

THE FRONTIER

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Caribbean Creation

Frontier mints another island jewel

BASSETERRE, St. Kitts, West Indies — With the opening of Royal St. Kitts GC earlier this year, Frontier Construction Co. wrapped up its fifth Caribbean project in five years — a feat of logistics few course builders can match.

“For a contractor, St. Kitts is a tough place to work,” says architect Tom McBroom, who designed the 6,900-yard, par-71 layout. “You have to import everything which leaves you vulnerable on a lot of fronts. We hadn’t worked with Frontier before but we were very happy with the job they did. Together I think we produced one helluva product.”

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The stunning par-3 15th at Frontier-built, Tom McBroom-designed Royal St. Kitts Golf Club.

NEW BUILD

ROYAL ST. KITTS

Photo courtesy of Marriott Golf

Retooled Pennsylvania classic plays host to Senior major

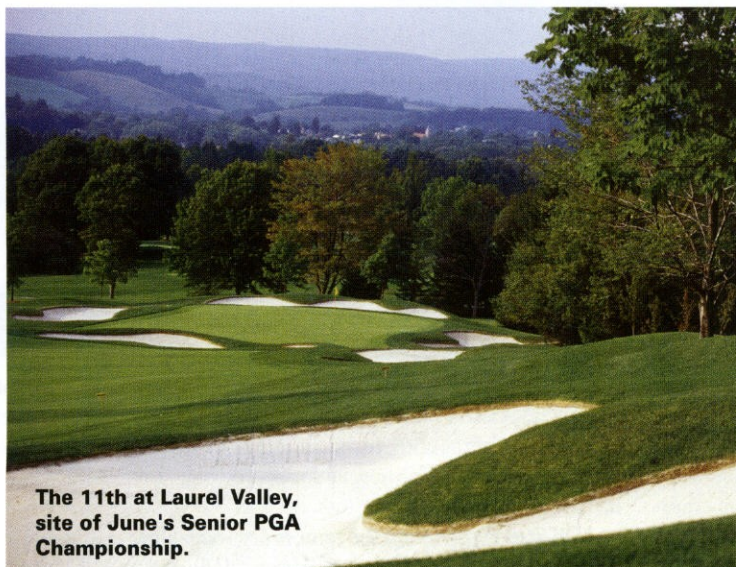
LIGONIER, Pa. — Course renovation work requires a level of faith that new construction does not. When a nationally renowned course venue like Laurel Valley Golf Club seeks to upgrade its layout, it turns to a course contractor it knows it can trust. Since 2000, that contractor has been Frontier Construction.

“We’ve done some sort of course renovation project at Laurel Valley every year for the past five years,” says Nick Scigliano, president of Frontier. “Each year we’ve been asked to come in and rebuild the bunkers and tee boxes on three or four different holes,

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RENOVATION

LAUREL VALLEY



The 11th at Laurel Valley, site of June's Senior PGA Championship.

Montana Pritchard/PGA of America



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Frontier pioneers use of a GPS technology that improves the way greens are renovated **2**

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TECHNOLOGY

HIDDEN VALLEY

Doing the impossible: Replicating contours, exactly

SALEM, Va. — Using the latest in GPS technology, Frontier Construction Co. has completed a massive green renovation/restoration project here at Hidden Valley Country Club, in consultation with architect Bill Love. Twenty putting surfaces — 18 holes plus a putting and chipping green — were rebuilt to USGA specifications. All the greenside bunkers were also reconstructed.

Frontier turned to the latest generation of GPS because, while the club was intent on rebuilding its greens, it was adamant about maintaining the existing contours on 16 of those putting surfaces. Using the new HiPer Lite GPS+ System from Topcon (www.topcongps.com), Frontier mapped the 16 greens prior to breaking ground in June and followed the HiPer Lite+ readings to the letter in restoring the “new” putting surfaces.

“This Topcon system is the most precise GPS capability available today, accurate to within one-eighth of an inch,” explains Nick Scigliano, president of Jones Mills, Pa.-based Frontier Construction. “It’s an amazing technology. We used the system to record all existing green data on one-foot centers, meaning every foot there’s a point recorded. We’re one of the few contractors in the golf industry to invest in this sort of capability, but its applications are obvious. Old push-up greens can now be rebuilt with a USGA-specified soil profile while preserving the original green contours during construction.”

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— NICK SCIGLIANO,
FRONTIER PRESIDENT

Frontier (www.frontiergolf.com), one of golf’s most experienced course renovators, was recently charged with a similar task during architect Craig Schreiner’s green renovation project at the historic Pittsburgh Field Club. In that instance, Frontier actually cut and saved the sod from one putting surface, re-cored the green profile to USGA specs, rebuilt the greens to original contours using traditional survey equipment, then relaid the original sod.

