

Among the guests at the Berkshire to view the £100,000 irrigation system was Henry Cotton, who told those at his luncheon table he was spending a few months in England to attend the Open Championship, the Seniors Tournament and the Oval Test among his many engagements.

Henry recounted the tale of his encounters with an interviewer from one of the radio station when at St. Georges, who thrust a microphone under his nose and demanded an interview. 'What's the fee', asked Henry. 'There is no fee, was the reply. 'No fee - no interview', said our most famous golfer. 'But think of the publicity', replied the intrepid interviewer. 'But I don't need any publicity', retorted Henry.

With that the man with the tape recorder left, but returned shortly with £25.00 in grubby notes, which were gratefully accepted.

'Now Mr. Cotton, when you had your record breaking round at Sandwich in 1934, how do you think the rough compared to how it is today'.

Henry thought for a moment and said 'I really haven't the faintest idea, I was never in the rough in 1934!'

We were not told how the rest of the interview went.

HOWARD SWAN, Director of Golf Landscapes - Reports

The majority of golf courses in our country are of block design for greens irrigation; that is, where four pop-up sprinklers are set around a putting surface and operate all at once, controlled by an electrical solenoid valve at the rear. More advanced systems are two by two, but most are block. This means that when the controller activates a particular solenoid valve on a green all pop-ups water for the same length of time, and if they all have the same side nozzles (as they should) they all put the same amount of water down. If however they are set for the same time but all have different arcs because of the shape of the green, some portions of the putting surface will have more water than others should one arc be smaller than the next. By having a block system it is not possible to differentiate between various parts of the green.

If one part of the green is shaded it retains more moisture than another. If the green is highly contoured with high and low spots then the turf in

any one portion does not necessarily need the same amount of water as another to sustain healthy growth.

The only way of achieving such differential watering within a green is by the use of single head control with each sprinkler with **with its own control valve "in head"**. TORO equipment features this in their electric valve in head 650 series pop-up sprinklers, and it was this unit which formed the basis of Golf Landscapes design proposal at the Berkshire.

Having established this principle with the Club, each green, tee and approach on all 36 holes was surveyed, scale plans drawn and copies sent to the Head Greenkeeper, Robert Morton, to assist him with his routine turf management programme. Joint meetings were held at the Club with TORO, Golf Landscapes and the Sub-Committee to establish the schedule of sprinkler types required on each green, tee and approach.

Besides the advantage in flexibility of turf irrigation management possible with single head control, it is possible to vary the arcs on each sprinkler on each green.

The staff of Toro and Golf Landscapes, together with the Head Greenkeeper examined each green and selected the sprinklers, four on each green, at each location. Each position was determined with some accuracy, some close to the edge of each putting surface, some distinctly away on the collar. Once each position was established head to head with the opposing pop-up, nozzle sizes were determined. Most importantly by this individual assessment, the required arc for each sprinkler was selected. In some cases the Head Greenkeeper wanted to irrigate the surrounds on a certain part of the green, so a full circle or two speed full circle sprinkler was chosen. On others, where there was a greenside bunker, a part circle sprinkler (45° - 225°) fully adjustable, was more appropriate.

In this way a custom made sprinkler schedule was compiled for each green on the courses, with a flexibility not previously known in golf course irrigation.

Similar exercises were undertaken for the sprinklers on the tees and approaches, under control in pairs, or threes dependent upon flow constraints, so that each was tailored to its own particular requirements.

A comprehensive design and installation proposal was put before the Club in September '84, accepted in October to the value of some £113,000, and materials began to be delivered in December. Early January saw installation begin in earnest, with two teams on mains pipework, put into the ground by open trenching for the larger sizes, and by moleplough for the smaller ones. In all nearly ten miles of pipe

was installed, together with the electrical wiring necessary for the various types of control to greens, tees and approaches.

This extent of pipework and cable installation took some five weeks to complete, out of a total programme of 14 weeks, but because of the frost, snow and impossible ground conditions encountered last winter, it was not brought to a conclusion until the middle of March, some five weeks behind schedule.

A 45,000 gallon tank, 3.2 metres high and 8.0 metres in diameter was erected on a reinforced concrete base at the control centre in the centre of the golf course. A new pumping station was built by the Club not only to house the packaged pumping set of 3 pumps and pressure gear, but also to act as the nerve centre for the new system where the head greenkeeper would locate a new office where the electronic controller would be installed.

When the snow cleared installation work recommenced on the course. Horseshoe pipe mains were mole-ploughed on the greens and approaches with a smaller pipe for the sprinklers on the tees. Hundreds of pipe connections were made, even more electrical connections, suitably insulated with resin for underground location. Great care was taken by the team to minimise disruption to the mature turf on the courses. Trench lines were seeded in, heather replanted where pipework had gone through the rough. All in all, everything was done to maintain the courses in their prime condition and golf was played without interruption throughout!

The ASL 800 station computerised controller arrived in May and was duly installed, the electricity was connected, the system was powered, pipes flushed, sprinklers set, and by early June a number of successful pilot runs resulted in a commissioning and handing over to the Club.

It had taken five months to put in what was a highly sophisticated and modern automatic system to the 36 greens, tees and approaches. In all, 150, 650 sprinklers went into the greens under single head control, sixty-three, 650 sprinklers on the approaches and practice areas, with one hundred and ten, 640 and super 600 sprinklers on the tees. Additionally, manual coupling points were located on fairways so that watering could be effected by Toro's new Micro 44 travelling sprinkler, to provide a massive head of water when necessary.

Once the Berkshire system is established, it is hoped the single head control concept can be seen to be a significant advantage over more conventional block systems, providing flexibility and accuracy in irrigation management, and in consequence better turf maintenance.

It will be the template upon which, future systems are built.