

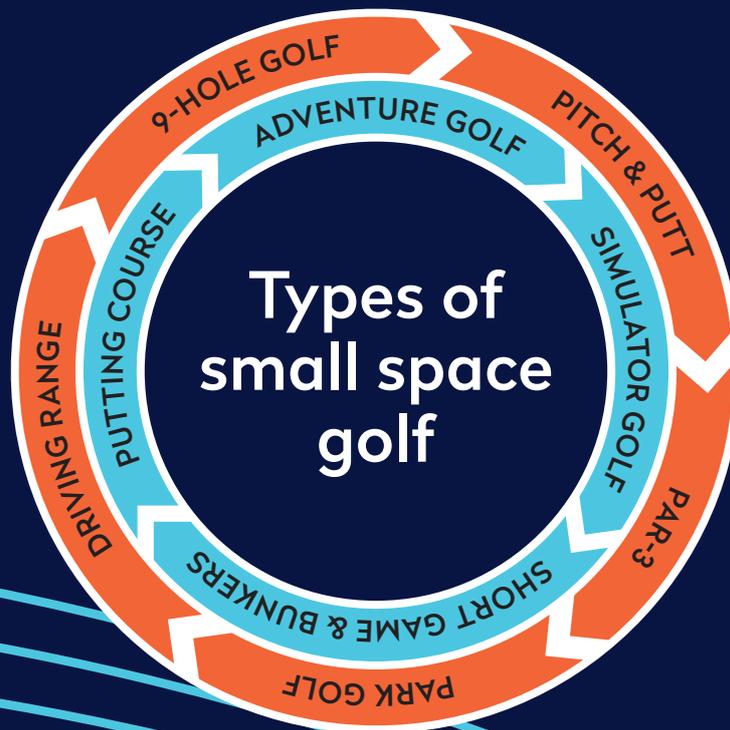


GOLF FOR SMALLER SPACES. A GUIDE



ALL GOLF IS GOLF

From a putting course to virtual golf simulators, a driving range to Pitch & Putt, 9-hole golf to championship courses, all golf is golf.



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Foreword.

Our vision at The R&A is to ensure that golf is open to all. If we want the sport to continue to thrive in 50 years' time then we have to broaden its appeal, make it truly welcoming to people from all backgrounds and find ways to help it become accessible to a much wider range of people than already established golfers or those who are currently members of golf clubs.

The demands on people's leisure time are growing and the options for how to spend that time are greater than ever before. While participation in golf has been growing in the last five years in most parts of the world, a trend accelerated by the Covid-19 pandemic when people were looking for safe, sociable and enjoyable outdoor pursuits and one which has happily continued since then, there is a lot more we can do to help many more people find their way into the game.

That's why it's so important that we take golf to where people are rather than expecting them to take their first steps in the game at established, and often private, golf clubs. There are many shorter forms of golf which lend themselves to a wider and more diverse audience, such as Pitch & Putt, mini golf, intermediate courses and three, six or nine hole layouts, which can be accommodated on smaller areas of land, often in cities or urban areas convenient for many more people.

This guide examines how those courses operate, sets out the practical requirements and commercial considerations for establishing such courses and highlights numerous examples of how they have proved successful in different parts of the world. It is by no means intended to be definitive but simply to provide an overview of the many different forms of golf which can be played in smaller, public spaces and how some venues have been able to do it very effectively.

We hope this guide will serve as a useful reference point for course operators, planners and developers and help to promote the appeal of golf to a broader audience. If we can welcome more golfers of all ages, genders and ethnicities to the sport in an accessible and inclusive way then we can set them on the pathway to becoming the golf club members of the future and sustaining this wonderful game for generations to come.

Martin Slumbers
CEO
The R&A



Introduction.

The R&A is a governing body of golf and actively supports the development of golf globally. In August 2023, The R&A opened its own golf facility called Golf It! in Glasgow, Scotland. As a community golf facility, open to the public with a focus on providing a pathway into golf, its aim is to make golf more accessible to people of all ages and abilities. To achieve this goal, Golf It! provides short game facilities including adventure golf, a short course, 52-bay high-tech driving range, and a 9-hole golf course. It also has options to add a par-3 course and additional short game practice facilities.

The growth of golf is reliant on broadening the base and this publication was commissioned by The R&A and written in consultation with golf course architects and the European Institute of Golf Course Architects to outline the type of golf facilities that can be developed on restricted areas of land. Why? It is simple – not everywhere has enough land for an 18-hole golf course close to where people live. So creating golf in smaller areas, and perhaps combining multiple forms of compact golf in the same facility, encourages people to play golf, play more frequently, play in less time and for less cost. Apart from being fun these golf courses also bring with them a wide range of health, social and commercial benefits.

The focus of this guide is to reveal what type of outdoor golf facilities could be developed on land measuring between 0.6 Ha (1.5 ac) – approximately the size of a football pitch – and up to 12.1 Ha (30 ac). Also included are tips on developing a golf facility and examples of existing venues.

The final form of a small golf facility may be determined by a number of factors such as:

- The strategic business requirements of the facility
- The amount of capital investment available
- Area of useable land
- Planning restrictions
- Environmental conditions

For any golf facility a good knowledge of the Rules of Golf will allow a player to deal with most situations and may even save them a few strokes and help them enjoy the game. While learning to play, there are some interesting and easy ways to learn the basics. Check out The Quick Guide or The Rules Academy at www.randa.org

Golf is naturally an inclusive game that welcomes everyone and simply relies on places and spaces to play. Be they rolling coastal dunes or small urban corners, almost any area could provide ground for golf if designed and maintained for participation and play. And when these places are enjoyable and affordable, golf will continue to grow. The question is, what type of golf facilities can be made when the amount of land available is restricted?

A brief history of short courses.



Woodcote Park House. Royal Automobile Club, 1936. Golf facilities included a short course, as seen in the foreground of this aerial photo. Source: Historic England Archive



St Andrews, 1886: Putting on the Ladies' Putting Course, now known as the Himalayas

Historically, short courses were common when golf was establishing itself in Scotland. There were no restrictions on the number of holes a course could have and they simply popped up on any pockets of available land. An early golf venue from some time after the 15th century was within sight of Edinburgh Castle on a still-surviving course known as the Bruntfield Links. The course was six holes up until 1890, when, with a growing population, the ground the long course occupied was reduced and the course shortened. When the first golf competition was played on Edinburgh's Leith Links in 1744, it had only five holes. At Aberdeen there were five holes, North Berwick had seven, Montrose 13, while St Andrews had 22, before settling on 18 in 1764.

In St Andrews, a number of short courses emerged around their famed links, the Swilcan Burn and the railway in the 19th century. Used by men, women and children – from caddies to members of The Royal and Ancient Golf Club of St Andrews – they were free to play, and became popular places for sharpening up a player's short game. In 1867 the Ladies' Putting Course, now known as the Himalayas, opened. It was originally an 18-hole short course – perhaps golf's first official Pitch & Putt course – with holes stretching from 23 m–69 m (25–75 yd), and included bunkers, before being converted to a putting course by the turn of the 20th century.

As UK golf grew in popularity, and became woven into the cultural fabric of the nation, it was carried around the world primarily on the wings of the British military and commerce and was soon set up in near and far corners of the British Empire.

The first club formed in India was in 1829. Golf was established in Australia by 1845 and Canada had its first golf club in 1873. In 1888 an unusual golf course was set up by the British military within the 17th century Baroque Maltese fortifications for the Royal Malta Golf Club. Played in the dry ditches, the course wound around a labyrinth of ramparts with walls rising 3–9 m either side of the 'fairways' which were only 20 m wide. While the course provided a place to play, the rock was hard on the

hickory clubs and gutty balls, and replacements were often required to be sent from the UK.

Golf was played in good and bad times and was a moral boosting activity for prisoners-of-war at Stalag Luft III in Poland during WWII. It started when one prisoner received a used mashie in the mail. The captured Allied airmen, including famed war correspondent Pat Ward-Thomas, set up a 9-hole course around the camp on a 4 Ha (10 ac) area measuring about 320 m (350 yd) by 137 m (150 yd). The men played with hand-made balls, and the longest hole was 82 m (90 yd).

Golf courses now exist in almost every country around the world and short courses have often been the impetus for the start and growth of the game. The USA has the most golf courses with more than 15,000 but their first course consisted of only three holes and was laid out in a New York cow pasture in 1888. Started by two Scotsmen – Robert Lockhart and John Reid – they formed The Saint Andrew's Golf Club and as they quickly gained more participants the course moved later the same year to a nearby 12.1 Ha (30 ac) field. Here they set up a 6-hole course. By 2022, one out of ten golf courses in the USA were short courses – either Executive Courses (Intermediate Courses) or par-3 courses. Most of these are stand-alone facilities, but high-end resorts like PGA National, Bandon Dunes and Sand Valley have introduced short golf facilities. Market 'correction' has happened – mostly when the land a golf course sits on becomes more valuable than the golf course itself – and short courses have closed but they are often replaced.

Short facilities retain an attraction because they can fit in small areas of land, are cheaper to play and can be played in less time than a regular course. Some facilities may also add elements of entertainment like high-tech ball tracking to appeal to modern living. In 2023, Scotland recorded 145 9-hole courses, which is a significant number and amounts to approximately 25% of all courses. The popularity of short forms of golf is assured.

