

Course Feature



David Cole

Dreaming of Dry Land

As Scott MacCallum discovered Loch Lomond is working hard to ensure that its one weakness will no longer be an Achilles Heel.

There can be few places on earth which provide a more attractive environment in which to play golf than Loch Lomond Golf Club. A superb Tom Weiskopf and Jay Morrish created course, a magnificent clubhouse and scenery to make every chocolate box tin designer salivate, and it ranks highly on all counts.

Each July, the week before The Open, the cream of world golf descend on the course for The Barclay's Scottish Open and Peter Alliss gives full rein to his imagination and descriptive powers as camera lenses pick out luxurious motor cruisers on the loch, some interesting wildlife and young children in the gallery who have taken advantage of annual access to a very exclusive club.

But for many years the idyllic setting of Loch Lomond has hidden a secret. Not a secret which would find its way into any Harry Potter book, but one which would certainly have greenkeepers breaking out in a cold sweat, sizing themselves up for a strait jacket or even applying for the next series of Big Brother.

You see, everything at Loch Lomond is perfection itself, apart from that is, what is under the manicured turf. The green staff have performed heroics to mask the unpalatable truth that while everything above ground at Loch Lomond is state-of-the-art everything underground isn't.

Ken Siems, who was long time Superintendent at the Club and is now Director of Agronomy covering both Loch Lomond and recently purchased sister club, Dundonald, and David Cole, who has been Superintendent for the last couple of years, along with his Assistants, Sue Rothwell and Peter Haggarty, have battled long and hard to improve the situation, but the sponge-like subsoil, coupled with the fact that Loch Lomond has - at 80 inches a year - one of the highest rainfall averages in the country, has meant that preventing soggy Footjoys and damp lies has taken a disproportionate amount of time and effort.

But hopefully that will all be a thing of the past as a recent move within the club has been the catalyst for some pretty serious drainage work. In fact, once the drainage programme has been completed there could be as much as 80,000 metres of pipe underground - that's over 50 miles!

Last year the club moved to a £55,000 deposit based membership, which increased the expectation levels in all areas, including the quality to the golf course.

"We'd always done a lot of drainage work on the course, mainly remedial work on trouble spots, but the recent membership conversion upped the ante and we agreed with the owners that we needed to implement a major drainage programme to make the course drier and improve the quality of the turf for our members," explained David, who has been at the club for 10 years.



The Loch Lomond Greenkeeping Squad

Ken and David explained the options and their implications, which ranged from sand capping the entire course to more conventional, but still radical, schemes.

"Sand capping the entire course to a depth of around six inches is expensive but it is almost 100% proof and it produces a firmer surface and subsequently maintenance is easier because you can hollow core safe in the knowledge that you won't be hitting rock," explained David, who has carried out some targeted sand capping on specific areas, approximately 10 Hectares in total.

If it wasn't for the fact that it would have involved closing the course for a year it may have carried the day but the need to keep the course open for the members meant it was never a serious option and the next best plan was given the green light - a complete, intensive drainage programme covering the entire course with the work being carried out in phases over the close season. Loch Lomond is closed from November 1 to April 1 every year.



A magnificent clubhouse and scenery to make every chocolate box tin designer salivate

"We commissioned drainage consultants Turf Trax, who had done some work for us at Dundonald, to GPS the entire site and worked extremely closely with Tim Colclough on the project.

"The GPS results, once they were put onto drawings, meant that we had a perfect picture of changes and movements underground and we could see where our main links should be. What it meant was that we could find an angle even on what appeared to be a flat area. Even if there was a one or two percent fall it was enough and it helped us go in and say we wanted a main line here and this is the lateral positions we want," said David, who added that the first fairway they did, the 12th, has laterals going in all different directions.

Previous drainage work had led David and Ken to appreciate that sand and not gravel was the best material to use as ochre can migrate easily when the drains are gravel filled, resulting in blocked pipes over time.

"We find that sand keeps things cleaner and when you think about it it's similar to a green construction. If you have a trench and you fill it with sand at the right depths it will work the same as how a green works and move water while retaining moisture."

There was a down side however and a series of meetings and much deliberation later saw the team looking at, and finally fabricating equipment to carry out the task.

"We knew we were putting wet sand into narrow trenches and that it wouldn't flow very well and had to come up with procedures to cope, particularly as we would be doing it over the winter months."

