



Affordable Golf Facility Development: Growing the Game

WORKING FOR GOLF

R&A



Affordable Golf Facility Development

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Foreword

All of us who work to ensure a sound future for golf know that, for the game to flourish, it must be affordable and accessible. Golf needs facilities closely suited to the market they are serving and new development must be designed to respond to the changing needs and priorities of both established golfers and those new to the game.

Despite some participation decreases in larger golfing nations, our sport is continuing to grow worldwide and golf's return to the programme of Olympic sports in 2016 will undoubtedly boost demand. Too often, however, we hear of courses and facilities encountering severe difficulties because what they offer does not match what golfers want or their capability to pay.

A full round of 18 holes is, and will no doubt continue to be, the norm but our hectic business and family lives often mean less free time for recreation. This is where golf facilities offering a less time-consuming and costly alternative can be an effective way of introducing new players to our sport and of retaining their interest and participation in the future.

The Golf Course Management section of The R&A website, www.RandA.org, contains a wealth of information on the development and management of facilities that will meet financial, environmental and social requirements.

This publication is aimed at golf's national governing bodies and, through them, all those involved in the business of the development and construction of golf facilities. It is complementary to the Legacy Guidelines produced by the Golf Environment Organization which was part funded by The R&A.

All involved in creating the golf facilities of the future should find the contents of *Affordable Golf Facility Development* invaluable.

Peter Dawson
Chief Executive, The R&A

Introduction

The R&A supports the development of the game globally and wants to encourage more people to play golf in more places, more often. The lack of access to affordable and enjoyable facilities available for practice and play is a major barrier to this goal. Facility development must be viable not only for today's golfing public but also over the long-term to support sustainable development of the sport.

There are two distinct aspects to affordable and enjoyable golf facility development:

- **strategic;** involving local, national or regional planning. This should address issues such as land use, availability of resources (notably water), the impact of development on the community and the demand for the sport
- **the facility;** developing a business that is viable over the long-term. This is the responsibility of the developer who needs to ensure the project delivers the needs of the golfing public without damaging the environment or impacting negatively on the local community.

Individual developers or residential and resort projects looking to make a profit from golf tend not to consider the broader, strategic picture. Governments and golf's governing bodies need to take a more strategic view to ensure golf contributes positively to local economies, does not pose a burden on resources and reflects the needs for the development of the game in any country or region. For both, the product must meet the parameters of sustainable golf:

- the playing performance requirements of the golfing public
- the economic performance for long-term financial security
- a light environmental footprint
- a positive contribution to the local community.

This publication introduces the options for developing golf facilities to suit different markets, the basic principles of site selection and its implications on the sustainability of any particular project and the need to plan for the cost of ongoing maintenance to retain performance standards.



A busy golf course



Golf and nature working together

What type of golf facility to build

This should be considered at the strategic and facility level.

Golf is not all about 18-hole championship play. Only a very small fraction of golfers play to this standard. The majority play purely for enjoyment and golf is always looking to recruit new players; this requires suitable facilities on which people can learn and grow into the sport. If the sport is to develop, it will require a range of facility types to cater for all standards of golfer; from beginner to top amateur and beyond.

For a new golf business to prove viable over the long-term it must first identify its market and then grow with it.

Ideally, there will be local, national and regional strategies for the development of the sport which will identify the demand for the type of facilities to be supplied. Facility developers should consider such demands to ensure their product will serve the market.

There are a variety of golf facilities that can be built to suit all standards of golfer which include:

- any area of open, available land on which a tee can be marked and a hole cut. The image below is of Quijorna in Spain, showing that you don't even need grass to produce a golf course
- driving range and practice facilities. These can be as simple as a field with teeing area, taking up no more than 2 or 3 hectares of land. More complex structures with bays and floodlighting can provide a multi-storey facility which increases capacity. These are a great way to introduce newcomers to the sport and to provide more experienced golfers with the opportunity to improve their game



Quijorna Golf Course



A commercial driving range

- pitch and putt and par 3 courses. These can be laid out on an existing, relatively small area of grassland, perhaps no more than 10 to 15 hectares, with tees, fairways and greens produced by simply mowing the grass closer (pictured below). Purpose-built facilities can be developed, but at much greater cost. This type of course requires relatively little land. They can provide an enjoyable way for newcomers to experience a real course. They can also test and improve the short game of experienced golfers.