PART 1

Great things come in small packages.

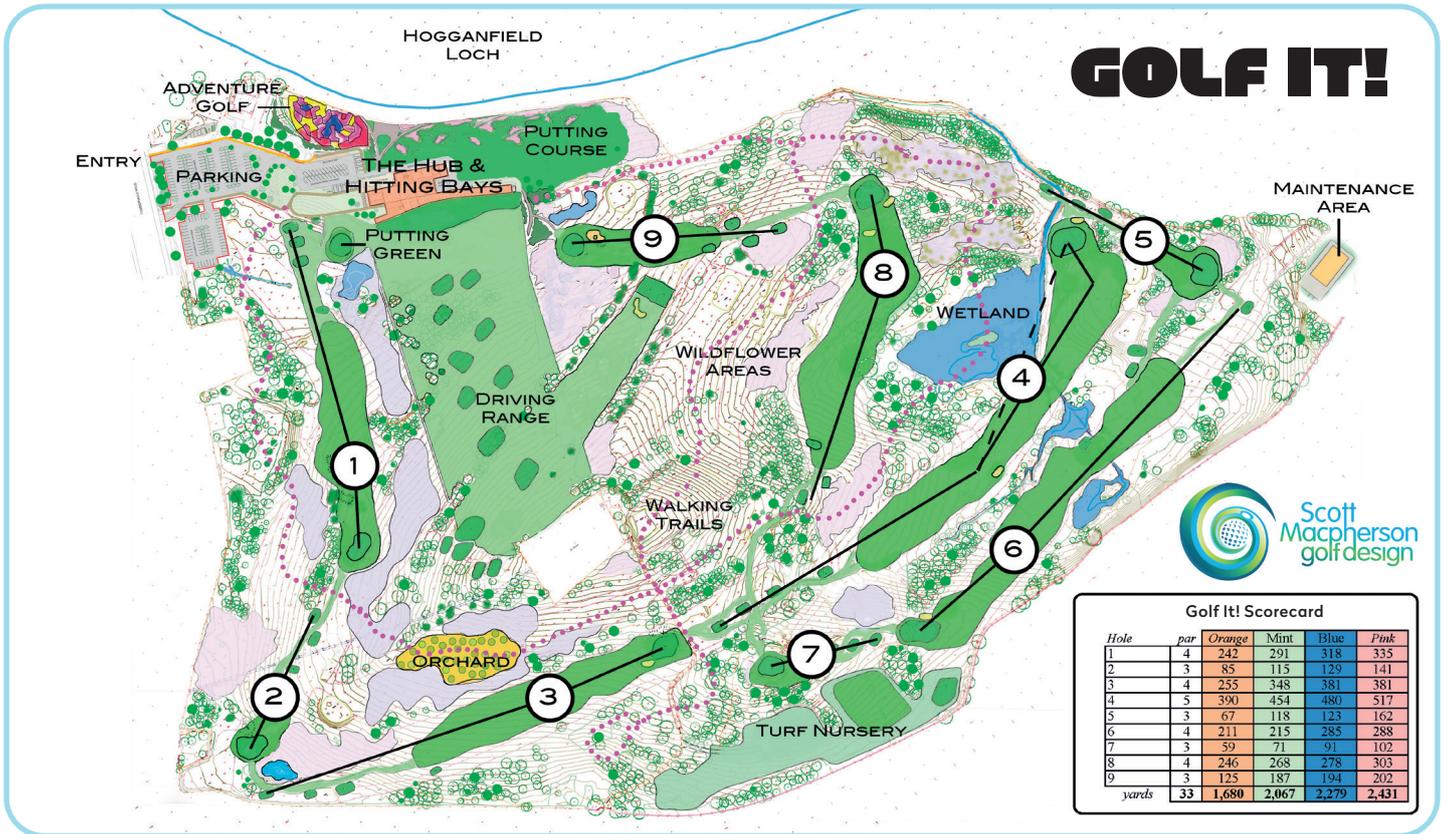
Golf facilities can be made in all shapes and sizes. Decisions on the best single solution or combination of golf facilities to build may be based on market demand, commercial resources, strategic goals and land availability.

There are a number of reasons why short and compact golf facilities are developed. These may include:

- **SPOTTING A GAP IN THE MARKET:** A developer wishes to provide short-form and/or high-tech golf facilities to a new group of people
- **AN EXISTING GOLF COURSE WANTS TO ADD ON SHORT-FORM GOLF FACILITIES:** This may be to complement existing facilities, attract new members, keep up with trends or to develop a different business model. New facilities will vary depending on the goals of the renovation or upgrade. The options available to these clubs may depend on the area of land available.
- **AS A GOLF TRAINING OR GAME IMPROVEMENT FACILITY:** Training facilities can take any form and be small, medium or large. A typical driving range at a golf club may not be too dissimilar to a short par-4 at, perhaps 229–274 m (250–300 yd) long and 55–73 m (60–80 yd) wide. More expansive and elaborate facilities seek to create playing situations that golfers could face on any golf course. To do this they may feature multiple target greens, various ground slopes, bunkers of different depths and with various sands, areas with multiple turf types etc. As an example, Illinois State University has a 9.7 Ha (24 ac) stand-alone, 360° practice facility that allows players to reorientate themselves to play in any wind direction. In Scotland, the driving range and short game area run by St Andrews Links Trust takes up 8.7 Ha (21.5 ac) and its longer outfield can allow golfers to play from both ends with little risk of ball-strike issues at either end. The very largest training facilities may also include practice holes.
- **WITH INSUFFICIENT LAND FOR AN 18-HOLE GOLF COURSE, A SHORTER OR ALTERNATIVE GOLF FACILITY IS DEVELOPED:** Land around urban, suburban or even rural areas, can be in high demand. And as a result, land costs will be at a premium. Thus finding large parcels of open land with suitable soils and terrain to create an 18-hole golf course can be challenging. In this case, a developer may focus their attention on making a smaller golf facility that is fun, friendly, available for practice and game development and commercially viable.

GOLF IT!

Golf It! in Glasgow (see opposite page) opened in August 2023. Owned by The R&A it is the first of its type and was created on the site of an old 18-hole municipal golf course that had fallen into a state of disrepair and had a number of safety-related concerns. The R&A wished to create a new and exciting golf facility to ensure golf is accessible, affordable and community-based. To achieve this Golf It! includes short form golf facilities such as a putting course, adventure golf, an intermediate golf course and high-tech driving range. The 9-hole golf course has also been designed with a 'hub' so the course can be shortened and set-up as a five hole course. This allows Golf It! to have new initiatives such as '5 in 50' where golfers play five holes in fifty minutes so a game can be played in less than an hour. Golf It! is a golf training facility with a driving range and course and professionals are on hand to help golfers of all ages get started and improve their game. With its woodland, wetland and wildflower areas, walking trails and an orchard, Golf It! is designed as a warm, welcoming and sustainable place to grow the game of golf and has been very popular since it opened. In 2024 the facility achieved international recognition and was GEO Certified® for its commitment to environmental and social responsibility and leadership in sustainable golf.



Types of facilities for small areas.

Longer and more sophisticated golf courses appeal to advanced golfers but shorter courses and alternative golf facilities are the breeding grounds for golf and appeal to a broader group, including proficient golfers looking to improve their short-game skills. For smaller spaces, there is a wide range of golf facility types that can fit almost any area – GET CREATIVE! Find ways to make the facility engage with non-golfers, be inclusive, provide a place of entertainment while also offering competitive golfing elements.

INDOOR FACILITIES

- Simulator Golf: A launch monitor tracks a ball hit from a mat into an impact screen. Software then converts the data so players may practice, play, or game on a computer generated facility
- Virtual Golf: An immersive experience where players wear a headset over their eyes and ears and swing at a virtual ball.
- Putting labs
- Chipping and putting greens with bunkers
- Adventure Golf / Mini Golf / Crazy Golf
- Enclosed driving ranges – the minimum length of an outfield to allow for radar ball-tracking may be 30 m



OUTDOOR FACILITIES

- Putting greens (real turf or synthetic grass options)
- Putting course (real turf or synthetic grass options)
- Chipping greens (real turf or synthetic grass options)
- Short game areas with bunkers (real turf or synthetic grass options)
- Driving ranges (eg 100 m wide, 300 m+ long) (real turf or synthetic grass options)
- Pitch & Putt courses
- Park golf
- Par-3 courses (Note: To be eligible for a Course Rating™, minimum length must be 685 m (750 yd) for 9-holes and 1,370 m (1,500 yd) for 18-holes)
- Three-hole courses (eg 1 x par-3, 1 x par-4, 1 x par-5)
- Six-hole courses
- Courses for short-flying golf balls
- 'Intermediate' nine hole courses (a combination of mainly par-3s and short par-4s)

COMMERCIAL BENEFITS

Compact golf facilities are attractive to develop as they require less land, have lower development and operational costs, and may offer better returns per hectare. Currently there is a significant growth in golf entertainment facilities. These have added a new dimension to the golf experience and attract a broader demographic because they are fun and fast-paced, come with ball-tracking technology and gamification modes and can be enjoyed with food and beverages. These facilities may be single room set-ups or large multi-storey facilities with 50 or more hitting bays but they allow golf to be played in all weather, 24-hours a day, indoors or outdoors and with mixed groups of golfers and non-golfers.

