

Soon, Nagle, golf course superintendent Tom Grimac and several Tavistock members were searching for additional photos and descriptions of the course's 1920s-era features.

"The members were already considering a restoration project," Nagle says. "When I saw the original bunker complex on No. 10, examined the internal slopes on some of the greens and compared them with the two black-and-white photos, I was ecstatic."

Part of the excitement came from studying other Findlay courses in the area that featured mound and bunker complexes with deep bunkers, some 15 feet deep. Lebanon Golf Club in Pennsylvania was a good example of the type of deep bunkers Findlay preferred, and Reading Country Club in Pennsylvania featured Findlay's work.

"Findlay's influence was out there, and we had a chance to bring it back to Tavistock," Nagle says.

A DESIGN LEGACY

Findlay, who lived from 1865 to 1942, was a golf pioneer who played a series of exhibitions against English golfer Harry Vardon and designed more than 100 golf courses, including such classics as The Breakers Golf Club (Ocean Course) in Palm Beach, Fla., and Aronimink Golf Club in Philadelphia.

What's happened at Tavistock throughout the years is similar to the types of changes that occurred at many Golden Era layouts. After Findlay's originally-designed course opened for play during the first year of U.S. President Warren Harding's administration, several other architects took turns lending their touch to the private club, located just seven miles from Pine Valley. A.W. Tillinghast, Robert Trent Jones Sr., William and Dave Gordon, and Brian Ault were among the designers drawn to Tavistock. Perhaps Jones had the greatest effect, adding several holes and rerouting parts of the course after an interstate highway cut through the property and eliminated significant acreage back in 1960.

ARCHEOLOGICAL ARCHITECTURE

Once Nagle, Grimac and a few members knew the potential gem they could unearth with a little extra work, it was time to sell the rest of the members on the idea. Nagle scanned photos of Tavistock's existing features into his computer, blew them up and presented them next to similar features at other Findlay courses.

AT A GLANCE Tavistock Country Club

Location: Haddonfield, N.J.

Web site: www.tavistockcc.org
Type of project: Restoration
Cost: \$5 million
Course closed: July 31, 2006
Course reopened: June 1, 2007
Architect: Jim Nagle of Forse Design
Builder: Frontier Golf
Superintendent: Tom Grimac

"Once we showed the members the details of Findlay's features, they asked incredulously, 'Wow, that's what our course could look like?' It led to a fairly easy sell for the feature restorations," Nagle says.

One of the other selling points was that the Findlay restoration would add little expense compared to the cost of a generic renovation. Most of the greens, Findlay's primary emphasis, were intact, and the bunkers simply needed to be dug slightly deeper than they might have been with most simple renovation projects.

"It was helpful having a company with which we were familiar – Frontier Golf and its shaper, Jimmy Myers, had worked with us on other intricate course-restoration projects," Nagle says. "Having Jimmy on site was essential."

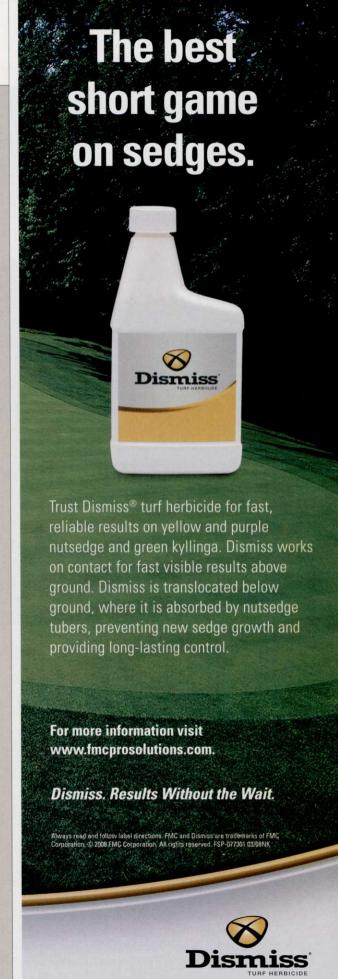
Another key to the restoration was that the club had completed a considerable course upgrade recently. Tavistock installed a new, \$2-million irrigation system, including pumps, a filtration and fertigation system, and a significant amount of drainage work.

