigliano was GPS mapping The Olympic Club's greens using a data collector, an hour didn't go by when a member didn't come up to him and ask, "What is that contraption?"

Scigliano, a self-professed "techie," would then turn into an excited little kid explaining to them how it worked. "I got pleasure in demonstrating it to the members," says Scigliano, president and CEO of Frontier Golf. "I would hand them the data collector, which is wireless, and while they were standing on the putting surface and I was mapping, they were able to look at it and see the image of the green and the points I was taking. And then right there in the field I would convert it into a contour map and let them see what I just did. It's fascinating to someone who has never seen it before."

It was that enthusiasm for GPS technology, not to mention meticulous planning and uncompromising attention to detail, that drove the success of Frontier Golf's Lake Course greens replacement project at the historic club and host of the 2012 U.S. Open located in San Francisco.

The project was necessitated by a nematode issue and the fact that a pesticide the facility had used to deal with the issue had been taken off the market. According to director of golf maintenance operations Patrick Finlen, there was no adequate replacement product, so the decision was made for a total renovation. Seven builders bid on the project, which began on Nov. 24, 2008, and was completed on March 24, 2009, but Frontier Golf stood out.

"Frontier was only one that told me it would have one person on site the entire time who did nothing but run the GPS unit," Finlen says. "The other contractors were going to come in and shoot the greens ahead of time, core them out, do the work and then have someone come back and do the finish work with GPS to make sure the greens went back exactly as they were."
To Finlen, this wasn’t going to cut it, especially when there was no tolerance for error in maintaining the existing contours on 14 of the 18 newly constructed greens. Scigliano’s goal was to record the existing surfaces at a 1/8-inch tolerance, and while he was able to do that due to his extensive GPS mapping experience, features of the course itself provided some challenges. “The vertical accuracy of even the latest GPS technology is still dependent on the number of satellites you can see in the sky at any given time,” he says. “At The Olympic Club, the cypress trees are so tall and their canopies so dense that they were blotting out portions of the satellite spectrum. So in certain areas, my vertical tolerances were becoming unacceptable at outside a quarter of an inch.”

To troubleshoot this problem, Scigliano employed a millimeter GPS unit, which sits on a known point next to a green and broadcasts a spectrum of laser beams to the handheld GPS unit or “rover” to let it know what elevation it’s at. “The rover references the millimeter GPS unit three to four times per second and adds it to the equation it’s calculating all the time and takes the vertical tolerance down to one millimeter, or inside of one-eighth of an inch,” he says.

Scigliano also took his points on 1-foot centers, as opposed to a more traditional 5- to 10-foot grid. That means a survey point was taken every foot in every direction. If a green had a tier in it, he would take points every 6 inches.

The greens were then cored out and the gravel blankets and greens mixes installed. But the GPS mapping didn’t stop. Scigliano mapped the greens as they were being adjusted and built. “I’ll bet we mapped the subgrade on the No. 8 green seven or eight times,” he says. “I had to use the same level of detail when I got to the greens core to make sure it was perfect. When we put the gravel blanket down, I went over it multiple times to make sure it was perfect, and I did the same when we put down the greens mix.”

To further ensure perfection, Frontier installed the mix at a consistent 1 inch high throughout the greens complex.
and then thoroughly saturated it with water to pack it down and maximize compaction. Then, before the sod was laid, they pulled a half inch to one inch of overburden off so that everything they were laying sod on was in a cut. No fill was done.

"Any time you fill, you always have the possibility of settlement because of a lack of compaction," Scigliano says. "So when we go through a green, we make sure that everything we do in the last pass is a cut so there isn't one area of the greens surface where any fill materials have been placed. If you put it in at grade and then have a little bit of settlement, when you're doing your final check, you may find a little water hole and throw some sand in there. But that sand isn't compacted even after you try to step or tamp it in. It's still not water packed 100 percent. So if you're in an area of a green with tight grades, say one-quarter to one-half percent, that little tiny depression could create a problem."

