beautifully. Give us a call. We'd like to walk your course with you and recommend the best machine to meet your precise needs. You can trust Toro quality. To bring perfection to play simply telephone 0480 476971 and we will arrange for a local dealer to contact you.

If we can continually work on just these three points, I am certain we will be held in much higher regard by our employer and even the general public – that way the greenkeeper, who in my experience always puts pride in his work before all else, will be rewarded with higher esteem and a better salary. He will then give a far superior service and therefore better product, ie golf course.

**CONTROVERSY OF THE CONFERENCE**

You would imagine that one of the 17 talks would have provided the most controversy. But, no, it was the sixth to last question at the quiz night. The question was: How many broken clubs can a golfer replace during each round? Most contestants said none, but the answer Trivial Pursuits gives is one. We checked with the R&A who said: "As many as you like provided they were broken DURING THE COURSE OF NATURAL PLAY." Thus, if the player swings at a ball and wraps his club round a tree in the follow-through, he can't. If a golf cart runs over his bag and breaks all his clubs, he can get a new set. If he chucks the bag in a lake, he can't.

David Oatis, director, green section Northeastern Region, USA

What can be done to avert a disaster, such as massive loss of turf? The first step is to take an offensive approach rather than a defensive one. Act, don't react. Call in appropriate consultants and begin a fact-finding mission. Analyse the course's strong points as well as its weak ones. Look for potential problems in the water management systems, including irrigation and drainage, since failure here guarantees turf loss. Examine the growing environment around greens and tees. What is the air circulation situation like? Are trees becoming a problem? Does your turf have a reasonable chance for survival if the weather becomes unfavourable? All of these questions need to be answered before a plan of attack can be devised.

The golfers must be kept well informed. New programmes are more readily accepted by those who understand why failures occurred and what is being done to prevent them from recurring. They should be made to feel part of the decision-making process. Do not be surprised if the problems are complex and cannot be solved by a single solution. Usually, a variety of factors are involved. Don't fall into the trap of looking for a painless solution to your course's problems. It is very rare for a single piece of equipment, soil additive, growth enhancer, pesticide etc to turn a programme around. Severe problems rarely develop overnight and solutions require time, funding and patience to work effectively. In short, do not wait for disaster to strike, anticipate it. If disaster has already struck, use it to help sell the necessary corrective programmes. Don't be afraid to look at a bad year in a good light and use it to the golf course's advantage.
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**Furniture and fittings**

Why would Peter Oosterhuis, once one of the biggest names in European golf, leave the Hollywood set at the prestigious Riviera Country Club in Los Angeles for a pay-and-play course on a former rubbish tip near Heathrow Airport?

Because Stockley Park is special.

It is a Robert Trent Jones Senior design. It has USGA-spec greens and tees, and wall-to-wall irrigation. Set in the middle of a 250-acre country park, the 18-hole course is owned by the London Borough of Hillingdon but run by the PGA European Tour, Mark McCormack’s International Management Group and Stockley Park Consortium, the developers of the course and nearby business park.

And although it opened less than a year ago (last June), it has staged a Challenge Tour event and is set to host a Senior Tour competition.

"The intention is to have a great golf course that anyone can play," says course manager Cameron McMillan, the youngest of Jack’s sons.

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Some of the 30 signs at Stockley Park
telling dog owners where they can exercise their pets. One particularly interesting idea is information boards telling everyone about the wildlife and trees in the park.

Hole information is carried on 2ft high 'telegraph poles', but Cameron is thinking of replacing these because the elm wood is splitting and Peter thinks they're intrusive. They would prefer plates set in the ground.

Also on the tees are pineapple-shaped tee markers. There are eight ball washers on the course and half a dozen rubbish bins in addition to the bins in the park. There are no benches for golfers, just for the public in the park.

The park was built to gain planning permission for the business park. Having an upmarket business park, Stockley Park Consortium decided to build an upmarket golf course next to it as part of the country park. London Borough of Hillingdon sold the landfill site to the developers for £1, they developed it and sold it back for £1. Once handed over, it was then leased to Stockley Park Golf, which is made up of Stockley Park Consortium, the PGA European Tour and International Management Group, for 25 years.

The developers used gravel and London clay from the flat site for the business park, when construction began in 1985. The holes created were filled in with rubbish from the business park area. The capping was taken off and more landfill was put on top of landfill to create the contours Robert Trent Jones Sar wanted. The site was then recapcd.

They knew the landfill would generate methane for 10-15 years so they installed a methane extraction system which sucks methane to the far end of the golf course and burns it off - enough to power a 1 megawatt generator for ten years but the cost of building and running a generating plant was too prohibitive.

