The old 11th green was bulldozed into history, much to everyone’s delight, as preparations were made for the green renovation.

Washed Sod: Viable Alternative in Greens Construction

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The 11th Hole at Oak Lane Country Club has been a subject of discussion for many years. At 190 yards from the back tee, this decidedly uphill par-3 plays to a small green with a greater than 7 percent pitch from back to front. The net result was a hole that was both unenjoyable and unfair, particularly in view of the frequency of four- and five-putts. The idea of rebuilding the green had been debated for many years.

In July 1990, a plan for the green’s redesign was developed. The proposed green would be enlarged to 5,000 square feet, with a more gentle pitch from back to front and left to right, and it would be built to USGA Specifications. The plan was well received, and reconstruction was approved.

A bid package was developed, contractors were interviewed, and bids were received for the project. A contractor was selected, and September 4th, 1991, was set as the starting date for construction. This date allowed members to enjoy their entire summer and complete the Labor Day Tournament while allowing planting of the green and surrounds during early fall.
All appeared to be moving along according to schedule until the July Executive Committee meeting. The question arose as to when the newly seeded green would be ready for play. I suggested that if everything worked in our favor, the new green "MIGHT" be ready for Memorial Day weekend. This grow-in period didn't sit well with the board, and the possibility of sodding the green was suggested. A long discussion followed concerning the short- and long-term difficulties associated with layering problems that could result from sodding the green. I suggested these problems were of greater importance than a few extra weeks of grow-in inconvenience. The board did not agree and the decision was made to sod rather than seed, with the understanding that I was free to explore all available options to minimize agronomic problems that result when sod is grown on "topmix" that differs from that used in green construction.

My search for Penncross sod revealed a number of sources and soil types, ranging from native soil, to straight sand, to USGA Spec mixes, and everything in between. The problem was further compounded as I researched available USGA Spec mixes and found that the six mixes for which I had received samples fell within the specifications but still exhibited differences from sample to sample. Layering could be a long-term problem if I did not use sod grown on precisely the same mix as used in the construction of the green.

While searching for bentgrass sod, I contacted several sources, one of whom suggested that "washed" sod be considered. The advice made me recall an article I had read about washed Kentucky bluegrass sod being used on the new PAT field at Foxboro Stadium. The process was intriguing, though I hadn't heard of its use in green construction. I subsequently learned that Paul Miller at Nashawtuck Country Club was going to use washed bentgrass sod on a tee. I HAD MY DOUBTS about the washed sod, but the trip to Nashawtuck was well worth my time. The sod edges were a bit ragged, but the turf handled very well. I was later able to obtain additional sod samples with a tighter edge cut. It almost seemed too good to be true; quicker, easier grow-in and no soil layer.

At the August 20th board meeting, I announced that washed sod represented our best chance for success, and this was the way I wanted to proceed. The discussion that followed was lengthy and, at times, heated. The greatest apprehension resulted when I didn't know of a green where washed sod had

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been used, though I had seen excellent results on the Nashawtuck tee. We continued to discuss the advantages of washed sod compared to conventional sod, and I was given a vote of confidence to proceed.

The contractor was on site September 3rd, and construction started the next day. Materials had been ordered and were arriving on schedule. The decision had been made not to save the existing sod on the green and, at 7:00 a.m. on September 4th, the old 11th green was bulldozed into history, much to the delight of myself and the several members present. The weather could not have been more cooperative, and the construction crew worked from dawn to dusk to ready the green for the September 9th delivery of the washed sod.

The new green was built to USGA Specifications. As with any course construction project, though, it was necessary to modify our plans as we went about the work. Shale was found beneath the old 11th green, and the final shape and contour of the subgrade had to be modified a number of times. Once the subgrade was finalized and tile installed, grade stakes were re-set to ensure uniform depths of pea stone, coarse sand, and topmix. A closely cut bentgrass fairway approach was added to soften the blow for the less-skilled players on this “new” hole, which was going to be difficult enough even if it were more manageable.

By noon on Sunday the 8th, the green and surrounds were ready for turf. The afternoon was spent watering, hand raking, and rolling the mix. Two pounds of quick-release nitrogen per 1,000 square feet was worked into the top few inches of mix.

The sod was waiting on the truck at sunrise the next morning. With no soil or topmix, the sod was very light and comes 1,000 square feet per pallet. The mix was hand raked one final time before each section of green was sodded, the seams were tamped, and each section was hand rolled. A crew of six completed the sodding by noon.

The sod comes dripping wet from the washing process, but dries very quickly due to the lack of soil. It was necessary for one crew member to water completed turf sections before the green was half done. After completing the sodding, the washed sod required irrigation every hour for the next week to prevent desiccation.

The next day our efforts shifted to the fairway approach and green surrounds. Conventional bluegrass sod was used for the surrounds, and the difference was amazing. The unwashed sod was heavier and broke apart from its own weight; it was more difficult to place, and the seams were not as tight.

The entire project was completed and the construction crew was off site in only seven days. Our members were amazed, and I was relieved.

Three days after installation, root hairs began to emerge from the washed sod. On the fourth day, the green was rolled and mowed for the first time with a walking unit set at 0.4". After 10 days, roots approached two inches in depth and the green was mowed daily. The height of cut was reduced to 0.3"; and the seam lines were almost gone.

At the time of the first topdressing after sodding, starter fertilizer at 0.5 pounds of nitrogen per 1,000 square feet was applied along with granular fungicide and insecticide. The cutting height was reduced to 0.225"; and rooting depth was greater than 3". With seam lines gone and the cutting height continuing downward, members began asking if the green was ready to play. They were assured that the green would be ready for spring 1992, and all agreed that there was no need to rush this date.

A second topdressing at a lighter setting was applied one month after sodding, and the cutting height was lowered to 0.18". By mid-October, the green had been topdressed a third time, the height of cut was 0.165", and the root zone was a full 6". A fourth topdressing is planned before winter, and a dormant natural organic fertilizer feeding at 2 pounds of nitrogen per 1,000 square feet will be made.

The project to date has been very successful, and I credit three main reasons: The project was well planned, it was well funded by the club, and it was well executed by the contractor. We are all looking forward to the opening of the new green next spring, when the washed sod will receive its true test as a viable alternative for turf establishment in green construction.
(Above) A crew of six completed the sodding by noon.

(Left) Ten days after installation, the seam lines were almost gone.