In addition to GPS, e-mail allowed for constant and instantaneous communication with architect Bill Love of W.R. Love, Inc. Golf Course Architecture, and Finlen. With the No. 8 green, which was brand-new, and three other greens which were modified to Love's specifications, some changes were made right in the field. In those cases, Frontier would map the subgrade, create a 3D model in AutoCAD, spin out a heat map for floats and, within a few hours, Love could view the changes he made. "Bill could respond even if he was in his office in Maryland," Scigliano says. "We would e-mail the drawing over, and he could look at and get right back to us with an updated drawing or a drawing right on top of ours."

Frontier avoided weather delays by finishing the major work by Christmas, before the rainy season. When they came back, all they had to do was touch up the putting surfaces prior to installing the new sod. "We really had to hump," Scigliano says. "We worked in the rain some, but mostly we had to deal with mist and not what I would call a rainstorm. The GPS works just fine in fog, unlike lasers which don't."

Frontier also worked around the members, who were able to still play the course due to the construction of bentgrass temporary greens in September 2008 that ranged in size from 1,000 to 12,000 square feet. "We have a large membership here, so our feeling was that we would have taken a little of the edge off the other 18-hole course by keeping this one open," Finlen says. "Plus, we knew members would be fascinated by the process, so instead of having them idly checking it out we would let them go play and see the construction. The nice thing was that it wasn’t crowded."

Aside from the greens, Frontier constructed new holes on the par-4 7th, par-3 8th and par-3 15th and completely reconstructed existing tees on 10 holes. The tee work as well as laser-leveling new driving range tees was added by the club due to the craftsmanship Frontier displayed during the course of the original project.
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Steve Smyers is a working architect and the chairman of the USGA Green Section Committee, among other things.

How does he keep it all in balance?

By Pat Jones

Steve Smyers' choice of wardrobe on any given day is roughly divided into four options: jeans and well-worn work boots for visits to course construction sites; shorts and a golf shirt on those happy days when he's relaxing at his Florida home or expertly dissecting a golf course with his irons; blue blazer with that familiar eagle logo badge for official USGA events; or the ever-popular (and ever-eyepopping) Donald Ross tartan jacket issued to ASGCA members.

Smyers' wardrobe depends entirely on which hat he's wearing that day. He's a working designer who gets down and dirty in the field, a talented player, a USGA leader and thoughtful longtime member of ASGCA who tries to balance what he's learned about equipment and maintenance with the principles of modern golf architecture. Thus the continual sartorial switcheroo.

Smyers was born in Northern Virginia with a golf-loving father who was a good weekend player. Dad took him to the '64 U.S. Open at Congressional Country Club (Blue Course) in Bethesda, Md., and he was hooked on competitive golf. When the family relocated to Houston, Steve found new friends who happened to be club rats and he started riding his bike daily to local courses to play with them. He kept playing well and ended up with a scholarship at the University of Florida. There he studied architecture with a particular eye on landscape and golf design and connected with Ron Carl, the prolific Florida architect, who gave him a shot at learning the craft.

And learn he did. After graduation, he worked with Carl for six years and was involved in some nice projects around the state like Fiddlesticks Golf Course in Naples and Golden Ocala. "It was mostly golf communities where the course was the anchor for the development -- a totally different type of golf and design from what I do now -- but it was tremendous learning experience."

Then luck -- as it often does -- stepped in. Smyers was planning to follow his wife Sherrin -- then an LPGA Tour player -- up to Indianapolis for a tournament when the phone rang. It was a fellow named Stan Burton he'd met through his illustrious amateur golf career (Smyers Gators team won the NCAA Championship and he competed in 17 USGA events and three British Amateurs) who admired his design work and thought he had the potential to take on an interesting project. "The guy said, 'if you're ever in Indy, drop by and see me.' I said, 'I'll be there tomorrow!" The next few days, Smyers missed most of his wife's tournament as he walked the land that would become Wolf Run, a course widely hailed as a modern classic and a favorite among very good players who like a truly challenging golf experience. His solo career was launched.

"My ignorance was my best ally (when I went out on my own). I thought I could do everything. If I had actually been as smart as I thought I was, I would have never started my own business back then."