Transition layer
The golf course construction continued with the creation of a "transition layer" (subsoil) upon which man-made topsoil (a mixture of the original capping material and sewage sludge) was put. This is proving to be a very good growing medium: "We'll have to cut the fairways daily in the summer," says Cameron. Because it was man-made, they had to "plant" 1.5 million non-casting earthworms.

During the construction, 4.5 million cubic metres of material was moved in nine months. To get a better idea of how much earth this is, imagine a one acre base with all this soil and rubbish piled on top - it would be higher than Mt Snowdon.

Once the land had been shaped, approximately £3.5 million was spent turning it into a golf course. The fairways and rough were seeded with perennial ryegrass and smooth stalk meadow grass; the tees with perennial ryegrass, smooth stalk meadow grass and fescue, and the greens with Colonial bent/fescue. Poa annua found its own way there - "I inherited that," Cameron is quick to point out.

140,000 indigenous trees were planted – a mixture of fast and slow-growing species. The course also has 56 bunkers (large and unusual shapes, as you'd expect from an American architect).

The tees and greens were built to US standards, so they need a lot of water and feeding, but...
Information boards tell park-goers all about the trees and wildlife.

GOLF COURSE SIGNS

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Just some of the 700 tons of sand taken from the bunkers
Fittings and furniture review

When looking good is par for the course

A polished granite effect yardage marker plinth case, made from tough maintenance free polyethylene which, when filled with sand, gives the same stability as concrete, is available from manufacturers Tacit of Rugby. Tacit also have a new-style ball washer with maintenance free case and an unbreakable tee marker which is domed shaped and made from cast aluminium. Tel: 0768 568818.

Geebro claims its Lister range of teak outdoor furniture is the largest in the world. The range covers benches like the popular Mendip, bins, tables, troughs, chairs and picnic suites. Tel: 0323 840771.

Nicoll Graphics’ engraved tee plates use a photo-chemical etching process that allows you to incorporate as much or as little detail you require, eg just distance details or the complete ‘stroke saver’ type hole plan.

The Liverpool-based firm’s markers are chemically etched onto 2.6mm thick metal plates, finished with a coarse stoved paint, graphic detail coloured to your specification and coated with an all-weather fluoropolymer spray. The markers have blind fixings or can be fitted to a West African mahogany board with colour-coded 1in box section steel legs (as shown). Tel: 051 2647331.

BEV Golf Equipment of Penmaenmawr, Gwynedd, are offering golf clubs FREE tee markers and other on-course equipment. They make their money through selling advertising on the equipment. Tel: 0492 622309.

Shelley Signs manufacture their signs in glass reinforced plastic with the designs and text inset to form an integral part of the surface. Their range covers on-course signs including tee markers, directional, instructional and caution signs. Signs are also supplied for car park and club house, as well as one-off panels for leadership boards and other ‘specials’. Tel: 0952 541483.

Insurance protection forms part of BIGGA membership package

Accidents happen. We all know that. They happen at home, or playing sport, or travelling – and at work.

And when they happen, it can be painful in more ways than one. Accidents can result in severe financial hardship. That’s why BIGGA, in conjunction with Fenchurch Northern, provide to all members some protection within the membership package.

Benefits include £5,000 upon death, permanent total disablement, loss of limbs or blindness. Loss of hearing in both ears means £2,500. Toes, fingers and thumbs are worth £50 – £1,000. For temporary total disablement (payable for 104 weeks but excluding the first week of any period of incapacity) you would receive £35 per week.

In common with all insurance policies there are exclusions. For example, benefits will not be paid out if the injury is self-inflicted (eg. suicide), or if you were under the influence of drugs or alcohol. Nor will it pay out if you are “pregnant or suffering from sickness or disease not resulting from any bodily injury (ie. where the injury cannot be identified with a specific accident) or suffer from bodily injury due to a gradually operating cause (ie. any injury/illness which is pre-existing or cannot be identified with a specific accident occurring during the period of the policy).”

If an accident occurs the circumstances should be reported to Fenchurch Northern immediately. Fenchurch Northern are at Bramley Business Centre, 533 Stanningley Road, Leeds LS13 4DA. Telephone 0532 558400 fax 0532 570310.

Members can increase the benefits on application. These additional benefits are available on completion of a health questionnaire at relatively low premiums ranging from £15 – £60 dependent upon the benefits required.

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Farmers build course on tight budget

The developers of a new golf course in Robin Hood country have shown that it can be done without robbing anyone. Will Laughton, one of the farmers behind the Rufford Park Golf Centre in Sherwood Forest, says they spent £350,000 building an 18-hole par 70 course, nine-hole short course and driving range. There is also a 2,300 sq ft clubhouse, which they have deliberately not gone over the top on. "I don't think much money is made in lavish clubhouses," he told Greenkeeper International, pointing out that many recent development failures have been due to lavish clubhouses.