"We're also in the middle of a massive treemanagement program," Grimac says. "We've opened up the course by taking out 3,000 trees in the past five years. We're still not even close to what the land was like back in 1921. Like Oakmont Country Club or Philadelphia Country Club, our original photos show there was just a handful of trees here when the course was originally built."

UNDER CONSTRUCTION

Grimac closed the course July 31, 2006. The construction team would beat the reopening date, June 1, 2007, by nine days.

Using knowledge gained from studying Tavistock's own photos, plus the examples mimicked





from other Findlay designs, Frontier began reinstating the ground features Nagle felt had been lost throughout the years, particularly around greens and bunkers.

"Myers and Nagle did a masterful job on those ground features," Grimac says. "They rebuilt all the bunkers and mounds, and many of the tees."

Nagle was on site frequently to oversee the shaping and make sure the work looked the way he wanted it. He also put together a portfolio of photos for the builder to refer to on site.

"It was a historic restoration, but it was still important to modernize features to fit with today's game of golf," says Chris Brennan, Frontier's project superintendent. "While many of the fairway bunkers were similar in design to Findlay originals, they were placed in different locations than they would have been in the 1920s to accommodate the longer distances

today's golfer hits the ball."

Nagle, Grimac and Tavistock committee members did a fantastic job in the planning stage, Brennan says. That effort minimized the number of challenges faced by Frontier and allowed the construction firm to meet its deadlines.

"The main time constraint involved seeding two new greens and several green expansions that occurred in the first few weeks," Brennan says. "But it worked out fine."

"The project was well planned," he adds. "We had weekly staff and committee member meetings. They were monotonous at times, but it was definitely the best way to run the project. Everyone was on the same page - club officials, the superintendent, contractor and architect. Everyone knew what the others were doing."

The meticulous planning process also resulted in the project having few change orders. Any changes were generally one of two types - an increase in sodded areas or additional drainage. Additional drainage helped because much of the property is in a floodplain, Brennan says.

Nagle believes the major challenge he and Frontier faced was rebuilding the 16th green. The putting surface on the 185-yard, par-3 is carved out of a hillside, about 18 feet above the tee. The back and front of the green had severe slopes. In the middle lurked a buried elephant. But because of the severe back-to-front slope, the huge central hump created interesting pin placements across the middle.

"The members loved that hump but hated the rest of the green," Nagle says. "They felt if the green wasn't rebuilt successfully the rest of the project would be a failure."

Working with Nagle, Frontier took 3,200 GPS readings around the 16th green. Then they lowered and expanded the back of the green while elevating the front of the putting surface to provide additional cup placements. Finally, they recreated the buried elephant.

"We were off by no more than an inch in some areas, which we were able to duplicate by simply bringing in a little more sand," Nagle says. "We created a green that yielded more cupping space yet kept an internal feature exactly the same. The members were happy. Frontier can take a lot of the credit for that."

SOD OFF

While Frontier was busy shaping, earthmoving and rebuilding two putting surfaces, Grimac's staff concerned itself with regrassing the remaining 16 greens, fairways and most of the tees.

The greens had shrunk throughout the years, but the Tavistock crew recaptured the original green shapes and sizes, adding another 35 percent of putting surface in the process. That required using methyl bromide on the old turf before replanting with two varieties of bent-grass, A-1 and Tyee, a relatively new offering from Seed Research of Oregon.

Grimac's crew used Basimid (a granular fumigant) and recontoured the fairways to recreate the original flow. He replanted 007 (another Seed Research variety of creeping bentgrass) along with a chewings fescue nurse grass.

All the tee surfaces were sodded with 007.

"We wanted to have a thatch layer on the tees," Grimac says. "Because the tee work was done later in the fall, we needed to sod them. We also sodded all the green surrounds with bluegrass. Being in the transition zone, we have to have a lot of grass varieties. There's no one perfect grass. We also sodded the intermediate rough with a low-mow bluegrass to provide a contrast between the bentgrass fairways and intermediate rough."

