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Letters to the editor are always welcome. They should be signed and carry the writer's address and telephone number. The editor reserves the right to edit letters for length, clarity, libel and good taste. Please send letters to: The Editor, Greenkeeper International, 13 Firle Close, Seaford, East Sussex BN25 2HL

An Open thank-you II Credit where it's due II Get off the bandwagon

On behalf of all the officials and members at Muirfield, I wish to place on record our appreciation of the efforts of the BIGGA staff and volunteers who gave up so much time to ensure The Open Championship ran smoothly.

Having been a BIGGA member for 21 years, I was very proud to be able to share with my fellow members what was for me a very special week.

Once again, many thanks.

CHRIS WHITTLE Course Manager, Muirfield Golf Club, East Lothian, Scotland

An otherwise excellent article (Hawthorne & Driver on Environmental Assessments, August 1992) was marred by the unethical failure to mention my name as the golf course architect who designed the Meon Valley course, used as a 'how it should be done' example on all three photographs featured.

The reader is left with the impression that either Hawthorne or Driver were the golf course architects, or that the features shown were always there and merely preserved.

Actually, the greens, lakes and most of the trees were planned by me on what was largely very flat, featureless farmland. Even the wild flowers shown in the rough areas were sown down using a British Seed Houses specially prepared 'Hamilton Stutt Wild Flora Seed Mixture'!

The fact that features at Meon Valley look as if 'they have always been there', I take as a compilment as it shows that I have succeeded in one of my two prime design aims - to provide beauty of a natural kind. The other is to provide the opportunity for enjoyable golf for all standards of golfer.

> J HAMILTON STUTT Poole, Dorset

Whilst readily acknowledging the generally high standard of contributions to Greenkeeper International, I am forced to observe that a few articles are in effect merely vehicles to bring some product or name to the readers' attention.

In greenkeeping we have our share of ecology fanatics. The arti-



cle on Environmental Assessments is all too typical of those leaping onto the conservation bandwagon, giving themselves airs and authority by implying that they are first on the scene. This is hard to bear when some of us have been carrying out such surveys for 20 years and more, parallel to those surveys assessing feasibility and viability, partly because we are genuine conservationists and partly because we need to have the answers to planners who frequently have objected to golf courses on grounds of their environmental impact, not just today but for the past 30 years! The correspondents' expertise can be assessed in their advice to "avoid the use of bunkers if possible or locate them where they will be unobtrusive".

Doubtless we shall seriously (in contrast to the April fool's joke earlier this year) be asked to dye the sand green. Clearly the writers (are they golfers?) fail to understand that bunkers should be sited strategically to catch long drives from the best players, which stray off line, but are sited so far off the tee that poorer players never reach them with their drives and hopefully carry them with their second shots.

But it is the article on watering techniques to which I and many others take most exception. It is full of demonstrably untrue statements supporting a false theory. We have had all this before!

Watering more heavily but less 12 GREENKEEPER INTERNATIONAL September 1992

frequently may appear to work in the laboratory but it does not in practice. One statement with which we all agree is Al Radko's comment that "over-watering is the cardinal sin of greenkeeping". Equally we must agree that it is essential to keep the capillary connection between top and bottom of the root zone. Thirdly, there can be no argument that a combination of deep frequent routine aeration and proper root zone specifications to ensure good drainage comply with sensible moisture and nutrient retention is essential for efficient irrigation techniques.

We must assume that management techniques are capable of sensible water control - withholding water in spring until soil temperatures warm up (cold wet greens start growth later than cold dry ones) and then making sure water penetrates fully by juggling longer irrigation periods and aeration. Once that is achieved, the proper method is to water sparingly every night in dry periods to maintain that capillary connection, without over-watering.

Ask yourselves - what is better for grass, periodic torrential thunderstorms or a nice drop of rain at night, every night?

