How does an architect go about creating a course, especially in an environmentally sensitive area? Chris Boiling talked to leading golf course designer Donald Steel about the Carnegie course on Peter de Savary’s Skibo Castle estate, near Dornoch, Scotland.

“Heaven on earth,” was how Andrew Carnegie described Skibo, his Highland castle which is now being turned into a golf and sporting club by Peter de Savary. “Heaven”, “Mecca”, “paradise” are over-used terms in golf magazines, but the Carnegie course, which is due to open in July, is certainly special. It’s the first links course built in Britain in the last 40 years.
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AD REF 206

In our April issue we reported how the farm and parkland surrounding Ramside Hall Hotel near Durham was being turned into a golf complex with course manager Roger Shaw coordinating the project. Because a greenkeeper was playing such a pivotal role and because it sounded such an exciting project, we’ve decided to follow it all the way through with regular updates from now until its planned opening in spring 96.

The new 27-hole golf course being built at Ramside Hall Hotel is being built by “the project management method”. This is a fancy way of saying that the developer - Michael Adamson in this case - pays for each aspect of the construction work directly instead of paying through the main contractor.

But the key to using the project management method successfully is picking the right managers.

Mr Adamson and course manager Roger Shaw, who has been in charge of this project from day one, have gone for Ian Martin and Bob Horne, who have both been working in the industry for more than 20 years.

Work started at Ramside Hall in early March and, as we went to press, Ian Martin told us they had constructed 17 greens, 16 tee complexes, seven lakes (ranging in size from 500 to almost 8000m sq), and 55 bunkers (greenside and fairway).

To have got these features ‘constructed’ basically means they are shaped up and ready for a ‘ringbone’ drainage system to be installed prior to placement of drainage carpet, blinding layer and rootzone.

Once the green has been approved by the architect, Jonathan Gaunt, the drainage carpet can be spread (between 150mm and 200mm depth, 19-14mm whinstone aggregate supplied by Hargreaves) and blinded off with grit (50-75mm depth, 3-6mm whinstone aggregate, again supplied by Hargreaves). Tees will not be having a drainage carpet but will still have a herring-bone drainage system and 150mm depth of rootzone.

The drainage of greens and tees is carried out by mini-trencher and linked into the fairway drainage system on the approach. MJ Abbott are the contractors for this major scheme which involves the installation of over 50,000m of pipework, and they have been on site since mid-March. Nine fairways have now been drained (including bunkers) ready for mole-ploughing, so cultivation works have begun over the top – two passes of the shakerator to relieve compaction, encourage vertical water percolation and aerate the soil, followed by power harrowing and stone picking/burying, where necessary.

The drain game

Robert Donald of MJ Abbott explains what he did at Ramside Hall:

“Standing side by side with course manager Roger Shaw and looking over what was to be the 5th fairway on a cold and horridly wet October morning, I first realised the importance that the drainage system would play in the success of this venture. The client, whom I had met earlier, had given me a verbal brief: ‘Robert,’ he said, ‘I want the water to flee off the land!’ Here I was ankle deep in an emulsion of water, once removed from the drains were ‘bedding in’. As it is excavated and immediately covered with stone which is discharged from a gravel cart running parallel to the trenching machine by laterals at 650mm and mains at 900mm depth. The spoil generated is loaded directly onto a dumper thus preventing topsoil falls regardless of surface undulations. The pipe is fed into the trench as it is excavated and immediately covered with stone which is discharged from a gravel cart running parallel to the trenching machine by laterals at 650mm and mains at 900mm depth. The spoil generated is loaded directly onto a dumper thus preventing topsoil contamination.

All the greens, tees and bunkers were connected to the drainage system with a mini excavator, this method coping well with the inherent mounding associated with such features. Following pipe laying, the area of the fairways were mole ploughed prior to final cultivations in order to assist water movement through subsoil while the pipe drains were “bedding in.”

To close a course for any reason is undesirable, but to close because of poor drainage is intolerable as it can lead to huge losses in revenue. Addressing the drainage question in the early stages of planning will reap benefits many years after the initial cost of installation has been forgotten.”

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Ramside Hall: an update
it's bounded on three sides by the estuarial waters of the Firth and has spectacular views of Struie Hill; eight of the holes lie within the Dornoch Firth Site of Scientific Interest; it's the first course owned by wealthy entrepreneur Peter de Savary; and it's a project that Carnegie himself would have been proud of.