But he did and other projects came his way, notably Old Memorial in Tampa, Southern Dunes in Haines City, Fla., Four Streams in Bearsville, Md., and Chart Hills Golf Club in England. He also oversaw the massive redesign work at Isleworth under the watchful eye of a membership that includes a pile of Tour players including, of course, a gentleman named Woods who happens to live nearby. He's collaborated with Nick Faldo, and newly minted Old Tom Morris winner Nick Price.

But, as his design work progressed, so did his industry involvement. He became a member of ASGCA in the late '80s and later served on the board. He also got involved in the USGA, first as a player, then as a volunteer and consultant to the Equipment Standards Committee just as the group intensely grappled with the concept of "rolling back" or limiting clubs and balls. For the past five years, he's been on the USGA's powerful executive committee and serves as the chairman of the Green Section Committee and the Turf & Environmental Research Committee. In short, Smyers has seen the golf world from damn near every perspective... and we thought it was high time to pick his brain about design, immersing himself in the world of turf management and, of course, that little discussion about technology vs. tradition that comes up occasionally in our happy little business.

Sum up your design philosophy and how it may differ from other architects.

Everyone has their own rhythm, their own beat. You have your own style. I try to tune into what the site gives me -- I guess everybody says that -- but I try to get a feel for the site with the idea of discovering the most pleasant journey around the property. If you dropped someone in a helicopter, how would they move around the property? What's the most elegant way to do it? You also have to think kinetically -- think with your body. Your body will respond to certain landforms and settings. People will
think and act and behave and feel shots in a pleasant manner. Success for me is when the course fits their feelings and emotions as well as their eye. You read the ground, you study your lie, you feel the wind and you imagine.

Pretty highfalutin stuff! What about the fun part of the game?
A pleasurable golf experience to me isn’t necessarily easy or just fun or just enjoyable. The big pleasurable experience to me is having a formidable shot opportunity that, if executed properly, gives you tremendous pleasure. A well-executed shot gives you excitement and exhilaration. I have a picture of the 18th hole at Pine Valley over my desk right now. It’s a very challenging, very stimulating second shot onto a tough green. It’s a very chancy shot onto a punchbowl green. If executed properly, it’s thrilling. You look forward to it beforehand and savor it after.

The bottom line is the landscape should be pleasurable, but provide challenging, stimulating and fair shots.

So are you trying to be tough on players and – dare I say – protect par?
(Laughs) The worst thing in the world is confusing scoring with a great test of golf. Some courses are so awkward and so difficult to get around – they have no shot values and no great golf attributes – but they’re very difficult to score on. They are not a thorough examination of one’s golfing talents and abilities. They should be able to score well if they play well. Resistance to scoring is okay, but if you play well, you’re rewarded.

What do you sometimes see at tournament courses that drives you nuts?
A tournament golf venue where all the scores are clustered together is an indicator that it’s not a real strong test of golf. It becomes a putting contest. That is not good.

You might not remember, but I played with you years ago at an ASGCA event and I was just flabbergasted at how skilled you were. How has being a great player helped your design work?
What helps most is that I was really a student of the game. David Leadbetter is an old friend and I learned a lot from him. I also got to know Faldo, Price and Trevino. I find it fascinating to watch an accomplished player maneuver the golf ball around a good course. I think about that every time I work on a routing. Through my designs I’m also asking a golfer to identify what shot works best. You give them options and ask them to identify and figure out the best shot for the occasion. I realize there’s only a small percentage of golfers who can identify that perfect shot and an even smaller number who can execute it.

What about mid- and high-handicappers? Are your courses too challenging?
Absolutely not. You also give an average player options, too, so they can still comfortably manage themselves around the course. I like creating options for every skill level. Because of that, I try to have few forced situations.

I have had people say “you’re too good a player to understand how an average player plays.” It sounds funny, but maybe because I’ve studied the game so much I have a better understanding of the average player’s weaknesses better than they do. That said, I have had potential clients worry that I wouldn’t consider the needs of average players, but nothing could be farther from the truth.