Large investment is not always a necessity to providing good golf. Inexpensive entry-level golf courses built on free-draining soil that can be maintained easily to a good

standard and able to be played in one to three hours are important golf facilities for the continued growth of golf. A distinguishing feature of the best and most successful short courses is that they pay attention to the quality of the golf experience. This includes everything from booking a game, parking and access, the presentation and conditioning of the course to follow-up service.

The main benefits of shorter courses:

- Appeal to a broader cross-section of society
- Need less land and take less time to play
- Require fewer inputs of water, fertiliser, pesticides etc to maintain them
- Cost less to maintain as there is less reliance on materials and labour

GET THE BALL ROLLING

The design of any short facility on a small area of land will vary enormously according to the land area available, its location, terrain and of course its purpose. Form follows function in design so early decisions should determine if the facility would be for leisure, competition or perhaps as an introduction to golf. Its form may change if it is a commercial venture, a municipal amenity, a nursery for golf at a golf course or for some other purpose. If the facility is to thrive, it may require sustainable investment costs, good management and conditioning, easy access and be located within close proximity to services and amenities. Above all, it must be tailored to the needs of the user.

A consideration for the longer of the short courses is Course Rating™. If the course could be made sufficiently long to allow golfers to gain and maintain their Handicap Index®, then this should be considered as it has advantages for the development of a player and their pathway into golf. It can also benefit the business plan for the facility as more golfers may be tempted to play or play more often.

PUTTING GREEN

The quintessential feature on a golf course is the putting green and they come in almost every conceivable shape and form. Putting greens could be for private or public use, built in residential gardens, at schools, driving ranges, golf clubs or almost anywhere – President Eisenhower even had one made at the White House in 1954. Greens have no set size they must conform to and a private putting green may start at 50 m² (60 yd²) or less. On a golf course, greens need to be larger to account for wear and tear, maintenance and to provide strategic golfing interest. An average size for a green on a golf course may be 500 m² (0.12 ac), however they can extend to an enormous 3,516 m² (0.87 ac) – which is the size of the large 5th and 13th double green on the Old Course.



A typical practice putting green at a golf course



Large double green for the 5th and 13th holes on the Old Course, St Andrews



Putting on the High Seas – some cruise liners offer their guests golf facilities

The greens at St Andrews, as with many traditional links, are on native sandy soils and covered in fine seaside bent and fescue grasses. This type of green is referred to as a 'push-up' because the green was shaped from the surrounding ground. They can be made anywhere the soil types allow and their primary benefit is that they are significantly less expensive to make. Matching the soil type of the green to that of the surrounding area also means the ground offers similar playing characteristics to a running or bouncing golf ball and this is an advantage.

Modern green construction often involves layers of gravels and sand with drainage pipes installed beneath and surrounded by irrigation to produce putting surfaces that perform well in any topographic or climatic situation. There are a number of design variations to the rootzone layers and each site needs to be assessed separately to find the most suitable solution, however the aim of each is to ensure a high-performance playing surface that can be maintained year-round. The turfgrasses used vary for warm or cool season areas, and a mix of different varieties will be used, but all are bred to be cut at very low heights to produce smooth and fast green speeds. The correct speed for a green must match its design and heavily contoured greens benefit from more moderate speeds. Today's golfers are wanting faster greens however. In 1976/77 average green speeds were 6.5 feet. Many courses nowadays may be run at 8–10 feet on the stimpmeter but under modern tournament conditions the greens may measure a faster speed of 10–12 feet.

Beyond natural turfgrass there are other surface options such as synthetic grass greens. These are emerging as a popular alternative for shaded or small areas but are a niche product for outdoor use that offers a different playing characteristic. The best turf option for each site and situation should be considered in the early stages, with the assistance of an agronomist, and be based on the desired outcome.

PUTTING COURSE

Putting courses are essentially large putting greens that can have any number of holes cut into them to form a course. A course may vary from as few as six holes, up to 36 holes or more. Some courses are set up on existing greens in a temporary layout, others are stand-alone facilities. Holes can be any length, but may often be between 5 and 15 metres, as would be typically encountered on a full-length golf course. The greens can be relatively flat or very undulating. In age, scale, slope and influence, the mother of them all is the Himalayas in St Andrews, but they are now all over the world and provide a lot of enjoyment and challenge for the young and old, golfers and non-golfers.



The Himalayas, St Andrews – 1.25 Ha (3.1 ac)



Royal Auckland Golf Club, NZ: A putting course is set up on the putting green



A temporary putting course at the Scottish Open

ADVENTURE GOLF

Adventure Golf (also known as Crazy Golf or Mini Golf) is essentially a colourful putting game. Players only require a putter and a golf ball and courses can be set-up indoors or outdoors. It is a fun and accessible form of golf for people of all ages, with no golfing ability required to play. Golfers are often given a scorecard when they start and can play against their family and friends with the last hole often swallowing the ball to signal the end of the round.

Many courses are themed such as with a pirate or jungle motif. To add further entertainment, a course may include sound effects, moving obstacles, water hazards etc. Indoor facilities often have special lighting effects to increase the drama further. Digital technology is increasingly being added to the courses and one example of this is golf balls that include microchips. These may provide a player with on-course bonuses for executing difficult shots, or trigger post-round rewards.

Holes and course features (eg treasure chests, windmills, volcanos etc) are often made with very durable materials and covered in high-quality synthetic grasses. The 'grasses' may be different colours and different speeds to further test players. With regular care, turf may last for ten years.

There is no restriction to how many holes an adventure course may have but many are 18 holes like on a traditional golf course. The par of a hole is often 2 or 3, so a 9-hole course



Pirate Adventure Mini Golf at SEA LIFE Scarborough, UK



Golf It!, Glasgow. This facility has three imaginative 9-hole adventure golf courses themed to 'Our Universe', 'Our Earth' and 'Our Country'. Brightly coloured and including water features, this course was co-designed by a group of 5–12 year-olds. The 27 holes sit on about 1,600 m²

could have a par range between 18–27 depending on its difficulty. Hole lengths often measure from 8–14 m long, with an 18-hole course generally requiring 1,500– 5,000 m² (0.37– 1.24 ac) of land. Courses can be created in quite small areas – particularly when indoors. The largest facilities may stretch to 8,000 m² (2 ac) or more and include landscaped areas.

Indoor adventure golf courses are often linked with facilities that offer entertainment and food and beverages to customers. Outdoor facilities may have higher annual maintenance costs, and business may be seasonal depending on the weather conditions.

Set-up costs for facilities vary considerably, however an average cost per hole may be £10,000–£15,000. Water features and kiosks may add additional costs. The starting budget for an 18-hole course could range between £200,000 and £600,000.



Lane7, St James Quarter, Edinburgh. This Crazy Golf course is set inside a sports bar. It has a jungle theme and features mood lighting, quirky holes and putting challenges that are family friendly

SHORT GAME AREAS

Short game practice areas are important multi-use areas where golfers can practise shots that may occur on a golf course. Ideally there is sufficient land available that the area can be used for individual or group practice sessions, and as teaching areas.

These facilities are often a combination of one or more greens surrounded by turfgrass cut at various heights (eg fairway, semi-rough and rough), and practice bunkers. Having flat and softly contoured areas alongside humps and hollows is of benefit so both lofted and bump-and-run shots can be played. These areas should be sufficient in size to minimise the wear and tear issues from divots. If required, synthetic grass can be placed for use as chipping mats.

The area should include at least two bunkers of different depths that are set slightly different distances away from the green so golfers can practice 'splash' shots and bunker shots that need to carry 10–20 m. If the bunkers are adjacent to the practice range, a bunker with a low face could also be designed for golfers to practice 50–200 m+ (55–220 yd+) fairway bunker shots. Ideally the bunkers are broad enough so at least two to three golfers could be in them at any one time. Some high-end facilities have bunkers filled with various types of sand, and different face designs (eg revetted or sloping) so golfers can practice almost every conceivable shot type.



