## EDUCATION

## **Course construction in Australia**

Chris Nicholson is an Ex-Head Greenkeeper at Mid-Herts Golf Club and reports on the project he is involved with in Western Australia



**I** am at present here in Perth, Western Australia engaged in the construction of a 27-hole championship golf course, 40 kilometres north of Perth at Ellenbrook, in the wine-growing district of Western Australia. This is the largest golf course under construction in Australia at the moment. The company I am employed by is Sanwa Vines, a Japanese consortium and the course is the brainchild and designed by Graham Marsh.

There are 27 normal greens, plus 3 gambling holes, 4 practice greens and 4 championship tennis courts, 2 bowling greens and an archery range. A huge Clubhouse and hotel complex are also under construction on site. The fairways are skirted by 400, one acre blocks where luxury houses will be sited. A vineyard is being planted to supply the club with its own wine brand.

The huge machinery shed has just been completed to house the vast amount of new machines that are arriving almost daily. The local Toro dealer must have thought it was Christmas when we ordered four GM3's, four bunker rakes and four 420d's to name but a few. The sheds cover the area of a soccer pitch with machine workshop, with full-time mechanic, fertiliser and chemical stores, with wash-down areas, suction fans, staff rest-rooms, showers, lockers. Every modern convenience has been supplied for the 22 staff we have at the moment, a world apart from what most Clubs expect their greens staff to contend with.

The greens are built to USPGA Standards, sand on a blanket of 18in aggregate or 'Blue Metal' as the locals refer to it. Some greens have agraflex drains beneath but we have found not all need it. The greens are then fed after final shaping with a pre-plant nutrient, consisting of chicken pellets and a cocktail of muriate of potash, nitrogen (Agran) super copper, zinc and Epsom salts. This is then raked into the surface and the green is then spraved with Pencross Bent in an emulsion, to help the seed hold on the surface. The results we have had so far are good and a nice even cover has been achieved. This grass grows well over here, although I am not so sure how it would go in the UK climate.

The tees are, after final shaping, laser-levelled with a special machine I have never seen in the UK. It comprises of a small tractor with a laser controlled scrapercome-hopper at the rear. A laser on the hopper works in conjunction with a laser to the rear of the tee to give a perfectly level tee. A drop of 2 per cent from front to rear of the tee is allowed for run-off. The tees are then stolonised with Greenless Park grass, disked into the surface and rolled. Most holes have at least five tees and each are stepped out in front of the other and most have buggy paths alongside.

The fairways meander through virgin bush, every care has been taken to maintain the natural habitat of the many kangaroos and other wild animals and plants that live around the course. The fairways have been panned with clay to prevent leaching of chemicals into the nearby Ellen brook. This clay, a few inches under a British fairway, would be deemed as a disaster. But when you consider the evaporation which takes place on an Australian fairway, you can see that no problems occur.

A great deal of revegetation has been done on each side of every fairway to tighten them up as it were. We have purchased a tree spade at the cost of A\$70,000 to transplant larger trees and palms. This has proved most successful and in time the natural bush will skirt each fairway, thus making a stray shot almost unplayable. As with the tees, the fairways are stolonised after preplant nutrients are added, this is done in the larger areas with a muck spreader, then they are disced in and repeatedly rolled.

The watering system or reticulation as is the word here, is complicated to say the least and is vast. The bore holes have been sunk to feed water to the lakes which, in turn, are pumped into the pump house area which is situated under ground. Massive pumps then push the water to each part of the course controlled by a main computer in our shed. Each fairway has its own satellite computer which can be operated manually if needed. We are using Toro 620 heads, 2,500 of them in all, wortking on 80/90psi.

We have at the moment three fulltime staff learning the programmes and trouble-shooting the whole system in conjunction with the installers, Challenge Irrigation Ltd. I won't say there haven't been prob-



lems, but most have been ironed out by now. The cost of the system will be about A31/2 million.

One or two observations about greenkeeping in Australia, at least in W.A. could also prove interesting to my friends back in Britain. They seem to have to use a great deal more chemicals and fertilisers because of the leaching out of the sandy soil. This adds to the thatch problems of course, so maintenance is far more intensive than in the UK. It is not uncommon for whole fairways to be sprayed out and restolonised with couch grass. This gives a good cover but after a while thatches up again if not maintained properly. Courses out here are run more on American lines, the superintendents have a good association and are very professional in their approach to the job. They are mostly well paid and a car is normally part of their wage package. A four wheel drive vehicle is essential on a course of this size, as are the many trial bikes used to get around the course. Most staff carry a radio to contact each other



and it is surprising how much time this saves. Naturally I have gained a great

deal of experience since working here and am learning new things daily.