Okay, that covers philosophy. What’s the reality of the design business these days?
The game of golf is very healthy, the golf industry is not. We’re still getting some U.S. work – which is great. But fortunately, we have a lot of exciting projects we’re working on outside the U.S. The fact is that the global economy has slowed everything down. We did get recently get final approval for a project in Brazil outskirts of Rio and I’ll be down there working with Nick Faldo on that one.

Besides fixing the global economy, what can be done to jump-start golf again?
Golf has always survived and been popular and successful when you keep its roots in tact. Look at the (recent) Open at St. Andrews. It’s like Mecca. People still love it because it exemplifies the roots, the traditions and the core values of the game. In the boom times, some facilities got away from that. Marketing and promotion took precedence over the roots that made us strong. Clubs that stuck to the core values are surviving and doing okay.

How about renovation work?
We just did a big job in Chicago (27 holes at Butterfield Country Club). That was a complete reconstruction. We also redid the South Course at Olympia Fields. That job wasn’t as extensive, but we put close to a 1,000 yards of length on the course while keeping the standard member length about the same so they can still play their “old” course. That was a great project where I got to know the members and staff there well and I still actually go back there just to play golf with them.

Before we move on, tell us your best Faldo story.
In case anyone didn’t know it, Nick is one of the better ballstrikers and links players on the planet. We did Chart Hills in London together and, on opening day, he was there to hit the ceremonial first shot for all the photographers and guests. It was a beautiful summer day but the wind kicked up right when he went to tee. He hit the first one perfect. Everybody yelled, “Hit another!” The next one ended up 18 inches from the first one 290 yards from the tee. That was with a persimmon wood in 1993. Pretty strong indication of why he was number one in the world back then, huh? But, he’s also a really smart guy so when the crowd asked him to hit a third shot he just smiled and said, “No way.”

How’d you get involved in ASGCA?
I’d always had the goal of getting involved even early on working with Ron Garl. But Pete Dye was at Crooked Stick (in Indianapolis) while I was doing Wolf Run and he and Alice supported me for membership. You have to have a certain number of courses under your belt to be qualified and I had just enough independent work so Pete sponsored me. I’m proud to say I was in the same membership class as Jay Morrish and Jack Nicklaus.

The society is a bit of a mystery to some of us. What’s your take on it?
I’ve developed a lot of really good friendships with other architects and been able to see a lot of their work. It really is a good
group. The annual meeting used to be kind of a social/golf thing, but it's evolved into a way to build closer camaraderie, share ideas, put on education seminars. It's a very candid exchange about our experiences, the obstacles we face, working situations and conditions, business issues, clients, contractors, working internationally, regulation, environment, local municipalities...you name it.

But the red tartan jackets?
They're beautiful. That's my story and I'm sticking to it.

Okay, now change into your blue blazer and tell us about the USGA.
I was a member of the Mid-Am Committee way back in '86 for a while and in '89 I started as an advisor to the Equipment Standards Committee. I stayed involved and was elected to the Executive Committee in 2005. Being involved with the committees and the (USGA) staff has been an experience I could never replace. It has taken a lot of time, but it's been incredibly rewarding.

What's been most rewarding?
As a golf architect, the only thing I've ever done is push earth. So to sit in on these meeting with people who also had a tremendous passion for golf but who'd been very successful in other professions and have different perspectives – that's been very stimulating and a great education.

Okay, let's open this can of worms.
You're in the interesting but perhaps unenviable position of being a USGA leader on dealing with equipment technology issues and being responsive to your fellow architects and others who are demanding some kind of restrictions on distance to protect the integrity of old courses. How do you handle that?
When I first got involved, I was so traditional and very enamored of all the great long iron shots I'd seen in major championships over the years. The 1-iron Nicklaus hit at the Masters. Faldo's shot at Muirfield in '92. Watson in '82 at Troon hitting a 2-iron on the 72nd hole. When I played, the most exhilarating shots were with long irons into par 4s. Donald Ross said a great course will challenge a great player to hit long irons into two-shot holes. I was concerned we were losing that spirit because of the newer equipment.