Mr Laughton says that golf course development is the last thing to enter without sufficient capital, but argues that a tight budget is more effective than having unlimited resources: "It means you have to work with the land, rather than against it."

Duncan Beall of Johnsons Seeds, who have been involved with the project from day one, confirms this approach: "I was given two targets: get the seed mixture right and get the price right."

The course, which opens to members in July and other users in August, is built on sandland so Mr Beall looked for grasses that were compatible with the indigenous grasses of the area and which would be resistant to drought.

To meet Mr Laughton's demands, Johnsons Seeds found it necessary to make some compromises but Mr Beall says this did not cause him concern. "We worked together and came up with the right mixture at a realistic price."

With input from the Sports Turf Research Institute, Mr Beall opted for fescue/bent fairways, using a good proportion of Jupiter slender creeping red fescue for drought tolerance and fine leaves.

The course is now complete and Will Laughton and his brother Bruce (who is in charge of course maintenance following some private tuition in greenkeeping) are entirely satisfied with the result. "We researched all over the world before embarking on this project and quickly came to the view that if there was anything we didn't understand, we would pay for professional advice," said Will Laughton.

He says construction consultant David Cousseells of Milton Keynes (who worked on the two courses at Woburn) did an excellent job, as did Beall.

"I could have purchased my seed anywhere but I required technical advice throughout the project. Duncan Beall didn't cost anything but in retrospect I would have been willing to pay for his services or to pay more for the seed."

Will Laughton says that in contrast there are some professionals around who work to a formula that doesn't allow for the natural characteristics of a site. "Farmers may not necessarily know much about golf courses but they do know about land."

Rufford Park has achieved its budgeted membership of 500 and will be looking at playing patterns to act as feeders to more expensive private clubs. However, the Laughtons hope to break the mould by providing facilities that match the best that private clubs can offer. The head greenkeeper is Peter Hunter, who is working on his first golf course but was chosen because of his man management and motivation skills.
Stand by for a challenging tournament

BIGGA’s 1994 National Golf Tournament, again sponsored by ICI Professional Products, moves to Dartmouth on August 1-3. Chris Boiling met up with head greenkeeper Terry Farkins to discover what’s in store
Bring plenty of balls with you if you're coming to Dartmouth Golf and Country Club for this year's ICI-sponsored National Tournament. And a scuba diving outfit might not go amiss as this picturesque course boasts seven water hazards, including an irrigation lake that holds 1.5 million gallons.

The tip from head greenkeeper Terry Farkins is: "Don't take your driver out until the 6th." After that the 6663-yard (off the white tees) par 72 course becomes more open. "Once you've played it a few times you know where to stick your driver in your bag and you know where to get your iron out," says 12-handicapper Terry, who joined the course two and a half years ago halfway through its construction.

When I went down to Devon to see him and view the course, the main thing on his mind was when were his six men going to be paid? Receivers were called in on March 28 and are running the club for the banks which financed this £6m project. Although there is much uncertainty about the future of the club, Terry has assured BIGGA and ICI that it is "business as usual" and they are looking forward "to welcoming all BIGGA members and feel confident you will all enjoy our superb golf course and leisure facilities."

These facilities include a £4million, 40,000sq ft clubhouse on an elevated position overlooking the 18th green and surrounding South Hams countryside. On the ground floor of the clubhouse is a leisure club with swimming pool, sauna, steam room, jacuzzi, solarium and gymnasium. On the top floor is a conference/function suite that can seat 300 delegates or guests. The complex was a local property developer's dream. Ralph Hitchens, a keen golfer, wanted to build something special. He's done that, although he's no longer involved to take advantage of it.

Ralph bought the land, which is five miles west of Dartmouth, from three farmers. Englishman Jeremy Penn was brought in to design his first UK course. A massive earth-moving programme went into action and, a year later, race ace Nigel Mansell, the club's first president, opened it in August 1992.

There are 27 holes, 18 of which make up the Championship course with the other nine being an easier Club course. All the greens were constructed to a USGA spec. The front and back nines of the Championship course are very different. The first holes are very picturesque with several man-made valleys to drive through and lakes to hit over. The back nine are more "linksy", set 500ft above sea level with man-made mounds framing the fairways.

There are just over 50 bunkers on the course but some are very big. One bunker on the 9th required 100 tons of sand.

Terry's favourite holes are the 4th, 5th and 18th.

The 4th is 491 yards off the white tees, through a valley with a lake near the green. "If you get a par 5 you can be really pleased," he says. "With the water, it's easy to walk off the green with a 10 on your card."

His tip is to take two 4 irons and then an 8 or 9 iron.