All of the above can be built relatively cheaply and do not require large areas of land. Indeed, the few hectares needed for such developments means that they may be suited to brown field sites, which will provide a golf facility within reach of a large number of people. These forms of golf are not time consuming; anyone with an hour or two to spare can enjoy a practice session at a driving range or a round on a pitch and putt course.

- 3, 6 or 9 hole courses provide a true golf experience on a smaller area of land than required by a full 18 holes. This reduced number of holes can also be applied to pitch and putt and par 3 courses. These courses give the golfer options to maximise their free time for golf



Par 3 course



Rye

- short-length 18 hole courses. The wonderful course at Rye, in East Sussex, England (pictured below), is only 6,497 yards and has a par of just 68, yet it jointly hosted the English Amateur Championship in 2009
- full-length 18 hole courses which can require 60 hectares or more of land.

Building full-length courses may meet some of the demands of a mature golf market. However, pressures of time and family life often mean golfers struggle to regularly play a round which may take 4 to 5 hours. For an immature or growing market, practice facilities and shorter versions of the sport provide a convenient entry point and facilities that will also benefit experienced golfers.

Golf facilities that take up less space are also ideal where land is at a premium. They also cost less to build and maintain, utilising fewer natural resources such as water.

Key elements to golf development

There are certain essential matters to consider before starting any golf course development which will have major implications for the success of the venture:

- the need to undertake a financial feasibility study to determine the cost of the development (including land), the needs of the market and the suitability of the location for that market
- the need to undertake a technical feasibility study of the site in question to determine its suitability for the project and the likely requirements for earth movement, drainage, irrigation and the most suitable grass selection. Site selection is one of the most important factors which determines the cost of developing a course
- the need to undertake a sustainability impact assessment on the environmental and social implications of the development.



Feasibility studies require on site inspection

To guarantee the success of any project, it is important to:

- use qualified experts. A golf course architectural practice which has demonstrated an ability to design with economy and sustainability in mind will normally be the key adviser to a project but agronomists, irrigation consultants and drainage consultants are likely to be required depending upon the site characteristics and the scale of the project
- choose the right site
- fit the design to the site, utilising existing terrain, vegetation and infrastructure (such as buildings) where feasible. Royal Birkdale, shown right, is a great example of a course that 'fits' into the natural landscape and makes the most of native vegetation
- choose the right grasses and other plants for the site, its climate and available resources
- source materials of suitable quality for the development, including water and soils
- implement the necessary standard of construction, including earthworks, drainage and irrigation provision



The 12th at Birkdale, sitting into the dune landscape

- employ a design, build and maintenance model that makes optimum use of local resources, including water, labour, suppliers, energy and waste management
- employ a design that is reasonably maintenance-friendly, to suit ease of mowing and other practices. Intricate bunker design will be labour intensive; studies have shown that up to 27% of maintenance time can be spent managing such hazards!
- be aware of the grow in and ongoing maintenance requirements to be sure the development is affordable to manage over the long-term.