Above: Short game area and chipping course at the Dunes Golf Centre, Scotland measures 0.4 Ha (1 ac). Golfers practice their chipping and putting, or play a 9-hole course around a centrally located green. Teeing areas are located on mats and holes are numbered (on the flags). Golfers can play against each other or a scorecard. Hole 6 is a chip shot over a bunker

Below: Short game area at Gullane Golf Club, Scotland measures 0.7 Ha (1.7 ac). Beyond being used for practice and teaching, markers can be set out around the perimeter of the green and bunkers for golfers to play a chipping course to different holes





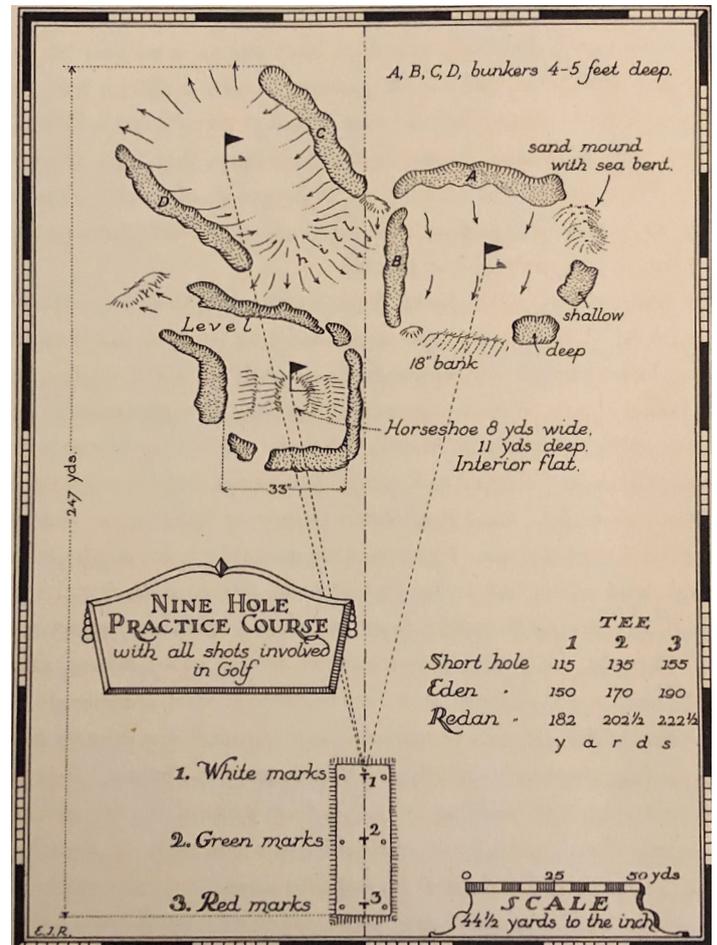
New South Wales Golf Club, Sydney, AUS. This short game area is for chipping and bunker practice, and sits adjacent to the driving range and putting green



Practice bunkers should be representative of actual course bunkers

Golf practice areas for competitive short games involve spin, trajectory and carry distance control mixed with reliable shot selection. As a result, high performance short game practice facilities should present – in addition to a full range of elevation, slope and lie conditions – target areas on the greens with firmness. Practice areas need to present players with a range of visual challenges, including the use of 'dead ground', and 'windows in the air'. The areas should also include short game skills tests from tees to targets, that are measurable by assessment systems.

Correctly laid out, multiple groups and individual golfers should be able to use the area for various reasons and not challenge each other from the point of 'reason for usage' and / or safety considerations.



Designed by Charles Blair Macdonald in the 1920s, this compact facility sits on 2.4 Ha (6 ac) and is made by combining three classic greens, namely, Short, Eden and Redan. With a tee that is 38 m (42 yd) long by 14 m (15 yd) long, and also acts as a fairway, this design offers both long and short game practice areas



Close House, Yearling Course: 9-holes, par-27, 426 m (466 yd) on 1.5 Ha (3.7 ac)

PITCH & PUTT (P&P)

Pitch & Putt is the shortest form of golf that requires a lofted shot. The first official version of this type of golf may have been the original Ladies' Golf Course set up in St Andrews by Old Tom Morris in 1867. Sometimes referred to as the 'Nursery of Golf', P&P is a faster, less expensive and more accessible type of golf for a broader range of people.

P&P can be played for leisure or competition under the rules of golf. There are various P&P associations, such as the International Pitch & Putt Association (IPPA), which is a governing body and was set up in 2009. Each association may set its own criteria for the competitive sport of Pitch & Putt.

As for the courses, the amount of land required may start at around 2 Ha (5 ac) for a 9-hole course. A 9-hole course may measure between 400 m–800 m (437 yd–875 yd) with hole lengths ranging from 30 m–110 m (33 yd–120 yd). Green sizes can vary considerably, but the optimal size based on the length of the hole, variety and shot-making may be between 50 m²–100 m² (530 sq ft–1076 sq ft). Many P&P courses feature circular greens but such regularity becomes monotonous. To add strategy, green shapes should vary and incorporate bunkers for additional interest. P&P tee boxes are often small synthetic turf mats to cater for the high wear and tear but some courses make larger grass tees and move tee markers around. Additional tee boxes will add more variety to a hole, and are worth

considering. To meet regulations for IPPA competitions, a 9-hole course cannot exceed 600 m (656 yd) in length, and an 18-hole course cannot exceed 1,200 m (1,312 yd). Individual holes may not exceed 90m. During IPPA competitions, all golfers will play from the same tees and are only permitted to use three golf clubs, one of which must be a putter. Pitch & Putt is supported by The R&A, and has its own handicap system.

Example: Bruntsfield Links, Edinburgh – 36 holes. Having started as a place for golf in the 15th century and becoming a 6-hole course for two golf clubs in the 18th century, this links has played a significant role in the historic development of golf. Due to a growing population in Edinburgh in the 19th century, some land from the long course was released in 1890 and the course changed to a 36 short-hole golf course on part of the original links. The course still exists and is free to play. Par is 108 (36 x 3) and holes vary in length from 41–82 m (45–90 yd) over gently undulating land. The course sits on about 5.3 Ha (13 ac) and is maintained by the City of Edinburgh Council and some volunteers. It is open April–September, when it changes to a 9-hole winter course.

Regional Variations:

Spain has been exemplary in the P&P domain and for various reasons they chose to make longer, high-quality short courses. A marketing study conducted several years ago showed two things: a P&P course has more chance of survival if there are other courses in the area; secondly, players are reluctant to travel more than 30 kms for P&P competitions on a regular basis. In Ireland, the courses there are much shorter, generally averaging about 50 m–55 m (55–60 yd) for a hole, and players only use two clubs in competitions. In the UK, P&P is traditionally seen as a leisure activity for families on courses with low maintenance levels and often without facilities.



Bruntsfield short course, close to Edinburgh Castle. A 36-hole inner-city P&P course that is free to play

PAR-3 COURSE

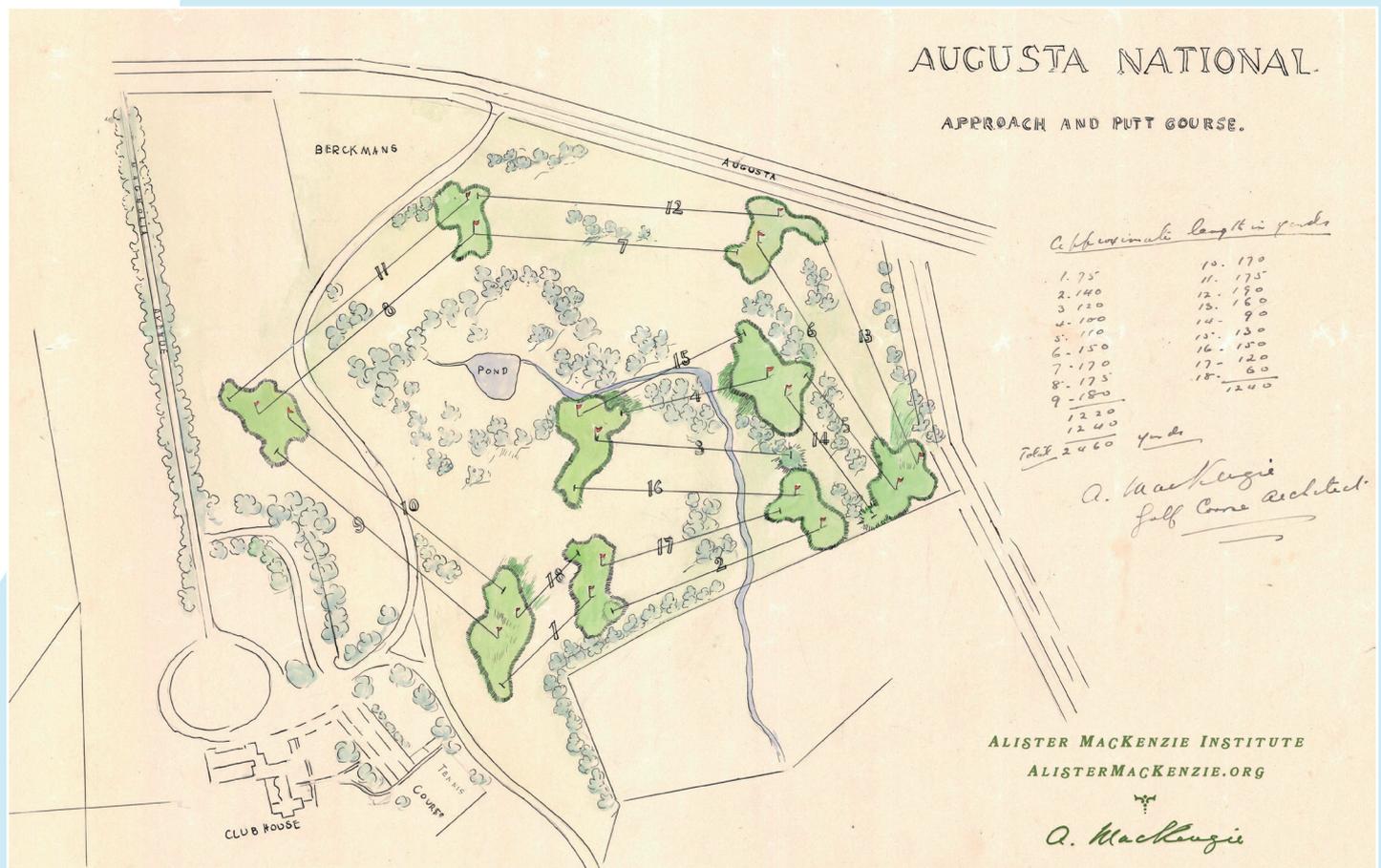
The key difference between par-3 and P&P courses is that holes on a par-3 course are normally longer. Holes are more similar in length to those found on a full-length golf course and, as such, may test everything from wedge play to the driver. Par-3 courses have a long history. The oldest of these courses still in existence may be the Wee Course in North

