

Water idea

Steve Castle discovers how Woburn Golf Club's long-term water resource strategy is dealing with recent usage restrictions which can hugely affect golf courses

PROFILE

Name: John Clarke

Born: Ulverston, Lake District

Marital status: Married with nine-month-old daughter

Handicap: 12

Hobbies: Walking springer spaniel Hesper, mountain biking

Favourite sports team: Liverpool FC





Archaeologists working on the new reservoir site

It's tempting to visit Woburn and depart waffling about the various legends who have graced the fairways before waxing lyrical about the fact all three of their courses have been rated in Golf Monthly Magazine's top 100 in the UK and Ireland and name-dropping Ian Poulter.

But you'll already know all of this. However, did you know that the club are embarking on a water resource project of staggering ambition and size? That they're building a huge reservoir where archaeologists have recently located Roman kilns? That they're aiming to drastically reduce their annual water bill?

volume usage and we were to be classed as an 'industrial user' along with factories and breweries. We would have to forecast our peak usage over the year – known as the Maximum Daily Demand (MDD). Essentially we were being charged all year round for the one day when we used the most water.

"In theory, this would allow water companies to forecast demand and promote water efficiency measures – but with potentially disastrous financial consequences for golf clubs."

John adds: "It's certainly a contentious move, charging industrial prices without removing the possibility of drought restriction seems very punitive.

The drought restrictions were never intended to negatively impact upon businesses, but a blanket ban does exactly that for many UK golf courses.

"The change in tariff gave us the added incentive to push forward with plans for bulk storage as we would have a considerable return on investment alongside the environmental benefits of using less water."

Spring 2010 saw Woburn working closely with Rainbird Irrigation to bring in tools to measure meteorological data and soil moisture levels quickly and easily.

"We also wanted to be able to manage our systems remotely so we could shut down applications and fill when significant weather events allowed. We checked application rates, nozzle run times and replaced sprinkler heads on our oldest system on the Marquess' course.

"We also looked at the minimum requirement we would need per night at the height of the season

"Under the Maximum Daily Demand scheme, essentially we were being charged all year round for the one day we used the most water"

utilising the highest recorded evapotranspiration rates for our site. These figures then had to be balanced with how much storage we had available and how many nights' use this would provide without filling the tanks on demand.



“We have 1500 cubic metres storage across the site held in three separate tanks, which is barely one days’ water for the courses in dry periods because we are able to water wall to wall. We needed something big enough to take the seasonality out of filling and watering and through meticulous planning and design came up with a plan for a tank holding 105,000 cubic metres’ capacity – in other words, a reservoir.”

We then join John’s springer spaniel Hesper to see the reservoir construction at first hand. It’s staggering to see the massive scale of this and it’s fascinating to see teams of archaeologists excavating what will soon become a water storage facility capable of holding so much of the stuff. The archaeologists have even located several ancient Roman kilns, (a type of oven for metal work) which need to be painstakingly removed.

To the right of the five hectare site are huge mounds of earth removed, probably 25 feet high showing the extent of the project so far - and the excavators are yet to move in! The reservoir is due to be completed in time for the 2013 season.

All in all, it’s a vast project and John acknowledges an undertaking of this scale is only possible at a large club with significant financial backing and a supportive and knowledgeable owner. However, he’s also eager to stress that a progressive long-term water management strategy is critical and achievable, at any golf club as water bills inevitably climb.

He says: “A smaller model could be adopted in a different location. The bottom line is, we aim to get our water bill down to roughly £25,000 a year. This year, following many mitigation measures we still spent £125,000 so the return on our investment will be within six or seven years.

“The individual Head Greenkeepers and I have had to be extremely diligent and flexible in managing the consumption for three championship courses, using 500m³ across all three courses each night.

“Our Irrigation Manager Lee Murdoch reads all of our meters, sets up all of the night time irrigation programmes and forecasts the weekly usage using weather forecasts and soil moisture readings. This gives him the information required to split the MDD figure between the three courses.

“At the start of the project our entire focus was watering the course according to the bill. We are now trying to get to a point where

we water the course in the best interests of the turf, because we’ve eliminated the billing issues.

We’ve learned a lot along the way about how best to manage this precious asset and I’m sure we’ll need to continue using these principles as our climate continues to change.

“This project would not have got off the ground without the support of our consultants WRA, Paul Williams from the Bedford Estates and of course from the Duke of Bedford and the Woburn Board of Trustees.”

The Club, which is part of the Bedford Estates, aerate monthly with light top dressing and annual hollow coring each August to keep them dry. They aerate into the night under lights and close each of the courses a week in every month of the winter for drainage, aeration and bunker reconstruction. As John says “The healthier the greens are, the harder we can push them.”

When I pulled into Woburn’s car park earlier, I vowed to leave with a much greater understanding of the water resource project, increased knowledge of the water-based challenges facing golf clubs and to refrain from mentioning Ian Poulter at any point in the subsequent article. Ah well, two out of three ain’t bad.



MAIN ABOVE: 10th hole on the Marquess’ Course
 LEFT: The plans for the reservoir
 RIGHT: One of the Rain Bird control boxes



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