Digging drains, Malaysia

More information can be found at The Golf Course Management section of The R&A website, www.RandA.org and GEO Legacy™ www.golfenvironment.org/legacy

High-maintenance bunker



Selecting a site for a golf course

The best sites on which to build a golf course will have a number of attributes:

- **affordable.** Land prices will vary greatly dependent on location
- **good location.** Close to large centres of population and infrastructure. A good road network and, therefore, proximity to utilities and local sources of materials, will make the course more accessible and easier and cheaper to build
- **good topography.** Interesting contours into which a golf course can sit. If earthworks have to be extensive to create a golf course, this will be expensive and will increase the need for drainage. Rocky sites will be expensive to develop
- **good drainage.** A dry facility will increase revenue potential by being available for play more than a wet course. Good drainage will help the promotion of firm and healthy turf
- **good water supply.** This applies to quantity and quality. Ideally, clean fresh water will be available in large enough quantities to water in-play areas during prolonged periods of dry weather. Drought-tolerant grasses can reduce the need for water, but not eliminate it entirely. Alternative sources to potable water should be sourced, for socio-political reasons, but provision of recycled, harvested or desalinated supplies will add to the development and running costs of the project
- **good climate.** Not too dry, not too wet, not too hot and not too cold! Grass selection, drainage and irrigation can compensate for climatic extremes to a degree but climates with extremes beyond the natural capacity of turfgrasses will incur great cost
- **good labour.** It is necessary to have suitably qualified people, as well as sufficient numbers, to ensure the sustainable development and management of a golf facility.

Any site not blessed with ideal attributes will incur greater costs to construct and manage and could struggle to attract enough golfers to make it viable.



Poor drainage reduces potential revenue



Water storage in a dry climate

Maintenance

Building a golf facility is merely the beginning; the cost of ongoing maintenance must be factored into budgets to ensure that the offering remains affordable and accessible.

The main maintenance costs to consider are:

- **labour.** Where is the trained workforce going to come from?
- **machinery.** There is a lot more to maintaining a golf facility than cutting grass. The range of maintenance tasks required will determine how much equipment will be needed but a well-equipped 18-hole facility can be looking at upwards of £250,000
- **machinery maintenance.** An on-site mechanic will save a lot of machinery down-time compared to having to bring in someone to undertake repairs or send machinery away for servicing
- **irrigation.** The hardware of a system is not the only cost to consider, there is also the need for maintenance of the system, the cost of pumping and the cost of the water itself
- **materials.** A wide range of materials are needed to maintain a golf facility. These include fertilisers, top dressing, bunker sand, wetting agents and pesticides
- **buildings.** Staff, machinery, irrigation hardware and materials will all need suitable housing
- **energy.** Petrol, diesel and electricity will all be required to power machinery, irrigation pumps, lighting in buildings, etc.
- **waste management.** Much can be done to reduce waste through re-using and recycling programmes but maintaining a golf facility will produce waste materials and some of these will have to be uplifted from site, which will incur a cost.

Generally speaking, the larger the facility and the more intricate its design, the higher the cost of maintenance. This can vary from £1,000's for small-scale facilities to £100,000's for higher end courses.

Clubhouses and other buildings

Many golf facilities fall foul of overly-ambitious supportive infrastructure for the golf course. Mansion-esque style clubhouses may boost the ego of the owner but they are expensive to build to and maintain. Golf facilities reported to have cost many millions to develop are often those that come with an extravagant clubhouse and/or hotel and real estate. For low-cost, affordable and accessible facilities, the clubhouse and other ancillary structures need to reflect their function.

More information can be found at The Golf Course Management section of The R&A website, www.RandA.org and GEO Legacy™ www.golfenvironment.org/legacy



Mower maintenance

Case studies

Portmore Golf Park, Barnstaple, Devon, England

Introduction

In 1987, Colin Webber ran a small family dairy farm which was in the top 2% of dairy herds in the UK. He was aware of organic farming methods but needed to operate highly intensive systems to make a living. With margins growing increasingly tighter, Colin investigated diversification of the business, looking to golf to provide a more balanced income stream.