But as I got into it, I realized that as an architect, it wasn't my job to say if that (technology) was good or bad. It was my job to deal with it. It's like maintenance. When I first got into golf, fairways were mowed at an inch and greens probably rolled about 4 on the Stimpmeter. Compare that to what superintendents do today. It's not bad or good, it's just the reality of modern maintenance.

The fact is that as the game has evolved, we gained more understanding of the biomechanics of the body and the physics of things and manufacturers have used that and taken advantage of modern maintenance practices to give players more distance. As a designer, I can't complain about this, I have to deal with...
it. Part of my job (on the USGA board) is to help my fellow architects understand how to deal with it too.

What about the great courses that become obsolete as championship venues?
Well first, there are a lot of (classic) courses that people are convinced can’t be lengthened.

How has working on the Green Section and Turf & Environmental Research Committees changed your views?
“I believe technology from a distance perspective is now absolutely stable. The bigger unknown is a modern-day athlete.”

They can. Merion is a perfect example.
Second, it amazes me that people blame everything that’s wrong with the game today on the golf ball and club technology. I don’t reject that’s been part of the problem, but there are other things that have changed us more. Number one, simply put, is the lawnmower. Maintenance technology and science has had a vastly bigger impact on the game and on courses than equipment. (PGA Tour player) Brandon Chambliss said not too long ago that old architecture and modern maintenance go together like oil and water. I agree.

Finally, consider that driving distance on all tours worldwide has been stable since 2002. I believe technology from a distance perspective is now absolutely stable. The bigger unknown is a modern-day athlete. I have a 17-year old who’s really good. I see his talent level and think about elite players in the future and I marvel at where they might be 30 years ago. Tiger was the first who really trained...now they all do it.

When a lot of these great old courses were built in the 20s, the players had different equipment then kind of dictated the architecture and modern maintenance go together like oil and water. I agree.

The biggest thing I see is a very strong movement toward environmental sustainability. You’re going to see more natural products and such, but water is really the issue. I think what we are going to see is a return to fundamentals in maintenance and some changes in design as a result. We’ll still obviously have fairways and roughs, but not nearly the irrigated acreage that we water now. Look at history. When we introduced automatic irrigation the fairways were 90 feet wide because of singular systems. As things moved forward and systems grew, we watered more and more. The good news now is that the irrigation companies have gotten so good at efficiency that we can sustain high-efficiency use on less acreage in the future.

Personally, I don’t foresee a lot of other big changes in maintenance as far as how the ball reacts with the golf course much beyond what we have today. If anything, I think the trend towards being a little firmer will continue. The president of USGA has been pushing firmness and I couldn’t be happier about it.

So, the rallying cries are “fast and firm” and “brown is beautiful”?
My message to superintendents is that it all ties together. To understand this in its totality, you can offer a golf course that’s stimulating, acceptable to everyone and a little more maintenance friendly. We (USGA) are just really beginning to promote this and I think the (golfing) public will begin to understand it.

Plenty of us have been talking about firm and fast for years. There’s a more receptive audience now, partly because of the environment and partly because of economics. And using the "grand stage" of our championships helps this. Pebble was a great example. Chambers Bay with its fescues will also be different. Then you have Oakmont and Erin Hill. We’re trying to highlight that trend. We’re presenting the game of golf being played by elite players on famous playing grounds on those conditions. I think the next generation will embrace that.

Too many golf courses were built to be landscape gardens for communities. The context was condominiums and homes. When the context is nature and a textural variety that blends with nature — it shouldn’t be pure green. That works in our favor long term.

So, you’re at the Masters... which blazer do you wear?
Being involved with both organizations was a lifelong goal, so this is a good problem to have. Believe it or not, both organizations have fairly detailed guidelines and I try to only wear one hat — and one blazer — at any event. At the Masters, it’s the blue blazer.

What’s your advice to young people considering a career in design?
The first thing is to learn to think architecturally, then put it in the context of landscape and then put it in the context of golf. You have to understand how you work land from the outside in. You need to get an education in landscape design to totally understand how to think architecturally. How does land bring out feelings and emotions? If that doesn’t do that and still want to be involved, I’d tell them about the benefits and the challenges. One example is that I have two sons that would love to have spent more time with. My travel hurt that, but it’s a necessity if you want to be in this business. I tried to limit my travel to be around them but I missed a lot and I regret it.