They agreed upon a matrix of a four inch main carrier pipe and then two inch pipes which would be the collectors or cut offs on slopes every four, or sometimes two, metre centres depending on contour slopes, on every fairway and as much rough and semi rough as we could get.

Estimates on how long the project would take varied. The contractor who carried out the initial work estimated 400 metres a day but David and Ken believed that with the peculiar nature of the Loch Lomond substructure and weather conditions 200 metres may have been more realistic. It is the in-house team which has since taken over the job and the 200 estimate proved the more accurate.

"It is more cost effective working out at about £2 per metre for us to buy pipe, joints, sand and parts for the trencher - our labour costs are fixed."

Having an empty golf course is obviously an advantage to Loch Lomond for such intensive work but it certainly didn't mean an easy time for the drainage team.

"We are doing it at the wrong time of year with it pouring with rain for weeks on end and it can be very dark. When it's wet it adds on a third more labour and the size of the team can go up from eight to 11 - Loch Lomond has a full time staff of 18. Cleaning the trench can become a two man job instead of one and you've got to have people laying boards for traffic and then continually moving them. It's not pleasant working when rain is running down your neck and the trench is filling with water, however the team still strive to give 100% in these circumstances said David, who explained it can be very frustrating when you start the day dry, then rain moves in and you have to stop the project. This can happen three to four days out the week.







The squad is around 40% through the drainage project



The scarring has to heal before the start of the playing season in April

They also have the additional complication of ensuring that everything is restored to perfection for April 1st each year and that any other maintenance practice being carried out is completed in advance of their tournament.

"We invested a lot in trackway which makes it easier to work off and we certainly benefited from the additional time we spent doing finishing work. Once the drainage work is complete on the fairway, there is a separate team who do the finishing work, re-turfing and doing repair works to any damaged areas. We almost treat it like a new grow-in fairway and feed it a little bit more and give it a little more height initially, until it is back to 100%.

The peculiarities of the site include the fact that the course is cut out of a peat bog, the fact that the site was used as a dumping ground for the main road that was built along side the loch shortly before the course was built and as a result lumps of concrete slab are regularly recovered, and caused the teeth of the trencher to be replaced every 200-300 metres. Oh yes, and during construction a dozer, which was left overnight on the 13th fairway, sunk, never to be seen again. Nothing could safely be sent in to rescue it.

The greens were rebuilt about five years ago again to solve a chronic drainage problem.

"The new greens were built to USGA Guidelines and now drain at between 300 and 450 mils an hour. The old greens didn't quite meet those standards - they drained at between one and 2.5 mils an hour," he revealed.

The drainage work is approximately 40% completed but already the benefits are there to be seen.

"We have completed seven fairways and the turf quality has improved dramatically because the water gets away quicker and not saturating the root system. In the past for example, if we got seven mil of rain overnight we would not be able to cut the fairways but now we can come in on the morning and cut the new drained holes while the other holes would be to wet to mow.

"Since these holes have been completed we are seeing a much healthier and tighter surface and the nutrients respond much better, while we have more opportunities to do punching or top dressing," said David, adding that as a result of their work they will also be able to reduce the amount of rye grass in the rough.

"Rye was the right choice at the time because it was very easy to get out there and it didn't need a lot of soil contact while we have the resources to cope with the additional mowing implications, but once we get the roughs drier and firmer we are going to introduce more fescues which will in turn reduce a lot of our maintenance as it is now.

"Hopefully we shall be finished by the summer of 2007 with another two winters of hard work."

Loch Lomond has never been afraid to experiment with new ideas and they are currently the first club on this side of the Atlantic to trial the new

American-produced Advance Air system which pumps air into greens and includes sensors to monitor moisture and soil temperature levels.

"We're putting one on the 11th, our most shaded green, and we shall see what sort of results we get but it gives us the option of drying the surface quicker by pushing air in or pulling water out of the profile. If it is successful we may look to put it into other greens."

Once the drainage programme has been completed the crew will look at tackling Loch Lomond's 75 bunkers - digging them out and installing new drainage and new sand.

"It will be like a lead weight being taken off us and we'll have time to look at so many more things on the course," said David, genuinely enthused by the prospect.

The drainage project once completed will open a whole new chapter on Loch Lomond and the work will have been worth it but you can't help thinking that such has been the extent of the work another option could have been to find a nice new sandy site, dig a huge loch and use the fill to create some mountains. It might have been easier in the long run!



This ditch shows the quality of Loch Lomond's sub-structure



The Loch Lomond soil profile



The Advance Air system prior to installation