SAND FROM HEAVEN

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WHEN IT COMES to construction projects on golf courses, it is safe to say that most golfers want the work done as quickly as possible but with the least amount of disruption to play. Since the best time for construction is often the busiest time of year for golf, many construction programs are relegated to off-season periods when other factors can complicate the work that needs to be done.

This was the problem faced by the grounds crew and the membership at Shaughnessy Golf & Country Club, in Vancouver, British Columbia. Superintendent Brian Houston and the golf course architect were asked to completely reconstruct or add 17 bunkers during 1989. To disrupt play as little as possible, the decision was made to begin the project in early October, despite the good chance of inclement weather. The superintendent and the membership faced the dilemma of tearing up the golf course to complete the project or developing innovative methods to cause less disruption to existing turf areas. Fortunately, they found an idea that caused little disruption to the turf.

Once the decision was made to add new bunkers and expand existing ones, the addition of soil, rough grading, and resodding around the bunkers was tackled and completed by late October. A stretch of beautiful fall weather allowed the completion of this portion of the project. Unfortunately, heavy rainfall occurred before the new sand could be placed in the bunkers, and there appeared to be no way to add the sand without causing severe rutting and other turf problems. At this point, a suggestion was put forth to investigate the use of a local fire control helicopter for carrying loads of sand from the stockpile to the bunkers, thereby avoiding heavy truck traffic on the course.

Since the rainy season was a slow time for the fire department, and the price for using the helicopter was reasonable, it was decided to go ahead with this plan. Houston proceeded to install approximately 400 cubic yards of sand in 17 bunkers in 9 hours and 20 minutes. Due to the type of bucket used in the filling process, very little shoveling of bunker sand was necessary. Essentially, the labor for this operation involved loading the bucket, hand raking the sand after it was installed, and using a vibratory compactor to firm the new material.

How did the membership accept this operation? Naturally, the membership was delighted that there was no disruption to the turf and that the bunkers were instantly compacted and playable the next day!

If you should happen to face a similar dilemma in your section of the country, this may well be a viable method. It certainly saves both the superintendent and the club the aggravation of disrupting the course and may prove to save some "pennies from heaven" as well.

SAND FROM HEAVEN

Total sand received: 516 tons = 1,032,000 lbs.

1 cu. ft. = 75 lbs.
1 cu. yd. = 2025 lbs.
1,032,000 divided by 2025 = 509.63 cu. yds.

Material left in stock

36 ft. × 16 ft.× 4 ft. = 2304 cu. ft. divided by 27 = 85 cu. yds.
plus 25 cu. yds. in yard = Total of 110 cu. yds.

TOTAL SAND USED = 399.63 cu. yds.

Two concrete buckets used

1st bucket — 1.25 cu. yds. — 2531 lbs.
2nd bucket — 2 cu. yds. — 4050 lbs.
Average load — 1.63 cu. yds.
Average trip — every 2.25 minutes

Used approximately 400 cu. yds. (405 tons) in 17 bunkers

400 cu. yds. divided by 1.63 average load cu. yds. = 245 loads
at 2.25 minutes per trip = 9 hours 20 minutes working time

Used — Frontier Helicopters Ltd.

Size — Bell 205-A1

Carrying capacity — 4,000 lbs.

TOTAL COST — $9,800.00 or $24.50 per cu. yd.

Sand weight wet — 75 lbs. per cu. ft.
— 1 cu. yd. = 75 × 27 = 2.025 lbs.

Sand weight dry — 84.5 lbs. per cu. ft. 11% Increase
— 1 cu. yd. = 84.5 × 27 = 2,281.5 lbs.

Sometimes problems require unconventional answers. Here the helicopter takes a load of sand from the stockpile . . .

. . . and delivers it to the bunker.