Who’s your favorite architect these days?
Oh, don’t put me on the spot like that! Let’s just say a lot of folks have influenced me in many ways. I’ve learned something from darn near every ASGCA member I know — good, bad or indifferent. I will say that even spending a small amount of time around Jack Nicklaus has had a big influence on me. Just listening to him talk as we played helped shape my perspective. I also love listening to Pete Dye!

And then there’s a guy I grew up with that I have a huge amount of respect for named Ben Crenshaw. Great architect and great player. I played in school against him in Texas. No one ever beat him. Ever.
DISCOVERING YOUR STAFF’S STRENGTHS

I have written many articles on building relationships for the simple reason that success in any business – golf-related or not – stems not only from how you treat people but also your ability to build relationships.

At the most basic level, a manager is defined by how well his/her staff is at doing their job. While I am a fan of being in control of my destiny, you have to depend on others to get things done. In the past I have had quite a few experiences with bosses that have different personalities. On the one hand, I have experienced bosses that I have been friends with in and out of the work place. On the other, there have been those who walk away while you’re talking to them and are more concerned with their own agendas. I know my willingness to do good work vs. great work. When you care about your employees they will go to the ends of the earth to ensure they do the best job. And when you don’t, they are going to give you only what you asked for and no more.

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So how do you get to know your staff? You don’t have to be friends with every staff member but you do need to have some interest about them as a person. The best way to do this, which seems to work for me, is to get them a book called "Strength Finder 2.0" by Tom Rath. I am not much of a reader unless the subject is something I really care about. I am more of the guy who flips through the pictures until I find an interesting topic. However this is not a typical book. It introduces you to what peoples’ strengths are and how to interact with people who have specific strengths.

I know you’re asking, how do I know what their strengths are? In the book they give you a Website to take an online quiz, so to speak, that will lead you to identifying your top five strengths. Each one of these strengths is outlined in the book and will give you a great tool to better identify with your staff. We purchased these for all the board members of the IGCEMA when we started building the association so we could better understand each other and how we thought. This is a tremendous help.

Going to college you probably thought, I need to learn as much as I can about managing turf or equipment or whatever your professional focus was going to be geared toward. However, they don’t teach how to manage people and this proves to be the deal breaker in a lot of situations. Whether you can’t get your staff to be on time to work, produce quality or be more efficient, the majority of the time it’s going to be a personality issue. I am not saying in every case this will improve the product you are offering but I am saying if you don’t show that you care for your employees you will have a lot more work moving up the ladder than those that do. People want to know they matter whether they are raking bunkers or edging cart paths. They want to know that someone cares about the job they are doing and how well they do it. People want to know you care about their careers, professional advancement, education and family.

Typically, in life you will spend more time at work then you will with your family. In the golf industry this is no exception. A typical full-time employee working 40 hours per week will spend eight hours at work, one hour traveling back and forth to work, eight hours sleeping, and seven hours a day with their family. The more hours worked the less time spent with their families. So it is safe to say that most of the time an employee will be spending their time with you. Shouldn’t we, as managers, do what we can to give our staff a workplace environment they want to come to and not one they dread? If you dreaded coming to work, then how productive would you be?

Remember, all things are relative to every situation. People will always work hard for those individuals whom they feel a connection to, while others will buy time until the next job comes along. Try “Strength Finder” and see if learning more about what your staff do well will help you have better success at managing people.
What makes up a superstar? Our experts say not one isolated characteristic, but rather it's a little bit of this, a dose of that and a lot of other stuff all mixed together.

By Brittany Schmigel

The Superintendent’s Scorecard

While everyone agrees perseverance, hard work and talent are required to be a successful superintendent, what does it take to make your mark as a real superstar in this industry? We asked our panel of experts – everyone from academics to former supers – to score (on a scale of 0 to 5) a number of key characteristics and why they felt that way. You'll find their scores on the card below and some of their reasons on the following pages, but make sure you check out this month's online extras for all of their insights.