Consider also the practical side. With systems set to apply say up to 10 min/night on full circle (6 min on greens only) on say 19 greens, 18 approaches and 36 tees, it takes an early start to finish the cycle over the night time

period - especially with golfers queuing to start at crack of dawn.

Reducing the argument to absurdity, watering once a week heavily means you have a choice. If it takes 6-8 hours to complete the cycle on a nightly basis with a weekly interval the irrigation period would be 42-56 hours! Even allowing the unproven saving of 20-40% this is still 25-44 hrs. Even watering twice a week means nearly a day and a night. Furthermore, since greens could not possibly take for an hour at a time virtually monsoon conditions, it means one has to devise three or four cycles over the period – obviously impracticable.

What do we do, close the course completely for a day, or water say 6 greens on Monday, 6 more on Wednesday and 6 on Saturday? Thus, six greens would be waterlogged and saturated; six would be drying out and six would be rock hard. How do you play such greens? How do you get the water to penetrate next time on greens which have dried out, except by deep aeration.

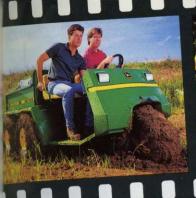
Furthermore, suppose you do water heavily as suggested early in the week and by mid-week, we get an unexpected thunderstorm? Gross over-watering is then inevitable, - the essence of good irrigation being finger tip control, efficient weather forecasting, accurate timing and luck.

I agree that "many will scoff at this suggestion". We have heard it all before and I had hoped that the unarguable logic and knowledge of practical men would by now have routed laboratory boffins, some of whom do not even know how to sample greens to measure root-depth and permeability!

Well-constructed and well-managed greens with proper root zones will in fact suck the water down and all we need to do is to top-up each night and make sure what is applied penetrates by routine slitting before it evaporates next day.

Finally little and often is the way all our best courses are irrigated, so your correspondent is apparently the only one of the Army in step!

J H ARTHUR, B.Sc.(Agric.) Budleigh Salterton, East Devon







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AD REF 165











David White introduces BERNARD FINDLAY, course manager at Portstewart, who explains in this first part of a two part feature, how man can work with nature to produce a seaside links course

that is, in our words, 'a golfing delight and a wonder to behold'

H H H

When Bernard Findlay, the 35 year old course manager at Portstewart, sat down after delivering his paper at Cirencester College on the building of a new links course, the consensus was unquestioned – a new star had been launched upon the greenkeeping lecture circuit. Acclamation for the absorbing tale he told was real enough, the essential thrust being one of marriage between man and nature, of empathy with God's acres and of meeting impeccable criteria *without* breaking the bank! Having now played over the new course I am happy to declare that the visible result – nine new holes of blissful linksland – is a golfing delight and a wonder to behold.

The reader should understand that Portstewart's new nine are not in isolation, nor can they be seen as anything other than utterly natural, for they appear now as if they have *always* been there. The Club's plan from the onset was to integrate them into the championship course, which hitherto had been nine holes of pure linksland and nine holes of a more traditional inland style. Whilst giving the 'forever there' appearance, of minimal disturbance, this was not necessarily so, as the reader will discover...

This writer is not about to steal the thunder of Bernard Findlay the course builder, for he has his own tale to unfold. However, before venturing into his construction debut, let us first look at Bernard Findlay the individual.

Born in South Norwood, a suburb of London that just creeps into Surrey, Bernard became a greenkeeper immediately upon leaving school. He joined his elder brother Joe, who headed the team at Shirley Park, and learned well under Joe's expert tutelage. It is no secret that Bernard disliked school and was no academic, he'll tell you that himself. On discovering greenkeeping however, he positively blossomed and found his forte. Fortune smiled again when he joined Crowham Hurst a couple of years after his formative training with brother Joe, this time working under George Brown, a Scot.