Market research and developing the business plan

At the very start of his research, Colin contacted the major estate agents to get figures for developing a golf facility. Any costing would have been useful. Unlike the agricultural world, the costs of construction, maintenance and finished value were not readily available. 300 golf courses for sale came through the post, the vast majority in receivership, and the Webbers visited around 100 looking for trends. Location rang out loud and clear along with a different approach and attitude to the game. Having two world renowned golf courses (Saunton and Royal North Devon) within eight miles of Portmore plus a further eight golf courses within the North Devon area gave specific challenges to their development. One thing for certain was it would not be aimed at providing more top end golf. Colin's own experiences of wanting to play and not being allowed into private members clubs still frustrated him and drove him to rethink the whole "golf club" experience.

Producing the business plan became an obsession. How could they make this work? Colin wanted his young family to have the same chance as him to gain a living from the land at Portmore. The plan was produced but no finance could be raised, interest rates at this time were in the high teens which gave a borrowing rate into the mid-20%. This was simply not affordable.

Re-working the business plan and applying a few simple rules gave a way forward. Asking simple questions such as "is it really needed?", "will it pay for itself?" and "can it be afforded?" guided this process. If the answer was "no" to any aspect of the development then a better route was found. The first quote for the construction of nine holes was £0.75 million, for a par 3 course! That was when Colin decided that a different approach to the construction was required. The contractor that provided the quote went bust a few years later, but he did Colin a huge favour by frightening him with such ludicrous prices.

To learn more about managing a golf course, Colin enrolled on a City & Guilds greenkeeper training course and became a member of BIGGA; both proving invaluable in this whole process.



Colin Webber and his son, Josh

Building a low cost golf facility

A low cost approach had to be the way forward but for this to work, quality could not be compromised. The Portmore site is 180 acres. The par 3 course construction cost was £110,000, (with a total initial machinery cost of £8,000).

Colin concluded that building Portmore's own membership was the key; giving a guarantee of taking a complete beginner, and training to a handicap standard or teaching them free of charge, coupled with a big discount on their first years' membership, worked very well for a number of years. The premise was that it is easier to sell to someone with whom you are already trading.

Once a membership had been established through the par 3 course, development of an 18 hole course became feasible.

The 18 hole course involved huge earth moving as the sloping land made it a difficult site to work with. It also involved the construction of 11 lakes, which were expensive with the biggest lake taking 6 weeks to build. All greens are USGA Recommendations, with teeing ground area equal to the greens and built using a 50:50 sand:soil mix. The front 9 holes cost £248,000. The back 9 holes cost £338,000. The machinery inventory would now total £160,000. The recycled clubhouse building came in at a total of £54,000. Free labour was supplied by the members.

Keeping operation costs down

The Webbers have looked carefully at every aspect of the Golf Park operation to see where they could make efficiencies and cost savings without compromising the product.

They designed and installed their own water cleaning and recycling wash pad for the golf course equipment as well as a shoe cleaning and trolley wash area. They collect and clean all water required for irrigation and habitat creation, providing the opportunity for as much biodiversity as possible. Their water bill has gone from over £7,000 to £645 through replacing a leaking water main and using rainwater for all situations where premium drinking water is not needed.

Despite electricity increasing by over 40% in recent years, Portmore's electricity bill has decreased by £345 a month or £4,140 per year.

They recycle in excess of 8 tonnes of waste plastic, glass and tins, with all cardboard being used in their own compost production, their main source of health and nutrition for the golf course.

In 2008 Portmore commissioned a carbon footprint and although by today's standards it was a very basic assessment it gave a benchmark for reduction. The total at that time was 84.98 tonnes of carbon. Colin set a target of being below 20 tonnes within 5 years; the reassessment takes place in February 2013. They are now producing in excess of 50 KW of electricity (through photovoltaic, PV, panels) against a usage that was 34 KW but had been reduced to below 25 KW.

Portmore's variable costs for running the golf courses (seeds, fertilisers, sands, sprays and furniture) will be around £6,000 for 2012. Fuels will be a similar figure, possibly slightly less.

All of the above have reduced the overhead costs of running the business by a significant amount and although there are still improvements to be made Portmore are now growing in confidence with the whole philosophy of organic management. Chemicals will have a use in extreme situations, but as the Webbers are finding, the less they do the less they have to, allowing them the time to concentrate on other areas of the business.