That was pre HiPer Lite+.

“Before, we had to employ a regular transit survey system and set grids,” Scigliano recalls. “You can only keep the spacing on 10-foot centers to allow the equipment to work — a bulldozer blade is 9 feet wide. Clearly this isn’t nearly as accurate. Resetting points with a three-man crew is also painstaking, time-consuming work. With the Topcon system there are no

stakes. It records everything, no matter where you are, taking a reading every foot.

“Lasers couldn’t do this sort of job either, as it only shoots a flat plane. That’s fine for a tee box, but on a putting surface you need detailed data on any given elevation and any given point. We’re now able to do this with the HiPer Lite+, and we can’t wait to use it again. There are so many older clubs out there with greens whose contours are great but whose push-up soil profiles aren’t doing the job anymore.”

Topcon’s HiPer generation of GPS products operates on what the company calls a “dual-constellation” system. Simply put, most GPS systems have access to the 24 U.S. satellites circling the globe at 11,000 feet. The HiPerlite series also has access to 14 Glonass satellites, a Russian network. This increase in available satellites means more plotting points and more accurate readings than traditional GPS. “This leap in technological capability,” Scigliano says, “is going to change the way green and course renovations are done. It’s such a huge step forward.”

Frontier broke ground at Hidden Valley in early June, closing the back nine to play. The front nine was closed July 4. All 20 putting surfaces were rebuilt over the summer and prepared for seeding Sept. 1. The new greens, planted this fall with A4 bentgrass, will debut in spring 2006.

LAUREL VALLEY

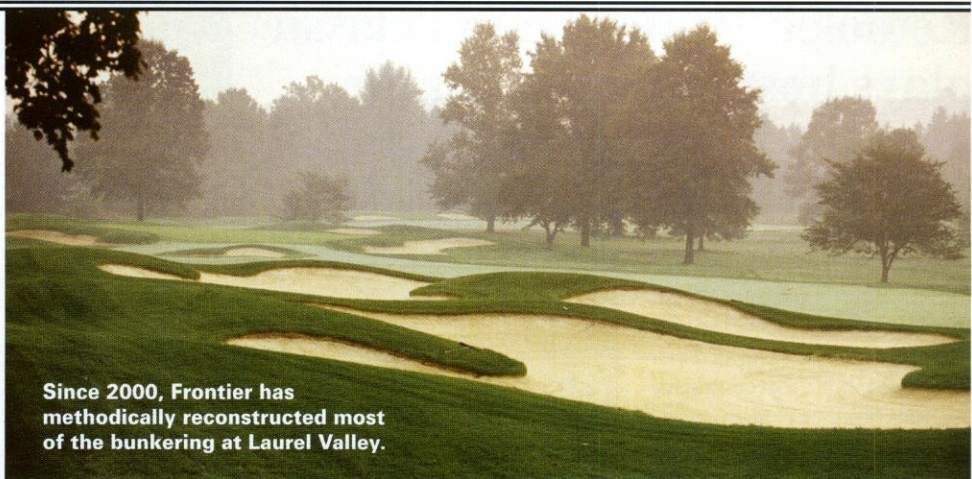
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and we installed a 1,400-head irrigation system at Laurel Valley back in 1995. It’s a great feeling to know that such a respected club appreciates our expertise enough to invite us back year after year. And it’s fun to see our work on TV.”

Indeed, Laurel Valley, host of the 1965 PGA Championship and Western Pennsylvania stomping ground of legend Arnold Palmer, played host to both the PGA Tour’s SEI Pennsylvania Classic, in 2001, and this summer’s PGA Senior Championship, which Mike Reid won in a playoff.

In 2004, in preparation for the Senior PGA, Frontier rebuilt the bunkers on holes 10, 11 and the club’s famous par-5 18th. This spring, Frontier was brought in by the PGA of America to handle a number of non-traditional, tournament-related projects.

“We didn’t do anything specific to the golf



Since 2000, Frontier has methodically reconstructed most of the bunkering at Laurel Valley.

course,” Scigliano says. “We set up staging areas for the television and media operations, created temporary compounds for the food & beverage and merchandise facilities, and prepared sites for all the temporary parking lots.

“We also mapped out the temporary roads that created access for all heavy equipment delivering

this infrastructure.

“We were chosen for this work because we know the course so well — where you can go and where you can’t go. Better than anyone, I suppose, we know how to tread lightly on that facility. Hey, we’ve been doing it for 10 years!”