Berwick which was originally opened in 1888 by Sir Walter Dalrymple as the Ladies' Links. Now known as a course for youngsters, it has nine holes that measure from 61 m to 114 m (67 yd to 125 yd), and a total length of 815 m (891 yd). The concept of par-3 courses has spread around the world with perhaps the most famous being at Augusta National Golf Club. The idea at Augusta was started in the 1930s by their famed golf course architect Alister MacKenzie. He drew up a plan for an 'approach and putt' course and the aim was to replicate shots that may be encountered on the main course. Holes ranged from 69 m to 174 m (75 yd to 190 yd) and the course was 2,250 m (2,460 yd) long. At 985 m² (10,600 sq. ft) each, the greens were 93 m² (1,000 sq. ft) larger than the actual course greens, but featured two holes each and teeing areas. The course was never built due to the financial constraints of the great depression but in 1958 the club hired George Cobb to design the club's par-3 course that now acts as the foundation for the existing facility and is a popular annual event watched by millions of people on TV each year.

Par-3 courses can be a great challenge and require precision and skill to achieve a good score. A design benefit of these courses is that they can be fitted into land with topographic undulations or planning restrictions that might otherwise be unsuitable for a longer golf course. They can also be any number of holes, though a multiple of three may be better if the course is to be used for handicapping purposes.



The Wee Course at North Berwick is 9-holes spread out over 3.4 Ha (8.5 ac)



MacKenzie plan of an Approach and Putt course for Augusta National

PARK GOLF

Park Golf was invented in Makabetsu, Hokkaido, Japan in 1983. It is played in Japan and Korea. 'Parkers' use a club that is similar in appearance to a driver but has no loft, and a thicker and shorter shaft – the length of which varies depending on the height of the player. The ball is bigger and heavier than a regular golf ball at 60 mm in diameter and 100 gms. While a ball hit hard can get airborne the game is generally played along the ground. Humps, hollows and slopes provide most of the strategic interest. A 'round' of Park Golf is 9 holes. The International Park Golf Association has set upper limits on the length of park golf holes and courses. The maximum length for an individual hole is 100 m (109 yd). A 9-hole course is limited to 500 m (547 yd) or less. Because there is no lower limit, fairways may only be 5 m (6 yd) wide, courses can be found in small corners of land and in parks.

GOLF COURSE FOR A REDUCED-FLIGHT GOLF BALL

When a land parcel is restricted and there is a desire to create as many holes as possible an option exists to create shorter holes and issue golfers with a reduced-flight ball. There are a number of ball options such as the plastic and foam balls, replica gutties and balls like the 'Cayman' developed by MacGregor Golf in the 1980s. Sold as a Modified Distance Ball, it is the same size as a regulation golf ball but lighter with convex dimples and 'no-cut' surlyn bubbles inside (so it floats). Jack Nicklaus was behind the Cayman ball. Its name came from a course he was asked to design on a small piece of land in the Cayman Islands. He only had enough land for nine regular holes but the Cayman ball travelled about 60% the distance of normal golf ball so it allowed him to make an 18-hole course on the same piece of land.

It is easier to adapt a golf ball to a course than a course to the ball but the balls may or may not conform to R&A standards. However, that compromise may not detract from the playing experience. Reduced flight balls are safer to use because they cause less damage if they strike a person or buildings and can be simple to play with because they are easier to get airborne. These balls may be considered for short golf courses and teaching or practice facilities on smaller parcels of land.

DRIVING RANGES

Driving ranges come in all shapes and sizes. Beyond the small, reduced-area ranges and practice fairways, an outfield catering for 30 hitting bays on a single level may be 100 m (109 yd) wide and 300 m (328 yd) long. A facility for large numbers of people, with hitting areas at both ends – perhaps on multiple levels – and used by elite golfers, will need to be longer and larger. The outfield footprint may vary from 2 Ha (5 ac) up to 6.5 Ha (16 ac). A number of factors need to be taken into account when designing a driving range from target customers to outfield ground conditions and surface (turf or synthetic grass), access, safety issues, sun angles and prevailing wind directions. Installing ball-stop netting around the outfield will reduce the amount of land required and help with safety issues and ball collection.



Some examples of golf facilities. *Top to bottom:* Park Golf (Tokyo, Feb 2024); double-level driving range; multi-use range – long and short game practice with some holes; hitting mats and practice bunker area combined



Golf-Up – driving range, P&P (494 m (540 yd), par-27), putting and chipping greens. All synthetic turf. Grimaud, France (see case study p.42)

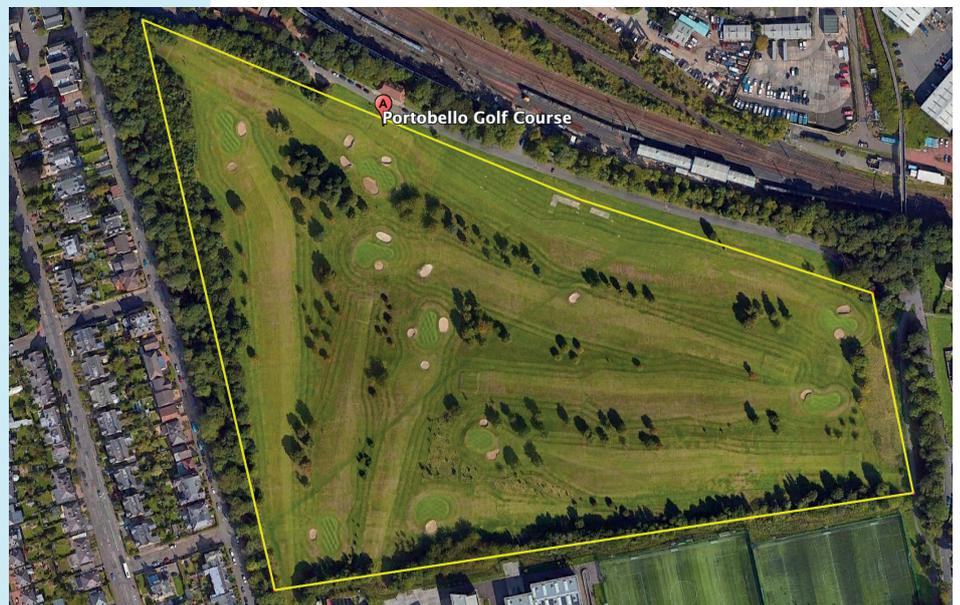
Tall ball-stop perimeter safety netting is increasingly being used to create fully enclosed driving ranges. Ranges with a suspended roof net known as 'Pods' (see p.22 & p.23) are land-efficient and may be 30 m–60 m (33 yd–66 yd) wide, and a similar length. Range Pods can be built in smaller (even urban) areas as the roof-net effectively eliminates the chances of ball-escape. When combined with modern ball-tracking technology and gamefication software these facilities may be a more attractive solution than a range that limits what clubs a golfer may hit or issues restricted-flight balls.

A standard size for a hitting bay within a driving range is approximately 3 m wide and 4 m deep. Bay dividers, hitting mats and safe access areas need to be allowed for. If the range has covered bays it could be constructed on a single level or multi-story building with potentially hundreds of bays and ceiling heights that need to be factored in.

The outfield should contain centrally positioned and visible targets at various distances such as 50 m, 100 m, 150 m, 200 m and 250 m (or 50, 100, 150, 200 and 250 if operating in yards) so golfers can practice their alignment and accuracy. Outfields are generally rectangular or fan shaped but take on various shapes depending on the available land. Mild ground slopes and trees help to provide additional visual interest on an outfield but ensure the ground is well drained so golf balls can be collected year-round and in all weather conditions.

INTERMEDIATE GOLF COURSE

An intermediate course is a shortened golf course where the length of the holes and par is less than a full-length course but more than a par-3 course. They are often a mix of par-3s, par-4s and occasionally a short par-5. On gently undulating land, 9-hole courses can exist on land measuring 10–12 Ha (25 ac–30 ac), eg Portobello Golf Course, Edinburgh, but due to ball-strike safety issues they often need more land. An 18-hole course may require up to 50 Ha (125 ac) and a 9-hole course up to half this area so there is greater spatial separation between holes and around the course perimeter for safety. Intermediate courses offer more playing strategy than a par-3 course but can be played in less time than a full course.



Portobello Golf Course (c.1911). Public course. 12.1 Ha (30 ac) (excl. parking and clubhouse). 9-holes. Public 2,302 m (2,517 yd), par-32. Hole lengths: 112 m to 338 m (123 yd to 370 yd). 4 par-3s, 5 par-4s (Google Earth)

Area of land required.

The type of golf facilities that can be made on a property depends on the area of useable land available. A modern, conventional 18-hole golf course is land-intensive and may need 60 Ha (150 ac) or more of land. However, if the course is on steep land or a site that includes nature reserves, protected areas, wetlands etc, then the total area will need to increase.