St Andrews Links Trust, St Andrews, Scotland

St Andrews Links comprises seven public golf courses, including the famous Old Course, and a state of the art Golf Academy. The Links, which is managed by St Andrews Links Trust, is the most renowned golf venue in the world but it remains accessible. There are courses to suit all abilities and golf can be played at the Links for comparatively modest green fees.

St Andrews Links Golf Academy; opened in 1993 and extended in 2006 this modern facility offers 60 indoor and outdoor practice bays, grass tees and an extensive short game area. A team of PGA professionals deliver top class coaching and there is a well equipped custom fit lab with a Callaway Performance Centre.



St Andrews from the air



Portmore golf course



The Portmore driving range

St Andrews Links Golf Academy



Balgove Course; originally opened in 1972 and reopened in 1993 following an extensive remodelling. Designed to be welcoming to beginners and junior golfers the 1520 yard, nine hole course offers a scaled down version of the challenges found on full length golf courses. With shallow bunkers, gently undulating greens and wide fairways the Balgove gives golfers a feel for what they will find on other courses as they develop in the game. With an emphasis on enjoyment, many families play the Balgove and take advantage of the opportunity to play the nine holes twice for the green fee. The Balgove plays host to a series of junior events throughout the year.



The Balgove Course

Strathtyrum Course; became the first new 18 hole layout to come into play at St Andrews for almost 80 years in 1993. The course was opened simultaneously with the original Golf Practice Centre. It takes its name from the adjacent Strathtyrum Estate, from which the land was purchased. It was designed to offer enjoyable golf. The course complements the tougher, championship layouts at the Home of Golf, being shorter at 5,620 yards and, with only 15 bunkers, has less hazards facing the golfer.

Eden Course; officially opened in 1914, this was the fourth course to be built at St Andrews Links reflecting the growing demand for play on its sisters, the Old, the New and the Jubilee. Harry S Colt, whose other designs included Hoylake, Pine Valley, Sunningdale and Wentworth, was commissioned to design the course. His layout challenges golfers with severe bunkering, undulating greens and many carries off the tee to reach the fairways.

Jubilee Course; now well into its second century of life, the Jubilee Course has developed from a basic 12-hole layout into what many consider to be the toughest test of golf at St Andrews. Created on a narrow strip of prime golfing land between the New Course and the sea, the Jubilee was originally intended for ladies and beginners. It was laid out by John Angus junior and made ready in only three months. The course was named in honour of Queen Victoria, whose Diamond Jubilee fell in 1897. It was extended to 18 holes in 1905 at a cost of £150.



The Jubilee Course

New Course; often regarded as the oldest "new" course in the world. A classic links course with undulating fairways and delightfully challenging greens, it was set out in 1895 by Old Tom Morris. Named the New to differentiate it from the original course at the Links which became the Old Course, the course remains one of the finest examples of Morris' work to be found anywhere. The construction of the New Course was paid for by The Royal and Ancient Golf Club of St Andrews.

The Castle Course; officially opened for play in 2008, the seventh course at the Home of Golf is set on a rugged cliffline overlooking the ancient town of St Andrews. The course combines breathtaking views with a memorable golfing challenge and has won several international awards since its first year of opening. It was included in the prestigious Golf Digest Top 100 rankings almost immediately.



The Castle Course

Old Course; the Home of Golf where the game was first played 600 years ago. It remains a real test of golf for today's champions. The fabled original links course is synonymous with The Open Championship which it has hosted more times than any other venue and will host for a 29th time in 2015. Despite its reputation and status, it is a public course and is one of seven public courses at St Andrews Links.