The 145-yard 5th is a very pretty hole. Sitting in a valley, the green butts onto a lake. When we were there, the pin was very close to the edge of the lake - and Terry says it's one of only a few pin positions possible on this hole because of the size and contours of the green.

The 18th is a spectacular finishing hole requiring a 214-yard tee shot over a lake to a green guarded by three bunkers. The tees are terraced into the hillside opposite the clubhouse.

At Dartmouth there are four sets of tees on each hole - red, blue, white and gold. From the gold tee, the 18th measures 244 yards. When the gold championship tee is used on the 10th, it completely changes the hole. From this tee the drive must carry 190 yards over a wood-filled valley (home to several badger sets) to reach the landing area. A sheer rock face borders the fairway to the left, whilst to the right the valley plunges away to a stream. A good drive on this 407-yard par 4 is rewarded with a comfortable second shot to the green. From the white tees the hole is a relatively straightforward 384 yards.

Getting to the greens is only half the fun. When you get there we think you'll like what you find. Predominantly creeping bent (Cobra) grass on sand (see panel), these greens have a reputation for being slick. Terry expects them to have a stimpmeter reading of 8.5. "I'm not a great lover of that, but that's what I'm asked to produce," he explained.

Another thing that you will like is...
**THE GREENS**

The greens at Dartmouth Golf and Country Club use a USGA method of construction. There is a herring-bone drainage system set into the subsoil, followed by a 100mm-deep layer of 6mm gravel. The rootzone was laid on top, no blinding layer was needed. The 250mm-deep rootzone mix is 90-10 sand and fen soil. The sand came from a local quarry (Watts Blake and Bearne) and is described as irregular to sub rounded with particle sizes of 93 per cent between 0.25 and 2mm. pH is around 6 to 6.5. "We have had no problems with the sand, it is of excellent requirement as it does not compact."

The seed mixture after construction was as follows, but they have now introduced creeping bent (Cobra) to the sward and this has dominated the surface:

- **Chewings fescue (Festuca rubra commutator)** - Frida – 60 per cent
- **Slender creeping red fescue (Festuca rubra liliavallis)** – Ruffia – 20 per cent
- **Oregon bent (Agrostis Castellana)** – Highland – 10 per cent
- **Brown top bent (Agrostis tenuis)** – Bardot – 10 per cent

Tees are subsoil graded with seven-man team is Steve Hunt, who worked the land when it was a farm. He knows the land inside out and, according to Terry, is an excellent weather forecaster.

He says it will great in August, so the only other thing to worry about is the pin positioning: "I'm always fair," says Terry, "at least they're on the greens." But sometimes only just.

### Top soil shortages

The first season Terry was here he concentrated on getting the greens right, then the tees, and now he is looking to improve the fairways by weed spraying, verti-cutting and scarifying. One thing he has noticed with the recent wet winter is that the fairways drain well. This is partly because of the shortage of top soil following the construction of the mounds. There is supposed to be two inches of top soil all over, but it's a bit sparse in places. However, the grass seems to be growing well: "We've used a lot of nutrients (high nitrogen and agricultural fertiliser) to get it established, but the result now is that you only get boggy areas in the few spots where there is too much top soil," explains Terry.

They have been verti-drawn twice since opening. When I visited the course in early April, Terry and his team were looking to topdress with fine sand "but because of the bad weather we weren't able. We're two weeks away from a county match, so we're limited as to what we can do. So maybe next week I'll verti-cut them, and give them just a light dressing if I can get away with it, and give them another feed and get them going again. As soon as the match is finished, we'll be in hollowing, overseeding with creeping bent and top-dressing."

Being a modern club, there is no greens committee and Terry has good communication with the pro (director of golf) and the members and is able to oversee etc at the best times for germination. Terry, who originally wanted to be a cricket groundsman, tries to play once a week himself and he tries to play as many other courses as possible "because you always think you've got the biggest problems, but you go somewhere else and you see they've got bigger problems than you."

One of the key people in his seven-man team is Steve Hunt, who worked the land when it was a farm. He knows the land inside out and, according to Terry, is an excellent weather forecaster.

He says it will great in August, so the only other thing to worry about is the pin positioning: "I'm always fair," says Terry, "at least they're on the greens." But sometimes only just.

### MAIN MACHINERY

The £139,000 worth of equipment in use at the club includes:

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5. Toro Reelmaster triples (216 D)
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9. Pro 24 strimmers
10. Toro fairway mower (223 D)
11. Toro Sand Pro bunker rake
12. Cushman power unit
13. Top Dresser
14. Vari Tyne Aerator
15. 66-gallon sprayer
16. 8ft brush
17. Multi-depth aerator
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19. Cyclone fertiliser distributor
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21. Vert drainer
22. Knapscarce spayers
23. 21in rotary
24. Cylinder grinding machine

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