From the onset Bernard declared his intentions: "I want to be your first assistant". George nurtured him, persuaded the powers-that-be to release him for higher education, and in two years he had mastered City and Guilds Greenkeeping Management at Merrist Wood College, won top student honours in Phases I & II and majored in Horticultural Machinery. By sheer hard work he earned his declared position as George's number one. In his own words, he "loved every minute, had a positive flair for it" and grew in both stature and skills. Crowham Hurst was also where he met his wife Debbie, and armed with the confidence that marriage often brings, at the age of 21 he felt ready to make his mark as a head greenkeeper. An opportunity arose to manage a small course – Hurst in Berkshire – and with the added attraction (for him) that the course was not without difficulties, had severe drainage problems and therefore offered the chance to be involved in course rebuilding, especially new greens – he could hardly contain himself. Six years of personal growth, of climbing the learning curve, of mastering the skills of course husbandry and reaching management maturity were the end result.

Moving to Northern Ireland, to the seaside town of Portstewart, was yet another milestone in his career. Bernard, then 29, crossed the Irish Sea with Debbie and his young sons to begin a new era, to join what for them both was a different culture and for him the heaven-sent opportunity to manage one of Northern Ireland's most attractive links complexes. He was hired because he was a proven, trained greenkeeper, one who could bring to the Club both practical skills and technological excellence. For Bernard the initial attraction was management of 36 holes and his carrot - ves, there was one - undoubtedly was the proposed new nine! He inherited a staff of essentially practical greenkeepers, indeed he made the point when I visited of impressing upon me that their practicality is outstanding and he sang their praises loud and clear. It speaks mountains for his man-management skills that in his seven years at Portstewart not a single greenkeeper has left and the crew remains a tight, well knit team in every sense.

There were, indeed still are, problems and one can almost sense these being an added attraction for Bernard: an extra nettle to grasp, so to speak. In essence the two courses (one is pay and play and a valuable source of revenue, the other a members course of championship status) were in good order, though some earlier imprudent use of uncharacteristic ryegrass seed for divoting on landing areas has left unsightly patches that are totally out of character. Interestingly, I saw the same ryegrass tufts just a couple of miles away at Portstewart's famous neighbour Royal Portrush, and I'm sure Phil Baldock, formerly of Hankley Common and Portrush's relatively new course manager, is experiencing the same problems of eradication. I'm left with the wicked thought that perhaps the same seed merchant peddled his doubtful wares to both Clubs, blatantly disregarding or (perhaps more likely) failing to com-

ELLING COURSE

prehend the necessity for native species.

It is symptomatic of Bernard's nature that he appears to revel in such problem areas - "after all", he told me, "if you've a bad area you can only improve upon it, show members how it should be, it's a great challenge". How then, did he deal with this little thorn in the side? For Bernard the evesore has been contained by the continual use of Ransomes 171s with verticutters, then Ransomes 180s with boxes fitted, followed by scarifying the daylights out of the stuff. Cut reasonably short, the lies have improved beyond measure but the rye still returns in time. The use of a systemic weed killer will probaby be tried as an experiment, perhaps when the turf is browned by sun and drought, followed later by overseeding

This feature is not about course maintenance however, no matter how fascinating the subject may be at Portstewart. It is about the building of a new links golf course and it is time for Bernard Findlay to take up the tale, which he has titled *Can you build a seaside links – or is it nature's job?*

The courses of Portstewart are situated on both sides of the port, the championship course being adjacent to a range of dunes and located between the River Bann estuary and the Atlantic Ocean at the northern-most tip of the Province.

Before attempting to answer the question posed, I will relate my experience of such a task. To begin, it would be worthwhile to establish the criteria of a seaside links. The dictionary definition is given as: *flat ground near the sea, often laid out as a golf course.*

The foundation of links and dune areas arose from the accretion of wind-blown sand particles from sandy beaches being colonised by grasses such as lyme grass, sand couch and marram grass. The biological story after the initial accretion of these sand particles is one of increasing stabilisation by plants such as sea spurges, sedges, mosses and lichens to a point that when sufficient humus (and thus moisture) became available, a variety of plants – including fescues – were able to form a dense, grassy sward.