RENOVATION CHESTER VALLEY

Frontier excels at the game's real Fall Finish

MALVERN, Pa. — In one respect, the timing of last fall's comprehensive bunker renovation project here at Chester Valley GC — executed by Frontier Construction with design direction from Forse Design Group — was typical. Most northern clubs choose the autumn months to tackle projects like this because golf traffic is minimal and work that requires seeding, if finished in time, can benefit from a winter's incubation beneath a blanket of snow.

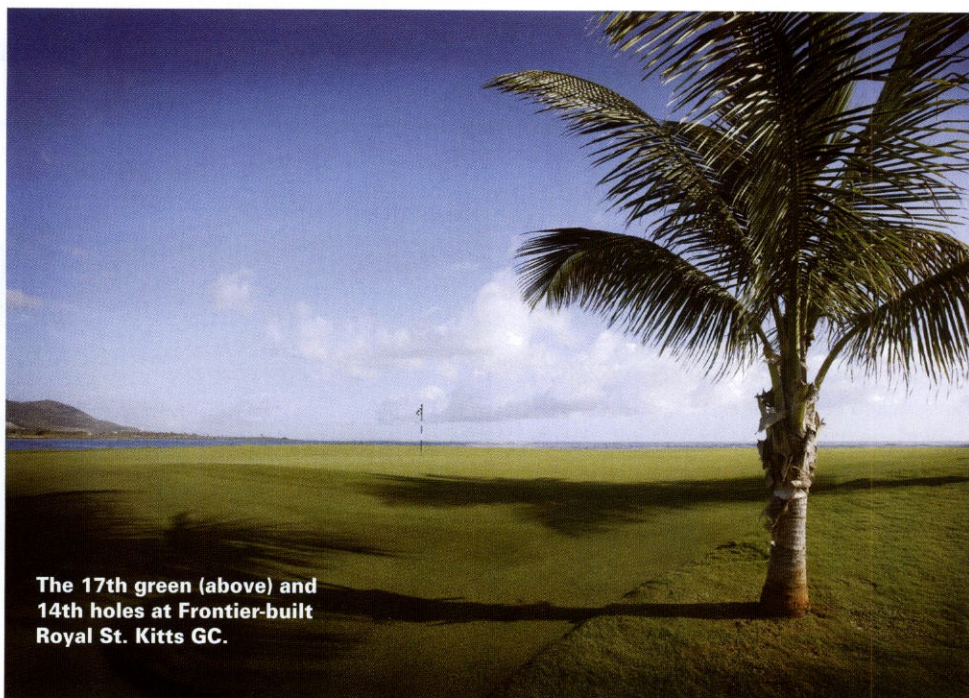
But in another respect the timing of last fall's bunker project was extraordinary because autumn work schedules put serious pressure on a contractor — to work fast and finish before weather shuts down a project; but not so fast that detail work gets missed. Frontier is expert at walking this fall-renovation tightrope.

"Frontier started Oct. 21, and finished the day after New Years. That's 64 bunkers in just over two months, which I thought was phenomenal," says Chester Valley superintendent Dave Visocan, who noted the course reopened for play in June 2005. "We had decent weather in November but it wasn't good after that. Frontier just kept going, working hard and putting down plywood to protect the golf course. They did an awesome job. Fabulous all the way around. I've never worked with a contractor where things went better."

According to Forse design associate Jim Nagle, "It's important for a contractor to be efficient but still produce the required look and quality. We didn't want to move too quickly at Chester Valley and miss the little things. The Frontier guys are great at that. They never lose track of the vision."

Frontier project superintendent Doug Show worked closely with Visocan and Nagle on the bunker style itself: flashed-sand faces with turf rolled over the top, to ward off wash-outs. "There's more turf on the banks to maintain," Visocan says, "but they held up beautifully in a tough year, the worst ever for me in terms of high heat, humidity and stress."

And the members? "They can't stop raving about them."



The 17th green (above) and 14th holes at Frontier-built Royal St. Kitts GC.

Photos courtesy of Marriott Golf

ROYAL ST. KITTS

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Royal St. Kitts GC, centerpiece of the new St. Kitts Marriott Resort & The Royal Beach Casino, has already been hailed as one of the top courses in the entire Caribbean. Frontier Construction brought a great deal of tropical construction acumen to bear here, having recently completed three new courses on Puerto Rico — Caguas Real GC near San Juan with architect John Sanford; El Legado Resort, home of Chi Chi Rodriguez, who designed the layout; and the Fred Garbin-designed Coamo Springs near Ponce. Frontier built another Marriott project in Costa Rica, the Marriott Los Suenos Resort, designed by Ted Robinson.