Luckily, the weather during most of the construction season was dry, and while the extreme heat was demanding occasionally on the various crews, the season was ideal for construction work.

"We had a couple major thunderstorms after they planted the greens that washed a lot of the seed out, but they were repaired rapidly," Brennan says.

RESTORATION HAS ITS PRICE

While returning Tavistock to its Findlayesque roots required little in the way of additional

construction costs, it necessitated a significant increase of the ongoing personnel budget, Grimac says.

Maintaining and hand-mowing the severe ground features around the greens, coupled with the decision to start hand-raking bunkers, has meant additional labor hours. The recapturing of additional putting surface area, much of it running to the crest of the surrounding banks, has meant more time spent grooming the greens, plus the need to walk mow rather than machine groom those areas.

"We've added another five people on the maintenance staff and raised our labor budget by \$120,000, about a 20-percent increase," Grimac says. "Our overall maintenance labor budget is \$706,000 with a total maintenance budget of \$1.36 million."

The transition-zone climate and the lowlying, poor-draining nature of the property leave Tavistock susceptible to many turf diseases. Grimac's preventive fungicide program had been fairly expensive, but that all changed after the renovation.

"Now that we're mostly bentgrass with no *Poa annua*, we've decreased our fungicide budget," Grimac says. "But we're using more plant growth regulators to fight the reintroduction of *Poa*. So, what we're saving on fungicides, we've made up for with PGRs."

THE GREEN ROAD AHEAD

In his 29 years at Tavistock, Grimac has tried to be a good steward of the environment. The club recently earned the first stage of certification with Audubon International's Cooperative Sanctuary Program.

Grimac is proud of the fact that all of the club's irrigation water comes from an on-site lake fed by natural drainage.

"Every drop of water that falls on the course for several miles around drains into our lake," he says. "We waste no water. Almost everything we irrigate goes back to that pond."

Plus, Grimac's irrigating less now than he used to.

"The bentgrass is easier to maintain than the old *Poa annua*," he says. "We inject wetting agents into the water to maximize the effectiveness of the water we use. The new irrigation system is much more site-specific. We went from having about 600 heads before to about 1,900 now. Each head is individually controlled, so we can deliver water only where it needs to be."



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POSITIVE REINFORCEMENT

Grimac has always been a big believer in communication with members. For instance, before initiating the tree-management program several years ago, he held frequent meetings with members to explain what he hoped to accomplish, then kept them informed via e-mail, newsletters and bulletin-board postings as the project progressed.

"We started slowly until we gained the members' confidence," he says. "We've received virtually no complaints. We've carefully evaluated the trees through committees and with input from the USGA Green Section's agronomist Dave Oatis. We concentrated largely on the agronomic benefits first. The members have embraced the project and enjoy the expanded views, cleaner look and healthier turf."

It was only natural for Grimac to continue with the communication effort, keeping members involved and abreast of what was happening throughout the preconstruction, construction and postconstruction processes. He also expanded his communication efforts to draw in outside contractors such as Forse Design and Frontier.

"I feel great about how the project turned

out," Nagle says. "The feedback from the club has been tremendous. I attribute much of that to Tom's upfront communication."

Grimac posted photos on the club's Web site and took members on tours of the construction at crucial phases, giving them the opportunity to share their input.

"Tavistock has a lot of excellent amateur golfers who compete in local, state and national competitions," Nagle says. "They are strong golfers with strong ideas about course design. They offered a lot of ideas and depended on us to tell them whether the ideas would work or not. Even if we didn't use their suggestions, they were happy we'd listened to them."

Brennan was impressed equally with Grimac's communication skill and the effect it had on the final product.

"Not only were club officials well-informed, they informed other members about what was occurring through mailers, the Web site and walk-throughs," he says. "That was huge. But the best indication of how everything worked out was hearing from members that the outcome exceeded their expectations. We can't ask for more than that." **GCI**

Architect Jim Nagle believes the major challenge he and Frontier Golf faced was rebuilding the 16th green, pictured below. Photo: Jerry Sheets