The evolution of such coastal areas is on-going if left alone, but the fact that man has found them desirable areas upon which to play golf means that these transitional zones have been halted by mowing.

So, what were the characteristics that golfers found so appealing? First of all, these areas required very little attention for their intended purpose. The grass was kept short by grazing animals and it was slow to grow in such infertile



conditions. The ground was free-draining and therefore reasonably free from disease. Such treeless landscape meant that shedding leaves never interrupted play and if minor alterations were to be made the light, sandy soil was easily worked.

Dune ridges in many cases provided seclusion between holes and ideal sites from which to 'teeoff', thus providing a vantage point to survey not only the scenery but the hole to be played.

Portstewart Golf Club were extremely fortunate in owning the range of sand dunes known locally as Thistly Hollow, which were adjacent to the existing championship course and where there was room for the development of several holes.



As a result a Thistly Hollow Committee was formed, their brief being to produce a plan to build new golf holes within Thistly Hollow that would become an integral part of the championship course and thereby release some of the weaker holes on the back nine, which in turn would become a nine hole course of its own.

The most active members of this committee, under the chairmanship of Richard McCorduck, were secretary/manager Michael Moss, professional Alan Hunter, my green convenor and designer of the course Des Giffin, and myself.

After repeated tours and at times heated discussions a plan was conceived between us, one that would highlight the beautiful features of this quite wild area and at the same time would not stretch construction or engineering requirements beyond either the pocket or what was reasonably practical. The plan was to build nine holes in Thistly Hollow, two of which would be par threes.

The total cost of the project has remained under £100,000, principally because additional drainage was unnecessary, a professional architect was not employed and our own staff and machinery were used.

Having established a plan it was necessary to seek approval from various bodies, including the Historic Monuments Society (this because some five thousand years ago the dune system had been home to a neolithic settlement), the National Trust, who are are immediate neighbours, and the local planning department. Largely because of our open approach and flexibility toward these groups, we found no hostility to our plans.

It had always been the committee's intention to keep the membership abreast of proceedings, and with this in mind tours of Thistly Hollow and updates on the notice board were a regular occurrence throughout the project.

At this point I thought it prudent to have a feasibility study carried out on the site and invited the STRI to do this. In July 1986 we received the study, which supplied us with suggested methods of construction for greens, tees and fairways. This study also highlighted some of the obstacles we may have encountered regarding erosion once sand had become exposed.

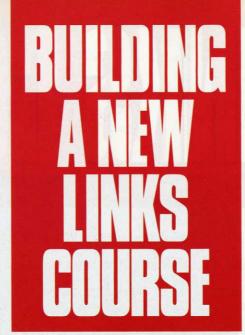
After an EGM the Club members agreed that my staff and I should construct one hole – from tee to green – by way of a pilot and to see what obstacles might be encountered. It would also enable us to estimate labour needs; machinery requirements; materials, time-scale and cost.

Having received the STRI feasibility study I felt obliged to at least try out their recommendations, which were as follows:

On many inland courses faced with the prob-GREENKEEPER INTERNATIONAL September 1992 17 lems of heavy soils, constructional methods usually involve expensive topsoil removal and amelioration with suitable sand to aid drainage. Also before replacing topsoil it is necessary to introduce pipe drainage systems capped with proper drainage layers. In your case we are dealing with an exceptionally rapidly draining material which is virtually pure sand. True top spit loam soil is virtually non-existent and I think can safely be completely discounted as far as value is concerned. The construction of your greens. therefore, will largely consist of simply scraping, burning or weedkilling, (followed by) shaping of the final surface using the material already exposed.