The Old Course



Victoria Golf & Country Club, Kandy, Sri Lanka

The Victoria Golf & Country Club was established in 1999 on a peninsular jutting out into the Victoria Reservoir near Kandy, Sri Lanka. The land was formerly an estate where mixed farming was practised – livestock, coconuts, peppers and fruits were farmed on the estate. The course is parkland in nature and contains a large elevation change on the front nine holes and attractively undulating contours for the back nine. Some of the back nine holes run close to the reservoir boundary. When the water level is at full supply the water comes right up to the fairways but it can drop by an amazing 80m during drought periods! The project has a residential component with house plots developed around the course and there is a hotel site which, as yet, remains undeveloped. Despite the very low cost of construction of the course, it has been voted the Best Course On The Sub-Continent in 2004, 2008, 2009 and 2011 by the readers of Asian Golf Monthly.

The method of construction

The course was constructed on a project managed basis. Local labour and machinery was used almost entirely to build the course. The only outside assistance was in the form of visits by the golf course architect, the presence of a shaper for 8 weeks (who taught the project manager how to set out the green levels and a local machine operator how to shape the greens) and an irrigation installer.



Victoria Golf Club, Sri Lanka



Teeing off at Victoria

The cost of course construction

The cost of construction of the 18 holes and practice ground was in the region of £410,000. This is the cost of just one hole on some projects!

How was the course built so affordably?

The course design

- The course was designed to respect the natural contours. Although some earth was moved, the quantity was tiny compared with many courses.
- Only 12 relatively small bunkers were designed for the course. This was possible as a result of the wonderful natural features of trees and rock outcrops making any more bunkers unnecessary.



Taking advantage of native vegetation

Specification of construction

- The very good, sandy, local soil was used for fairways and tees.
- Sand and gravel sourced from nearby local rivers was used for the green construction. One type of material was imported and graded on site to produce the gravel and sand.
- Locally sourced coconut peat was used for the organic matter component of the green root zone.
- An automatic irrigation system was installed to tees, greens and approaches only. Hose points were installed to irrigate fairways. It would be good to have automatic fairway irrigation but this project shows that even in tropical warm season climates it is not essential, provided there is adequate labour.

Method of construction

Utilising so much local labour and machinery on a project managed basis restricted costs significantly. In the Sri Lankan labour market, where costs are so low, many tasks normally carried out by machine were carried out by hand. This included cutting out of drain lines and placement of all of the materials on the greens for instance. All planting of the Bermudagrass stolons was carried out by hand.

Clubhouse facilities

The clubhouse made use of some existing buildings on the site. Their conversion cost a very low amount of money. Over time the clubhouse has been extended as use of the golf course has grown.



Growing in at Victoria



Local Sri Lankan labour

Affordable Golf Facility Development: Summary

For the game of golf to grow sustainably it must:

- work within local, national and regional frameworks with regard to demand and potential for growth
- identify the potential golfing population, be that indigenous and/or tourist
- encourage the development of appropriate facilities to cater for that golfing population
- consider the future development of the golfing population to ensure the provision of facilities is flexible enough to cope with a maturing market.

References

The R&A website, www.RandA.org

GEO Legacy™, www.golfenvironment.org/legacy

Photo credits

Paolo Croce, Martin Ebert, St Andrews Links Trust, Erich Steiner, The R&A



Based in St Andrews, The R&A organises The Open Championship, major amateur events and international matches. Together with the United States Golf Association, The R&A governs the game worldwide, jointly administering the Rules of Golf, Rules of Amateur Status, Equipment Standards and World Amateur Golf Rankings. The R&A's working jurisdiction is global, excluding the United States and Mexico.

The R&A is committed to working for golf and supports the growth of the game internationally and the development and management of sustainable golf facilities. The R&A operates with the consent of 144 organisations from the amateur and professional game and on behalf of over thirty million golfers in 130 countries.



RandA.org

The R&A, St Andrews, Fife, Scotland KY16 9JD
telephone: +44 (0)1334 460 000 fax: +44 (0)1334 460 001
info@randa.org www.RandA.org www.TheOpen.com