When looking at the land required for specific holes a par-4 hole of 380 m (420 yd) may require 4.25 Ha (10.5 ac). This allows for a 110 m (120 yd) wide safety corridor for the hole. In the same area, three or four par-3s ranging from 55–135 m (60–150 yd) in length may be created. Resultingly, a 12.1 ha (30 ac) parcel of land may be used for a 9-hole par-3 course.

Putting greens, short game areas and adventure golf courses require much less land and can be made to fit quite small spaces. Practice grounds come in many different shapes and sizes and while a full size high-performance training facility may require 10.1 Ha+ (25 ac+), the starting size for a modern driving range outfield measuring 300 m (328 yd) long and

100 m (328 yd) wide is 3 Ha (7.5 ac). Driving range pods with 10 bays and fully-enclosed outfields may only be 30 m wide and 30 m long (or just long enough for ball tracking to work), and require quarter of an acre. All golf facilities should ensure adequate safety margins between holes and around playing area boundaries. Install ball-stop fencing where required.

A GUIDE TO GOLFING AREAS

TYPE OF FACILITY	Number of holes	Course length (m)	Recommended total area (m ² and Ha)	Recommended total area (ac)	Time to play
Putting green 	4–10	N/A	300 m ² – 600 m ²	0.07 – 0.15	N/A
Putting course 	9–36	N/A	600 m ² – 1.25 Ha	0.15 – 3.00	N/A
Adventure golf 	18	N/A	1,500 m ² – 5,000 m ²	0.37 – 1.24	<1 hr
Park golf 	9	500 (547 yd) (max)	1,200 m ² – 2,000 m ²	0.30 – 0.50	1 hr
Short game area with bunker/s 	N/A	N/A	2,000 m ² – 2 Ha	0.50 – 5	N/A
‡Driving range 	N/A	Enclosed pod	5,000 m ² +	1.24+	N/A
	N/A	300 x 100 (328 yd x 109 yd)	‡2 – 6.5 Ha	‡5 – 16	1–2 hrs
Pitch & Putt 	9	<600 (<656 yd)	2 – 5 Ha	5 – 12.5	1 hr
	18	<1,200 (<1,312 yd)	4 – 10 Ha	10 – 25	2 hrs
Par-3 course 	9	<1,500 (<1,640 yd)	8 – 15 Ha	20 – 37	1 hr 15 mins
9-hole golf 	9	1,100 – 2,400 (1,200 – 2,625 yd)	10 – 25 Ha	25 – 62	1 hr 30 mins
* Intermediate golf course	18	2,200 – 4,800 (2,406 – 5,250 yd)	20 – 50	50 – 124	3 hrs
* Full length golf course	9	>2,750 (>3,000 yd)	30+	75+	2 hrs
	18	>5,000 (>6,000 yd)	60+	150+	4 hrs+

‡ Ball-stop fences required

* These figures are for comparison and information only and for golf facilities requiring more than 21.1 Ha (30 ac)

Designing golf facilities to fit different land parcels.

Every golf property requires a site-specific design so the facilities are massaged and manipulated to best suit the land. To ensure the best use of each square metre and the safety and circulation of the users is maintained, a golf course architect should be engaged. However, for the purpose of this publication we would like to show conceptual examples of how various combinations of golf facilities may be merged to fit land parcels of different sizes. Six examples with land parcel sizes from 1.5 acres to 30 acres have been created. The graphics created show how golf elements can be added or subtracted to achieve the best combination within a project area.

0.6 hectares (1.5 ac)

The growth of golf increases when a pathway is created that allows golfers to build a relationship with the game and provides places for them to develop their skills. The first step for some people on their journey into golf may be an adventure golf course, putting green, short game area or driving range. These are common starting places because they are fun, less expensive and time consuming to play and more rewarding for beginners (who can be put off trying golf because they fear being embarrassed). Some people may have the opportunity to start golf on a golf course – particularly if they have friends or family who are members of a golf club, or a municipal golf course nearby – but this isn't necessary. Any open space is a potential launch pad into golf for someone with a club and a ball.

Other Options: Putting green, putting course, short game area, 3 short holes etc.

Note: Plans on pages 21–26 are to scale, but not to each other. Plans are indicative only and not for construction.

Safety margins between holes and around the perimeter of a golf facility need to be individually assessed by a qualified person.



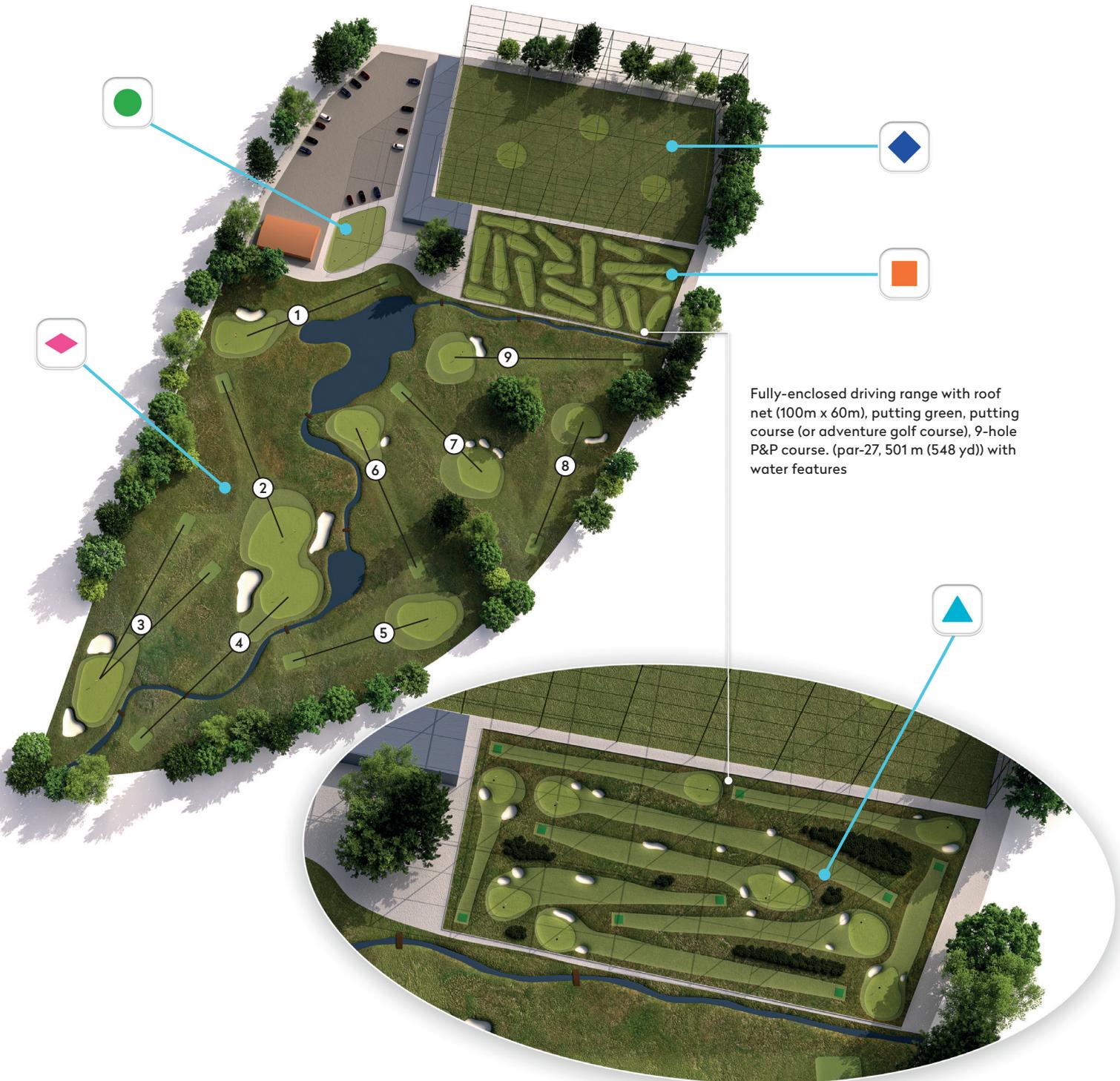
2 hectares (5 ac)

Whether at a golf course or a golf facility with skills areas, developing the short game skills of chipping, pitching and putting are recognised as the best building blocks to the making of a golfer. This example features 36-holes of adventure golf, and a ten-bay fully-enclosed driving range so includes the golf entertainment elements that mean it could be a stand-alone commercial facility or be installed to sit alongside a golf course.

Two hectares is insufficient land for a golf course but other options include putting and chipping courses, more expansive short game areas, a larger driving range or perhaps a 6-hole P&P course.



