



*Measuring and placing the nylon cloth in the bunker base. Its purpose is to keep the new sand from being contaminated with rocks as a result of winter freezing and thawing of the underlying soil.*

# Bunker Remodeling

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**T**HE BUNKERS at our club have been a problem for some time. Sand from their steep faces eroded after even the lightest rains, and stones continuously worked to the surface, creating problems with play, safety, aesthetics and added to labor costs. The mechanical rake, though a great new tool for bunker care, was no help in our case; in fact, it aggravated the condition of surfacing rocks.

Fortunately, at this time of our concern about bunkers, a proposal was presented to the Board of Governors for construction of a new water hole. My chairman presented a plan to tackle both projects on the premise that the soil dug from the pond site could be used to correct our bunker problems. The plan was accepted, and the water hole was dug in the spring of 1976.



*The finished look!*

Excavated soil, according to plan, was stockpiled away from the playing area but close enough that it did not require a lot of trucking. When it was dry, this soil would be screened and used in the bunker remodeling project.

Work on the bunkers began in 1977. The first step was to clean out the old sand. Drainage trenches then were dug through the length of the entire base with a backhoe. Trenches were dug deep enough to reach a permeable strata. The old sand was used to cover the drainage ditches for faster water movement through the bunker.

Almost all the steep faces were removed in remodeling. We were careful to keep the original size of bunkers intact, even though we did alter the faces drastically. We resolved that we would no longer be faced with the arduous task of replacing sand on faces



as before. This was especially important since the innovation of the mechanical sand rake. Sand on shallow faces would less likely be dragged down to the bunker base.

After the bunker was totally reshaped, nylon cloth was laid in the base of the bunker to prevent stones from working their way through to contaminate the sand and to allow the water to drain through and out of the bunker. The nylon mesh cloth is the type used as rug backing. It comes in different widths, but ours was 58 inches wide in rolls of 4,000 square yards. This nylon cloth was selected because it is strong, porous, durable and reportedly doesn't rot.

**T**HE BUNKER WAS graded and shaped in a manner to allow for the nylon cloth to extend two to three feet beyond what was to be the final bound-

aries for each bunker. The nylon cloth was placed over the area, and then the stockpiled soil was screened and placed over the nylon cloth. After covering the cloth with soil, a small power roller firmed the soil in place.

New sand, which conformed with USGA specifications, was then placed in the bunker to a depth of five to six inches.

It was local Long Island sand, delivered at a cost of \$5.50 per yard. No sand was placed on the screened soil around the periphery. This two- to three-foot strip was sodded in order to anchor the nylon mesh cloth firmly in place. We learned the hard way that there are no short cuts to this procedure. One week when rain hampered our soil-screening operation, we gambled on covering the nylon cloth with sand. It didn't work. After a year, the continual use of the mechanical rake caused the sand to

shift. Screened soil must be placed on the nylon cloth first in order to stabilize the sand, especially on the bunker face.

The remodeling of bunkers was accomplished in two years entirely by the regular maintenance crew. An average of seven-and-one-half men worked five hours a day on each bunker when the schedule allowed. Weather permitting, the bunkers on one hole were completed in one work-week. At no time was any hole taken out of play. We've been through three seasons with some of these new bunkers, and to date there are no stones surfacing and no shifting of sand. This has made a great difference in maintenance time. Golfers also enjoy stone-free sand in bunkers.

Our next project will be to align and level tees. We look forward to the task. We feel this task is less challenging but every bit as important as the one just completed.