

"I treat people the way I would like to be treated, and I try to be fair. I don't believe in double standards," Early says. "We had very little turnover this year. The people have good attitudes, and most respond well" to the daily regimen.

Brogan, meanwhile, lucked out in the equipment department when the city took over: with new ownership came all new equipment. A Toro Hydroject aerator was purchased last year, and is shared by the seven courses. Greens are aerated twice each summer, as a defense against hard spots and compaction.

Work remains to be done on the tee

boxes. Some of them are just too small to accommodate all the play.

"This year, we're on another 30,000-round pace," Brogan says. "That's a lot of rounds for this type of facility. We rebuilt the number 2, 14 and 17 tees, to make them larger. Number 10 and 14 were reseeded; 14 and 17 were sodded."

The roughs at Champions are mowed between two and two-and-a-half inches, which makes for faster play.

"We get information (on speed of play) from the pro shop," and Brogan keeps her eye on the speed of play. In 1994 she surveyed the customers, and one of the most

common complaints was slow play. To solicit opinions, she placed comment cards on clubhouse tables.

Steve Early finds it easy to discuss and finalize plans with the golf course directors. After 25 years in the business, his talent and judgement is recognized and respected.

For example, green speed at Columbus Country Club is fast (10-10½ stimpmeter readings), and the fairways are tight. But as Early says, "anybody here would agree they'd rather have green grass than dead greens."

Bunker upkeep a function of design



■ Sand bunker renovation and maintenance can be like trying to prevent the tide from sweeping away a sand castle. The frequent erosion, golfer traffic and debris that often collect in them make some supers wish grass bunkers were the norm.

Bunkers are important to the game, since they: set shot value; control shots or moving balls; contain balls from out-of-bounds or water; better define the hole; and improve eye appeal of the hole.

Steps in construction—John Carlone, CGCS, of Middle Bay Country Club, Oceanside, N.Y., offers these financial and construction suggestions for bunker renovation:

- Two choices when it comes to budgeting the job: hire an architect with a construction company or have an architect and operator shape the bunkers, and your crew do the rest.

- Possible fees include: architect fee; labor; equipment rental; employee lodging; drain tile; gravel; fill; sand; sod/seed; small tools; gas/diesel fuel; fertilizer; irri-

gation; cleanup; soil tests; sand tests.

- Consider what kind of shots your players will be landing. Don't, for example create impossible shots out of bunkers onto greens that slope back to front.

- Have soil tests done on the fill material. If you are selecting a sand for the bunkers, have samples tested before construction starts.

- At Middle Bay, Carlone had top soil pushed from the existing bunkers to an out-of-the-way area. They had to generate fill since the bunkers were a mere three feet above ground water table, and they could not dig down to generate fill and deepen the bunkers.

"We had to add fill all around the bunkers to give them the appearance of being deep," Carlone notes. "Several of our ponds were being enlarged at this time, so we were able to haul fill from those sites to the bunker sites.

"Once there was enough fill, the bulldozer operator shaped the area. When it was roughed out, the topsoil was pushed

back over the fill."

- Budget money for cart path repair. No matter how careful you are, there will be some damage to the course.

- Caring for new sod will be important post-construction duty. It must be weaned off the fertilizer, to 2 lbs. of nitrogen per year. Moisture is also important. For steep slopes with southern exposure, it might be wise to add a mist system and use drought-tolerant turfgrass.

- Hand raking provides a consistent surface and lie, but it's labor-intensive. Courses using this method usually are on a continuous schedule.

- Edging may also be restricted by the budget, however, it is something that must be done periodically or the turf will close in and shrink the bunker, leaving an unsightly and unplayable margin.

Types of edging—**Rotary**: this is a quick and easy way to maintain the margins followed by hand-raking the trash left in the bunker. However, this method leaves the raw edge exposed unless the sand is brought to turf level, eliminating the desired lip. Remember to require the operator to wear goggles.

String trimmers do a fair job in the hands of a good operator, but it is difficult to maintain a clean and straight edge. It also leaves the turf with ragged edges. Hand rakes are required to remove the trash in the bunker after this operation.

Hand edging is the preferred method, by far, because pulling the runners that protrude leaves the turf with a groomed look and lets it drape over the edge.