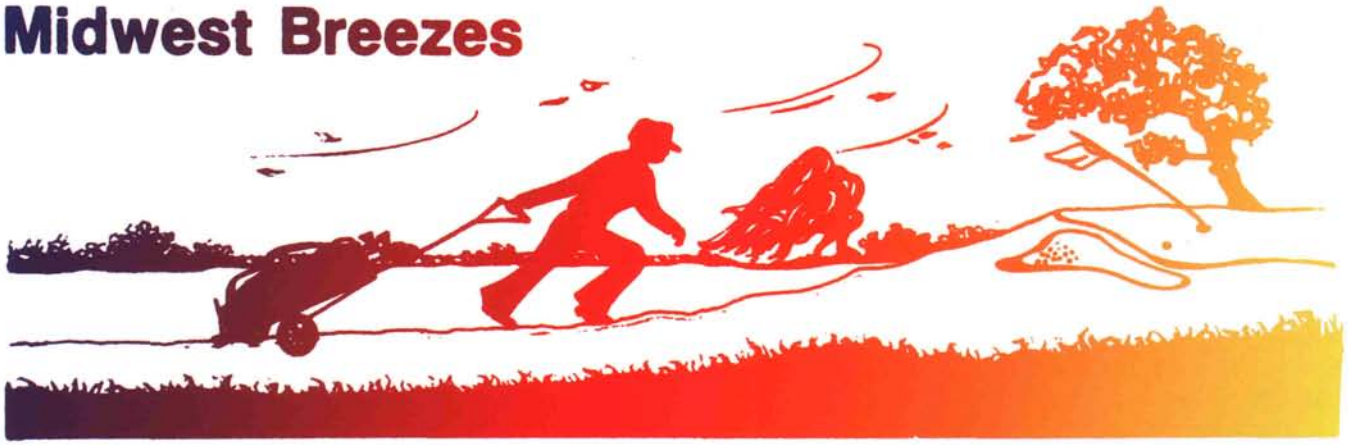
Brad Anderson, CGCS *Associate Editor*

Midwest Breezes



Brian Mores, Inverness Golf Club

For the past several years at Inverness Golf Club we have been dealing with problems associated with excess muck in one of our irrigation ponds. The muck had accumulated to the point where it was clogging up the intake pipe and restricting flow to our wet well, triggering the low-water-level sensor to shut down our irrigation pumps. Furthermore, debris was finding its way into the irrigation pipe and would occasionally cause sprinklers to stick on. The short term fix was to call in a diver two to three times per year to clean a few feet around the intake pipe. This past fall Mike Bavier and I finally decided it was time to bite the bullet and go for the long term solution — having the pond dredged.

Dredging a pond is something that most superintendents don't look forward to, and it is usually put off. Our reasons, like many other superintendents, were the cost and mess that are typically associated with the process. The most common methods of dredging are draining down the pond and mechanically excavating the muck, or, using a barge that sucks up the muck below and pumps it to a holding area. Both options are expensive, require large equipment driving across the course, and leave a small mountain of muck that smells, leaves a mess, and must be removed.

After exploring the usual options we discovered another method offered by US Aqua-Vac. As the name implies, they use divers equipped with suction hoses that basically vacuum the muck from the pond floor. Each diver has a hose and works in a small area at a time. They move along the bottom of the pond vacuuming the muck until they reach the original pond floor, which they can determine by feel. Each diver's hose is connected to a pump that sits on the shoreline. From there the muck and water travels through another hose to the point where the material will be stored.

Most golf courses either create a holding pit in a dump area to store the material or haul it to another site

(continued on page 8)

Divers work for 4 hours each day sucking sediment from the bottom of the pond with individual suction hoses.

on the golf course and build mounds out of it. Both options are unsightly and require a long period of time for the material to dry. US Aqua-Vac presented us with another option of using a muck/silt bag for storage. The pump hose is tied directly into this bag which is constructed of a woven material and acts as a filter by allowing water to seep out but retaining the muck and silt. We decided to use the bag and were happy with its performance. Our bag was 74 x 45 feet and would fill to a height of around 4 feet by day's end. The following morning the bag would be back to around 2 feet in height because the majority of the water had seeped out overnight. The location of this pond happened to be next to a seldom-used parking lot that surface drained to an adjacent creek. That made for an ideal location for our bag, although it is more typically placed on the edge of the pond being worked on, allowing the filtered water to drain back into the pond.

Other noteworthy items are that the divers are limited to a four hour work day for safety reasons. They estimate that it requires one week to remove 1 foot of muck from a pond with a one-acre surface area Also, golf balls do not clog up the pump (this is good considering that our pond is located between the green and tee on a short par 3). Regarding the muck/silt bag, we were informed that, depending on weather conditions, it takes several weeks to months for the material to dry. This project took place in November, so our bag is still sitting in the parking lot because it froze and was not able to dry. We have been told that the material is very rich and has been used to amend soil mixes. We plan to stockpile the material in our dump area for future use. Finally, and most importantly, this method was about 40% cheaper than the barge and excavation methods that we researched.

Right: The 74' x 45' silt bag prior to filling sits on a seldom used parking lot adjacent to a creek.

Below: The silt bag at the end of a day of sucking up sediment. It would fill to four feet high upon completion of the divers shift and water would drain throughout the night leaving only sediment in the bag.