Marriott's course grow-in superintendent at both Los Suenos and St. Kitts was Greg Jackson. In building the McBroom design, Frontier and Jackson had the added challenge of working with seashore paspalum on St. Kitts, a first for both parties. "Paspalum is salt-water friendly but people need to understand the fresh-water requirements to get the paspalum established," says Nick Scigliano, president of Frontier. "The agronomic program presented to us dictated the use of freshwater to get it established. Once it was established we introduced the salt water."

At a project like St. Kitts, where the decision to go with paspalum (Sea Isle I on the fairways; Sea Isle 2000 on the greens) was dictated by the paucity of available fresh water, Scigliano pointed out the significant silver lining: "This stuff is really aggressive and grows fast," he says. "Versus Bermuda, I'd say it establishes 25 percent faster. That said, great care needs to be taken



in design and installation of the irrigation system to control exactly where the saltwater is put down — so only the saltwater-tolerant material receives it. When you go to saltwater, you have to be very careful with all the plantings around the golf course. If you get too much overspray from the irrigation, the saltwater will quickly compromise the health of plants not intended to receive it."

Grow-in supers like Jackson appreciate this sort of attention to detail. "Frontier is a great bunch of guys to work with, very professional," Jackson says. "Doug Show was Frontier's project manager in Costa Rica and St. Kitts. His workmanship is meticulous, their equipment is in great condition and always ready to work. Frontier's finish work was perfect, just as I like it. And if there were any concerns, they were always properly addressed."

For example, the bunkers: All of the sand was shipped in from the mainland, at great expense, so Jackson and Frontier were determined to ensure that it didn't go anywhere. All the bunkers were outfitted with synthetic liners similar to those you'd find lining a lake. "That was tedious work, but they paid a lot of money for that sand and they couldn't afford to lose it," Scigliano says.

A practice facility like no other

ON THE RANGE

SPIDER GOLF CENTER

RICHMOND, Va. — The University of Richmond's new state-of-the-art, stand-alone training center, built by Frontier Construction Co., is testimony to golf's increasing emphasis on first-rate, dedicated practice facilities. It's also proof of what hard work and construction ingenuity can mean to a dead-flat parcel where the only shaping materials are 15,000 cubic yards of rain-slicked lake sludge.

Working with Lester George Golf Design, Frontier transformed this 8-acre parcel into an innovative 315-yard driving range and full-game practice facility, whereby the two authentically bunkered target greens — both built to USGA specifications — can be played to from a variety of angles, simulating a wide diversity of approach shots. The \$400,000 project, which also includes a dedicated putting green, was executed last fall (during the height of an active hurricane season) and opened for play in early 2005.

"We managed close to 40,000 cubic yards of dirt for this job, which is quite a lot for a practice facility," says Nick Scigliano, president of Frontier. "Nearly everything we used to build this facility was dredged from a lake at Jefferson Lakeside Golf Club, which sits directly adjacent to the Spider Golf Center. The material was wet to begin with, and the hurricane season last fall didn't help matters. We fought the weather the whole time."

Andy Frank, a design associate with Lester George Design, couldn't say enough about Frontier project superintendent Pete Horrell, who repeatedly combed through the sludge to



One of two target greens at the new Spider Center.

identify the good soil from bad, the dry enough from the unusable. "That was some wet, nasty stuff," Frank recalls. "We were very fortunate to have Frontier and Pete Horrell on this job. He spent countless hours just pushing 6 inches of material out at a time, finding the pretty good stuff from the really bad stuff."

"Any other contractor would have just pulled out and come back when it was dry, but Pete worked very smartly. It took longer than anticipated because of the poor material and weather. But Frontier worked so smartly, it came in on budget. They did a real stand-up job — above and beyond the call of duty, I'd say."

One of the difficult issues in building a stand-alone practice facility with USGA greens and authentic course features is maintenance. Who's going to care for these putting surfaces and maintain the features to a high standard?

"We've built several state-of-the-art practice facilities at client clubs all over the Northeast,

and the issues there revolve around finding enough room to build a modern range," Scigliano says. "This was our first stand-alone facility and the issues were different: If you build a stand-alone, who maintains it? There's no superintendent, no equipment, no chemicals. Do you hire a person and invest in all those materials, or do you outsource?"

Enter more inventive thinking from Frank and the UofR, who approached Dudley Ames, superintendent at next-door Jefferson Lakeside, who agreed to take on maintenance of the Spider Golf Center — with its 419 Bermuda fairway areas, T-10 Bermuda roughs and A-4 bentgrass greens — for a far more reasonable cost than establishing a stand-alone maintenance crew. "Frontier even built a road that connects the two facilities, so they can ride their equipment over there and cut those greens as part of their regular maintenance schedule," Frank says.



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