It is well nigh impossible to establish grass by normal seeding methods on pure sand and in this particular case such difficulties would be best overcome by ameliorating sand on the putting and surrounding areas with a product known as Alginure. This would be applied at the rate of 70gm² and afterwards the material would be carefully raked into the surface 50mm of sand. You must appreciate this product does not stabilise the surface but will act as a suitable supply of micro-nutrients and its highly organic nature will help it to hold moisture long enough to ensure suitable grass seed establishment. During the actual seed bed preparation - which involves meticulous heel treading and careful raking - you should apply a general pre-seeding fertiliser which could well comprise Evenrun (12:6:6) at the rate of 35gm².

After all amelioration, seed bed preparation and sowing out, the surface of the soil on the putting greens, surrounds and approaches should be stabilised using a proprietary stabilising material. There are several of these on the market which have been tried by various authorities with varying degrees of success and one or two of



these have been tried at Bingley. Possibly the most successful of all is that referred to as Dunebond.

Prior to stabilisation the seeding should be carried out at the rate of 35gm².

In view of known difficulties of seed establishment under these circumstances it is more or less essential that you organise the work in such a way that a proper watering system is available before you sow the greens and the seed beds should be kept well irrigated until proper establishment has been completed.

On with the pilot hole

The green, being of immediate importance, was built first, along the lines suggested by the

STRI and this was completed on September 5 1986. The surface was kept damp using a handheld hose on at least 4 x 30 minute sessions each day.

The tee was constructed on a height, using a tracked digger and employing the cut and fill method. Topsoil covered the surface to a depth of 150 mm, which was then turfed.

By the end of October 1986 the D8 bulldozer had exposed some 5,000m² of sand to form the desired shape of the fairway. Previously stripped vegetation had been stockpiled and was replaced on exposed faces of shaped dune by the digger. The exposed sand was ameliorated, using a slurry from a nearby farm and this also made a good stabilant during the interim. Although the slurry undoubtedly contain some *Poa annua* seed, this proved not to be a problem because the area was to be turfed. A small amount of screened topsoil amounting to 5% of the growing medium was applied to 'dirty-up' the sand and peat applied at 70gm² was then peg-harrowed into a depth of 100mm.

Turf laid on the prepared surface came from an extensive practice area and was cut thinly to encourage re-growth and thus negate the need for over-sowing. No pre-turfing fertiliser was used as it was thought that there would be sufficient nutrient available in the slurry.

This particular operation required eight of our green staff cutting, carting and laying the turf, labouring continuously over ten working days. A relatively short time, considering that what had been created would be there for many years to come. On completion, we quite rightly felt a sense of achievement at having finished what seemed an awesome task.

Next month: The lessons learned from the pilot hole construction ...and applying them as the entire project goes ahead.



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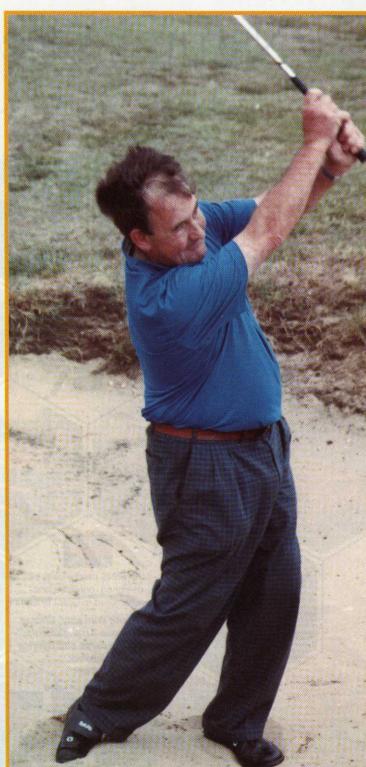


'Competition may be fierce, but it is beyond argument









Pictures, clockwise, from top left: Malcolm Grand, Littlestone's course manager, receives a tankard from David Siddon, ICI's national sales manager;

George Brown - at the battle of Bunker Hill!;

Paul Corfield – ICI Professional Products winner 15-28;

Andy Toomey celebrates - with the David Royle Memorial Trophy

DAVID WHITE reports on how our golfing greenkeepers met the challenge of a wild and windy National Golf Tournament

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