Carnegie was a Scot who emigrated to America with his family when he was 13. There he rose from a bobbin boy in a cotton factory to become a steel magnate, and returned to his homeland as one of the richest and most successful men of his generation. He bought Skibo (a shortened version of its Celtic name, Schytherbolle, which means 'fairyland of peace') in 1898 and spent a fortune rebuilding it to entertain the likes of King Edward VII, Rudyard Kipling and Lloyd George.

It is believed that the local golf club, Royal Dornoch, invited him to become a member but because he couldn't play he built himself a nine-hole golf course where he could learn the game. He invited five-times Open champion JH Taylor to stay at the castle — and coach him. Carnegie later became vice-president of Royal Dornoch and, today, the impressive-looking Carnegie Shield is one of the big competitions on the club's calendar.

Peter de Savary is a non-golfer too, but he's not building the new 18-hole course for himself. He is turning the 7,000 acre estate into a private residential golf and sporting club with an invited international membership of about 500.

The Carnegie course at Skibo Castle will be de Savary's first golfing venture. And what a venture. The first links course built in Britain since Southerness and the restoration of Turnberry after World War II. It's not long — just 6,650 off the championship tees and 6,400 off the white tees — but there are many tough and memorable holes.

Despite some of the publicity for the club and boards outside proclaiming its "reopening", the new course, designed by Donald Steel, is nothing like the original. The only visible evidence of the original course is a grassy hollow near the 12th which was probably a bunker near the original 9th green.

When the castle was put on the market in 1989, Steel was commissioned to provide a golf course as a selling feature. When de Savary bought Skibo in 1990 he saw Steel's name on the plans and asked him to design a course for him.

When Steel and his assistants, Martin Ebert and Tom MacKenzie, are designing a new course they walk the new site as many times as possible. For Tom, who comes from Dornoch, this meant driving 11 hours home a few weeks after starting work at Steel's offices near Chichester, West Sussex.

The first two things they have to find out before they start creating a course are the boundaries and the site of the clubhouse. With the Carnegie course they also had to plot the areas of scientific interest.

The site of an old steading was to be used to build the new clubhouse. Standing there, Steel envisaged a spectacular final hole, a par 5 dogleg with a drive across a bay. So, to some extent, they worked backwards on the design of this course. Once they realised they could get three holes to the west of the clubhouse, the first hole became obvious.

They also knew they wanted to use some land on the other side of Ferry Road because it gave a third view of the Firth and linked the course with the beach. Another hole, the 8th, alongside River Evelix, was also obvious, according to Steel.

Before they went too far down the design road, they employed an ecologist to plot the areas of importance and grade them: prime importance, importance, and potential importance, so they knew where they could go and where they most certainly couldn't go. They also started consultations with Scottish Natural Heritage and began communicating with planners, ecologists, environmentalists etc.

They told them they wouldn't go into any areas of importance or prime importance and they would do their best to avoid areas of potential importance. They also struck a deal allowing the conservationists to come in and manage the heathland areas, which they hadn't been allowed to do for the previous 30 years and as a consequence some of the areas of good heathland had started to disappear. The conservationists jumped at the chance to stop the decline of valuable sites.

The most sensitive area was the land south of Ferry Road. Steel wanted to take the course there to add to the scenic variety, but also because he needed the space. Although the estate is on more than 7,000 acres, the golf course is on a plot of about 120 acres (200 if you include the areas of scientific interest).

Once they had received approval in principle from Scottish Natural Heritage, Steel's ecologist had to do a detailed environmental appraisal showing why the site was valuable, what plants were there, what effect the work would have on them and how the course would be built — hole by hole with particular attention to holes in SI territory.

He also had to say how
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Looking back from the 5th green. The SI area on the right is marked as GUR but requires a compulsory drop.

Fortunately, Steel had been involved in the rebuilding of some new greens at Royal Dornoch, so they were able to take SNH there to show them how it’s possible to work in very tight areas, without damaging heather and gorse bushes around the backs of greens.

The new plan for the Carnegie course showed it would only go into SI areas with the first green, second tee, fourth and fifth holes, and sixth tee.

So with the 18th, 17th, 16th, 1st, two holes near the beach and a hole near the river in mind, the rest fell into place.

Steel doesn’t believe a good course has to be over 7,000 yards. “You pick nice tee and green positions and whatever they measure, they measure and whatever they add up to, they add up to. The belief that unless it’s 7,000 yards it’s no good is a load of poppycock.

“Carnegie is not long, but it’s long enough for the majority of golfers. And the penalties for missing the fairway on a number of holes are quite grave.”