Fully-enclosed ten-bay driving range with roof net, length = 30 m. Combined putting green and practice bunkers, 36-holes of adventure golf



Fully-enclosed driving range with roof net (100m x 60m), putting green, putting course (or adventure golf course), 9-hole P&P course. (par-27, 501 m (548 yd)) with water features

4 hectares (10 ac)

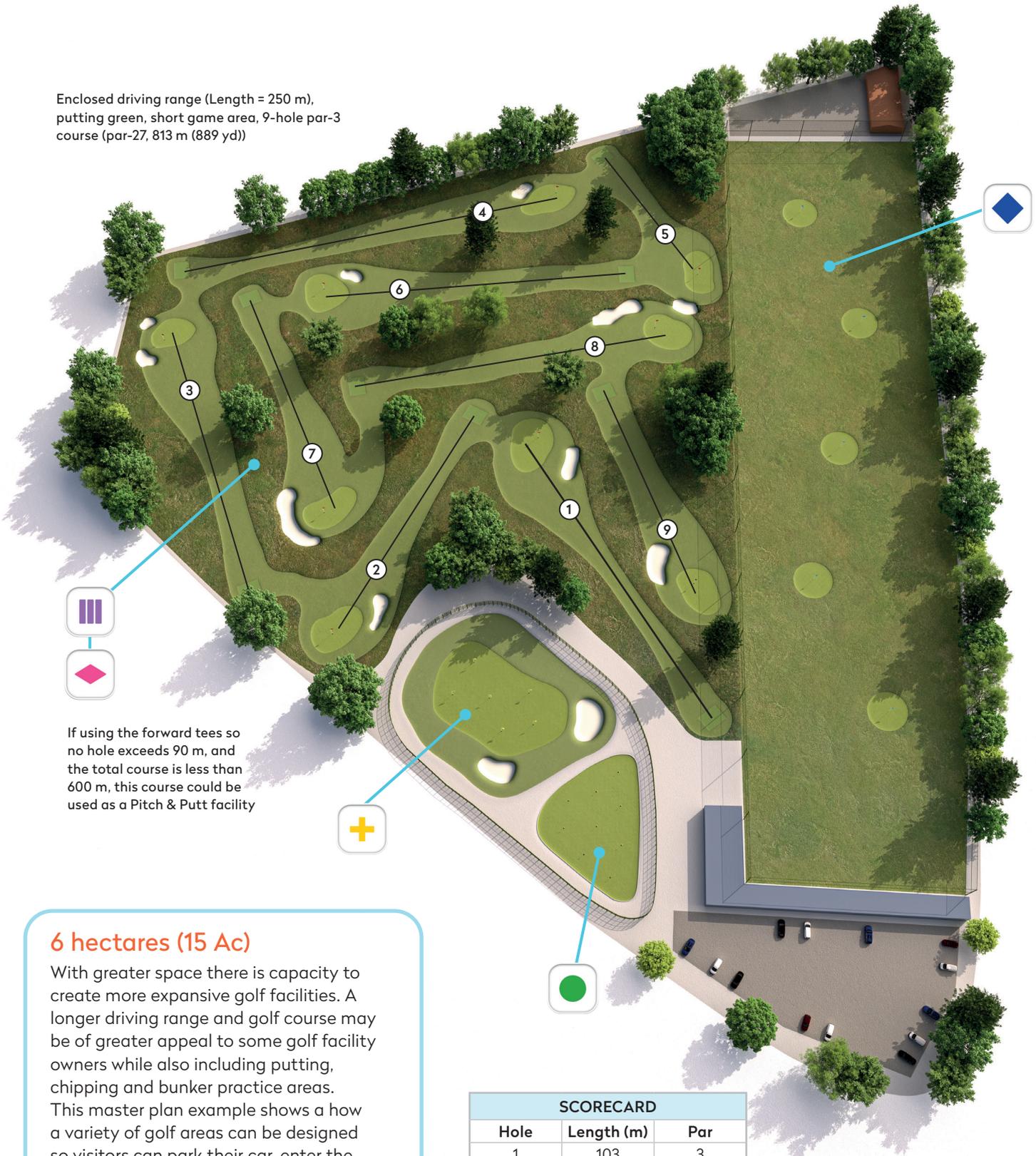
Compared to smaller land areas, 4 hectares provides perhaps the first real opportunity to develop a golf course. This example shows how a driving range, putting course and short golf course could be combined. The facility includes 100 m long fully-enclosed driving range with 20 bays, a 18-hole putting course (which could also be exchanged and made into a either a park golf or adventure golf course), practice putting green and 9-hole P&P course.

The facility also includes a proshop/café, car parking and a maintenance building (Orange roof).

Other Options: Putting green, short game area, 6-holes, Park Golf, longer driving range etc.

SCORECARD		
Hole	Length (m)	Par
1	57	3
2	59	3
3	62	3
4	72	3
5	46	3
6	54	3
7	39	3
8	48	3
9	64	3
	501	27
Range Length = 100 m		

Enclosed driving range (Length = 250 m),
putting green, short game area, 9-hole par-3
course (par-27, 813 m (889 yd))



If using the forward tees so
no hole exceeds 90 m, and
the total course is less than
600 m, this course could be
used as a Pitch & Putt facility

6 hectares (15 Ac)

With greater space there is capacity to create more expansive golf facilities. A longer driving range and golf course may be of greater appeal to some golf facility owners while also including putting, chipping and bunker practice areas. This master plan example shows a how a variety of golf areas can be designed so visitors can park their car, enter the building and hit golf balls at the range before heading to the putting green, short game area or golf course.

To ensure the facility can operate smoothly from a commercial aspect, the pro-shop could be positioned on the left side of the building so staff have a clear view of the hitting bays, putting green and the 1st tee. The maintenance facility is at the far end of the range and has direct access to the driving range and golf course.

SCORECARD		
Hole	Length (m)	Par
1	103	3
2	81	3
3	95	3
4	124	3
5	56	3
6	98	3
7	83	3
8	100	3
9	73	3
	813	27
Range Length = 250 m		



8 hectares (20 Ac)

This golf facility includes a driving range, 6-hole short course, short game areas and includes an 18-hole adventure golf course. The driving range is also designed to double-up as a Pitch & Putt course. There are nine target greens in the outfield so the range could be closed and golfers play a 9-hole short course that starts and finishes at the hitting bays. Facilities with flexibility in their design or set-up are better at adjusting to the changing needs of the users – such as individuals or groups – at different times of the day, weeks or months. This may allow for a facility to welcome families, schools, sports groups etc, and cater for various types of events at the same time.

Enclosed driving range (265 m)/P&P, putting course/adventure golf, putting green, short game area, 6-hole par-3 course (par-18, 685 m (750 yd))

SCORECARD		
Hole	Length (m)	Par
1	119	3
2	94	3
3	71	3
4	142	3
5	155	3
6	104	3
	685	18
Range Length = 265 m		





12.1 hectares (30 ac)

With 12.1 hectares of land available, the options for a golf facility become greater, to the extent that 9-holes of golf could exist. However, for a facility wishing to have practice facilities some compromises need to be made. This golf course is flexible in the way it could be played, but is of a shorter distance than a regular 9-hole course. The benefit of its smaller footprint is that it allows for a longer driving range, putting green and adventure golf course to be included.

SCORECARD		
Hole	Length (m)	Par
1	243	4
2	113	3
3	330	4
4	116	3
5	146	3
6	262	4
7	114	3
8	78	3
9	101	3
	1,503	30
Range Length = 275 m		

Enclosed driving range (Length = 275 m), putting green, 18-hole adventure golf, 9-hole intermediate golf course (par-30, 1,503 m (1,644 yd))

DRIVING RANGE CONSIDERATIONS

- Golf balls and their collection:** Driving ranges have a pool of golf balls that are recycled for use. The number of balls may be between 10,000 and 100,000 depending on the size and popularity of the facility. A busy range with 60 bays may see 50,000 balls hit in one day. If the ball hopper at this facility only holds 35,000 balls, then the range balls need to be picked up during the day. There are different methods for this. Some ranges rely on people and machines to drive around the outfield, others use automated robots. Both methods still require some level of 'hand-picking' to retrieve stray balls. Regarding the golf balls, these vary in cost and quality but a common type of range ball may have a two-piece construction. These balls often last about 100 hits before needing to be replaced.

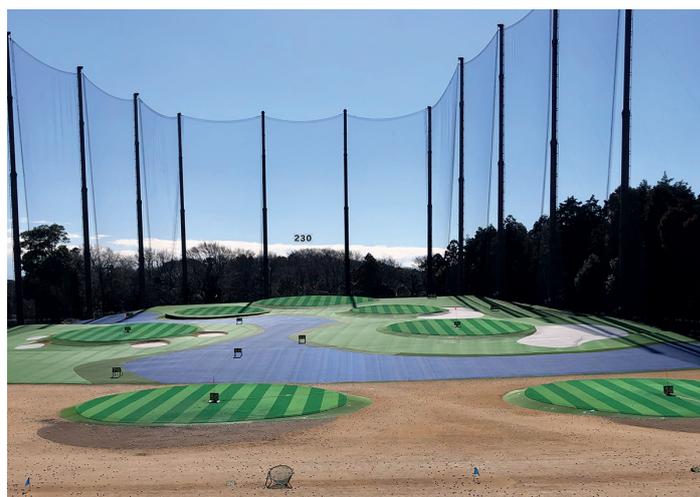


This robot can collect 400 balls an hour, and be in constant circulation operation day and night. A facility may have several robots, with each having a docking station to drop the golf balls and recharge. The advantage these machines have is that they are lighter, quieter, cost less to operate and may recharge with solar power



A type of ball collection machine commonly seen on grass ranges

- Range outfield:** The design of the outfield is an important factor in ball collection, operation and aesthetics of the range. Ensure the outfield ground is well drained. Mow turf (eg 30 mm) and have defined targets. Firm land is suitable for larger ride-on collection machines. Synthetic turf outfields often suit lighter systems to avoid damage to the carpet and their seams. Some synthetic turf ranges have outfields with slopes so range balls run-off into channels or collection areas. From here, balls can be automatically returned to a ball station for cleaning, sorting and re-use.