With this par 71 (70 off the championship tees) course, Steel wants to make golfers think. Cutting off the right amount of dogleg is rewarded with a much easier line to the green.

Mainly turfed
Work started late August/September 1992, later than desired because of all the planning involved. Most of the fairways, greens and tees were turfed because of the difficulties of getting seed established in light sandy soil on a windy site.

Lindum supplied and laid 37

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Donald Steel was a golf writer before he became a designer. A scratch golfer, he joined the Sunday Telegraph after leaving Cambridge University. Five years into his 30-year stint there, Ken Cotton invited him down to see his new courses at St Pierre and Ross-on-Wye, among the first courses to be built in Britain after World War II. After that they kept in touch.

When a new wave of courses was built in the 60s, Donald was asked if wanted to help out. He did, and eventually he became a partner in the firm of Cotton, Pennick, Lawrie and Partners. In 1987 he started his own firm and in 1989 he left the Telegraph, although he still contributes articles (including a new series on his 18 favourite holes) and has written several books.

Over the last five years he has built about 60 courses in 15 countries. One of the courses he is most proud of is Redtail in Ontario, Canada. Built for just over £1million it has been voted the second best course in Canada one year after opening. And Canadian journalist Lorne Rubenstein has said: “Developers should ask English architect Donald Steel to work in Canada more often. This is the only course he’s designed in Canada. It’s a peach.” He believes it could become Canada’s Pine Valley.

In this country Steel, who now plays off 6, is best known for his work at St Andrews, where he redesigned the Jubilee and Eden courses and designed the Strathclyde course. Other courses of his which have received widespread acclaim are Mill Ride and Portal in the UK and Vila Sol in Portugal.

His assistants, Tom Mackenzie and Martin Ebert (pictured above with Donald – Tom is on the left), are also university graduates and low handicap golfers. Tom has a degree in landscape architecture and plays off St Martin graduated in engineering and plays off 4.
The Greenkeepers Training Committee (GTC) are continually reviewing the approved status of colleges offering greenkeeper training courses.

The directory shows colleges offering courses to craft, supervisory and management levels, but it must be stated that until the GTC review is completed only the green ended courses are approved to train greenkeepers beyond craft level.

The introduction of vocational qualifications into industries, has caused the colleges to re-think their training policies and the GTC will be issuing guidelines for the golf greenkeeping industry as to which colleges employers and their staff should be supporting.

Until the report is complete, anyone with a query regarding greenkeeper training should contact the Greenkeepers Training Committee at Aldwark Manor, Aldwark, Aine, York Y06 2NF; telephone 0347 838640.

**Askham Bryan College**

Askham Bryan, York Y02 3PR. Contact Christine Biggin, registrar. Tel: 0904 702121.


**Houghall College**

Houghall College of Agriculture and Horticulture, Houghall, Durham DH1 3SG. Contact Tony Milan. Tel: 091 386 1383.

Full time courses: National Certificate in Horticulture and Greenkeeping; 1 year; National Diploma in Horticulture and Greenkeeping; 3 years; Part time courses: Greenkeeping and Sports Turf Management Level II – Day Release; City Phase III Enterprise Management – Afternoon Evenings. Short Course: Health & Safety Legislation, Turfcare, Machinery and Mechanisation. All courses contribute towards NVQ Levels I and II.

**Kirkley Hall College**

Kirkley Hall, Penteland, Northumberland NE20 1AQ. Contact Dr Ron McParlin. Tel: 0661 860808.

NVQ Level II with greenkeeping option. Day release or block release – one to two years.

**Moulton College**

Moulton, Northampton NN3 1RR. Contact Stuart Phillips. Tel: 0604 491311.

Full time courses: BTEC National Diploma in Horticulture, Greenkeeping and Sports Turf Management. Full time courses: Day Release training to NVQ Level II in Amenity Horticulture – Greenkeeping option. The course is based around the GTC Training Manual. Short courses also available in Horticultural Machinery and Arboriculture.

**Brooksbury College**

Brooksbury, Melton Mowbray, Leicestershire LE14 2LJ. Contact Paul Greene. Tel: 0664 834291.


**Broomfield College**

Morley, Ilston, Derby DE7 6DN. Contact Admissions Officer. Tel: 01332 831345.


**Cambridgeshire College**

Milton Centre, Landbeach Road, Cambridge, Cambridgeshire CB4 6DB. Contact David Haigh. Tel: 0223 860701. Part time – Day Release over two years leading to NVQ Level II (Greenkeeping Options), including the GTC Training Manual.


**Lincolnshire College**


**Moulton College**

Moulton, Northampton NN3 1RR. Contact Stuart Phillips. Tel: 0604 491311.

Full time courses: BTEC National Diploma in Horticulture, Greenkeeping and Sports Turf Management. Full time courses: Day Release training to NVQ Level II in Amenity Horticulture – Greenkeeping option. The course is based around the GTC Training Manual. Short courses also available in Horticultural Machinery and Arboriculture.

**Staffordshire College**

Rochaston, Penkridge, Stafford ST19 5HG. Contact Nigel Foskett. Tel: 0785 712209. Courses offered: Craft Level NVQ Level I, II and III. Day Release. Duration: Over two years, each of twelve weeks duration (September – June). Registration Date: Please contact the College.

**Warwickshire College**

Moreton Morrell, Warwick CV3 5BL. Contact Chris Gray. Tel: 0926 651367.


**Brinsbury College**

North Heath, Pulborough, West Sussex RH10 1DL. Contact Keith Harrison. Tel: 0798 873832.

Full time course: National Certificate in Groundsmanship – 30 week; NVQ in Greenkeeping option plus core. Approximately a third of the course is delivered on college and local ground. Part time: Day Release to NVQ Level II. Both full time and part time students with work, both in the NCH Fourth Final and the Greenkeeping manual. NVQ Level II (Technical Certificate) with half of Greenkeeping training manual may be followed as an evening course. At present NVQ Level III is offered in Greenkeeping Supervision and Enterprise Management. At this qualification is planned as NVQ III and IV will be offered. NCH Landscape Studies (Option – Spraying Management). New courses and qualifications: National Technical Certificate (NTC), National Practical Certificate (NPC), Intermediate Diploma (ID), National Diploma (NDG).

**Hadlow College**

Hadlow College of Agriculture and Horticulture, Hadlow, Tonbridge, Kent TN11 0AL. Contact Keith Backhouse. Tel: 0732 850658. NVQ Level II Part-time Day Release over two years with two periods of Block Release. Level II in Amenity and Groundsmanship Courses with Day Release. Centres at Hadlow, Catterbury and Maidstone.

**Merrist Wood College**

Worplesdon, Guildford, Surrey GU3 3PE. Contact the Academic Registrar. Tel: 0483 232424. NVQ Levels I, II and III in Amenity Horticulture, Greenkeeping and Sports Turf Specialism. Part time… one day per week for 35 weeks commencing in September.

**Nescot**

NESCOT North East Surrey College of Technology, Reigate Road, Ewell, Epsom, Surrey KT17 3DS. Contact Dr S Shaw. Tel: 081 394 3099/3111. NVQ Levels I, II and III in Amenity Horticulture (Greenkeeping options) Training and assessment for the Greenkeepers Training Manual. Part time, Day Release. Duration: Two years to Level II. FEPA Spraying Courses.
Currently GTC approved as Regional Training Centre, offering courses at Craft, Supervisory and Management levels

Currently GTC approved for training courses up to Craft level only

Pending GTC approval for all courses

KEY TO COLOURS

All courses commence September 1994.

Each year. Attendance full-time, block release and day release. Short courses including "Use of Pesticides" available on demand. Registration June and August.

Units at Level I and II linked with GTC Training Manual; SCOTVEC National Certificate Modules for Greenkeeping; SCOTVEC HNC Units in Horticulture; SCOTVEC HNC Units on Golf Course Management (available as Distance Learning/Flexible Learning from October 1994). Duration of courses:

Sports Turf Management:
Two year part time, one day per week. Level II Year One leading to NVQ Level II. Level II Year Two leading to City & Guilds 022-4. Greenkeeping and Sports Turf Management at NVQ Level III. Amenity Horticulture and Greenkeeping Business Management: Part time, one day per week. National Certificate in Greenkeeping and Sports Turf Management: One year – full time.

Courses in Greenkeeping and Sports Turf Management (Phase I) - Greenkeeping: NVQ Level II; Greenkeeping and Sports Turf Management: NVQ Level III. Phase II - Enterprise Management, Greenkeepers Supervision - Block and Day Release; City & Guilds Phase III - Business Management - Day Release. NCH Full time with a greenkeeping bias. (Subject to approval).

Currently GTC approved as Regional Training Centre, offering courses at Craft, Supervisory and Management levels

Currently GTC approved for training courses up to Craft level only

Pending GTC approval for all courses

Please note that all college details on these pages were provided by the colleges themselves.

Greenkeeper International takes no responsibility for accuracy of information provided.

Contact the colleges directly for prospectuses and comprehensive information.

OAKLANDS COLLEGE
Oaklands Campus, Hatfield Road, St Albans, Herts AL4 0JA. Contact Ian Merrick. Tel: 0727 850551. Greenkeeping and Sports Turf Management: Two part per year, one day per week. Level II. Part One leading to NVQ Level II. Level II Year Two leading to City & Guilds 022-4. Greenkeeping and Sports Turf Management at NVQ Level III. Amenity Horticulture and Greenkeeping Business Management: Part time, one day per week. National Certificate in Greenkeeping and Sports Turf Management: One year – full time.

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OLYMPUS COLLEGE

ELMWOOD COLLEGE
Cannington, Bridwater, Somerset TA5 2LS. Contact Nick Rigden. Tel: 0278 652226. BTEC First Diploma. BTEC National Diploma in Sports Turf and Golf Course Management. BTEC Higher National Diploma Golf Course Management (inc. European Studies); NVQ Level 1 and 2 Golf Greenkeeping; NVQ Level 3 Greenkeeping and Supervisory Management; NVQ Level 4 Greenkeeping Management. FEPA Training, Chainsaw Certification, Off Road Vehicle Certification, Golf Course Engineers Course.

Contact Steve Miller. Tel: 0278 652226. BTEC First Diploma. BTEC National Diploma in Sports Turf and Golf Course Management. BTEC Higher National Diploma Golf Course Management (inc. European Studies); NVQ Level 1 and 2 Golf Greenkeeping; NVQ Level 3 Greenkeeping and Supervisory Management; NVQ Level 4 Greenkeeping Management. FEPA Training, Chainsaw Certification, Off Road Vehicle Certification, Golf Course Engineers Course.

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Modern day golf course architects – especially our cousins from over the Atlantic – love water, it seems. Give 'em half a chance and they'll come up with at least one spectacular hole designed to force players into making choices. A safety shot for the timid; an arm chancing drive for the bold, tempting them to smash the ball beyond the watery clutches of an in-play lake. And, as we so often see, beyond the back of the green as well...

Water hazards can intimidate club golfers and hardened pros alike. Just think back to that menacing 15th which featured so dramatically in last month's US Masters, staged at the 'garden course', Augusta National.

Apart from Olazabal, whose 30-foot, final day putt killed-off the opposition - at the 15th - and ultimately secured that prized green jacket, most of his rivals were in big trouble. How many shots did Payne Stewart drop attempting to clear those limped waters...?

But it is not only the players who have to be aware of the dangers of still waters these days. The increasing numbers of feature lakes and off-course reservoirs appearing on our golf courses form the basis for hazards of another type: natural pollution. Greenkeepers beware...!

The relatively new concept of digging holes in the ground for in or out-of-play water storage purposes is linked directly with the use of irrigation systems.

Why? Because legislation imposed by the National Rivers Authority (NRA) insists that abstraction licences are largely conditional on the system's design being self-sufficient in terms of water consumed. This is particularly true of golf courses located in the south and south-east of the country, where water is most often at a premium in the summer months.

This is the reason why we see so many developers and golf clubs – never mind architects – investing in the construction of in-ground storage facilities.

By comparison, the more conventional, above-ground storage tanks - usually used as overnight holding points - are fast going out of fashion. They are simply not large enough to hold the vast volumes of water involved. Even built in multiples, the cost of a number of tanks would far outstrip that of a reservoir.

Based on the broad principle that only winter water, abstracted between October and March, is utilised, man-made feature lakes and off-course reservoirs are today's answer to the problem of sourcing enough water for months of high-season irrigation. A classic example of this trend is the total water management scheme implemented at The Belfry a couple of years ago. Then, a lake, capable of holding ten million gallons of water – 40 million litres for the benefit of thrusting young 'keepers clutching HNC's – was constructed behind the Derby course.

Filled and subsequently topped-up from a nearby stream, the lake actually fulfils two roles – as course manager Derek Ganning explained when I visited him prior to the '93 Ryder Cup.

Not only does this vast tract of water feed irrigation systems watering both the Brabazon and Derby courses, it is also used to overcome evaporation losses by maintaining levels of the in-play lakes dotted around the championship course.

On the club circuit, the lake featuring an island green built during the reconstruction of the Barton-on-Sea course, featured on these pages (April issue) was designed to provide...