This driving range (in Japan) has an outfield which is a combination of turf grass (brown grass in foreground) and synthetic grass further out. This back section has slopes that roll golf balls into collection areas

- Safety netting and hitting bays:** Areas for golf can be maximised with the use of ball-stop netting. Netting is commonly installed around driving ranges, and may extend up to 40 m+ in height when attached to specially designed towers. Such a height is required when a driving range has multi-level hitting bays or the land is sloping away from the hitting areas. Netting has the ability to reduce the safety buffers both between two golf areas with different uses, and along the boundary of a golf area where it borders non-golf land – eg residential homes, roads, car parks, etc.



Hitting bays need to be designed for safety and functionality. Screens display ball-tracking information and games.

PART 2

Planning and principles for developing an outdoor golf facility.

Any golf development project starts by establishing a business strategy that presents the most appropriate golf facility to the market in a manner that attracts golfers, or improves membership satisfaction, retention and replacement goals for the future. A development team will often have a vision of what they want to achieve and have scouted a preferred site. Proposals are often well thought out and developed with a golf course architect. There are a number of strategic factors that influence the type and form of golf facility design. Among the considerations are:

- **GOLF FACILITIES:** What type of facility is needed, and what is its most appropriate form? If the compact facility is a golf course, how many holes can be safely designed? Can practice facilities be included? There are various indoor and outdoor options. For a golf course, adding a putting and chipping green and warm-up net are good but enhanced short game, chipping, putting and bunker practice facilities are better for developing a golfer's skills. Public-facing facilities may include an adventure golf course which is a fun, fast and family-friendly form of golf. Driving ranges with multiple bays and ball-tracking technology are increasingly popular. These facilities are bringing new people to golf, are good for teaching, lessons and game improvement and, as they can be open all-year round and many hours of the day, are often commercially successful for owners and operators.
 - **COST, QUALITY AND SERVICE:** Cost is a barrier to golf participation so where possible a golf facility might benefit from finding ways to offer their golf facilities at lower price points. This might be discounting at off-peak times or offering reduced costs for groups like younger people, families or senior citizens. It must be balanced with the quality of the golf product being offered and the level of service provided.
 - **FORWARD TEES:** A golf course should provide playing length flexibility. People are living longer and staying fitter for longer. Their potential to remain as active golfers for longer has therefore increased and, while this might not in itself represent an opportunity for, say, increased membership revenue, their ability to mentor children and grandchildren does. Given this, golf facilities may benefit from including well positioned forward tees to allow both young and old to enjoy the game together and for longer.
 - **GROUP GOLF:** Relationships and expectations within families have changed. Couples are increasingly sharing duties meaning that the hours available for leisure are more fragmented and both partners are expected to be more active in the upbringing and mentoring of their children (and/or grandchildren). Golf facilities might consider more ways to encourage family groups to enjoy golf recreation time together eg crèche facilities
 - **TIME:** People are increasingly 'time poor'. Working hours are more varied but also the suite of recreational and entertainment opportunities are broader. For many – especially families – the traditional half or full day that could be set aside for golf is increasingly hard to find; for others the time allotted may fall at times other than the weekend. Golf facilities that offer 3-hole or 6-hole loops, perhaps within a nine hole course, have an advantage to these people. Short courses may still be used for learning to play or developing a handicap or for golf competitions but they just require less time to play.
- In the conceptual stages of the project, considering factors such as these may influence the strategic design of a golf facility so the most optimal outcome can be reached.

GETTING STARTED

Selecting the best piece of land for a golf facility is often the most important decision. The next step is a pre-design analysis, or site feasibility study. The key attributes may be:

- **Affordability:** Is the land within acquisition budgets? What are the additional costs to prepare the site for golf? (eg from simple tree removal to the transforming a quarry or capping a landfill). Will the land offer a feasible return on capital investment?
- **Location:** Is the land close to residential areas where people can easily visit or a destination site likely to attract visiting golfers? Is there good vehicle accessibility?
- **Site Analysis:** Size, slope (impacts amount of actual land available for use), soil, sustainability, water (for irrigation), drainage, climate (eg rainfall, evapotranspiration (ET), maximum and minimum temperatures).
- **Utilities:** Assess sources for services ie power, water, sewer etc.
- **Planning Conditions:** Restrictive conditions will quickly scupper the best design vision. It is important to understand the limitations on a site from the outset. If they are burdensome, the project may not get off the ground or its price will go up. Constraints cause delays and may mean the project fails to reach the client's design brief.
- **Environmental Impact Assessment:** Looking at flora & fauna, environmentally protected areas, buffer zones, safety zones, archaeology and how they may impact the golf design options.



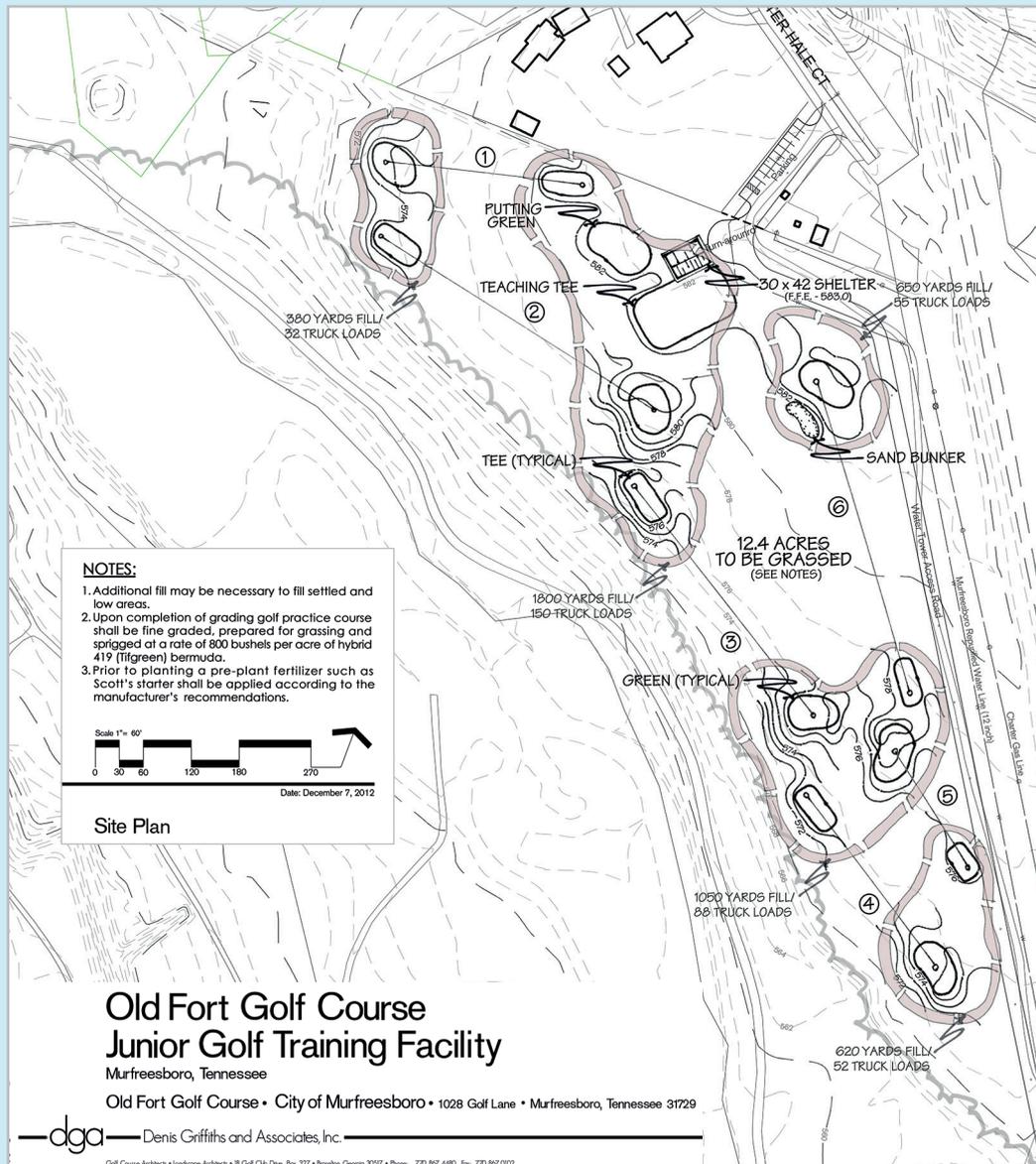
Soil and turf conditions have a direct impact on the quality of playing surfaces. This photo shows turf with an excessive amount of thatch – an undesirable surface layer of partly decomposed organic matter – which causes soft, waterlogged turf. Good golf surfaces are well drained and firm



- **Soils:** Almost anything can be done to improve soils but finding free draining soils with suitable nutritional levels will ensure the cost of the project will be lower, and the turf condition superior.
- **Drainage:** A saying in golf construction is that golf design is 90% about drainage. If the property receives excessive rainfall, and the soil is slow draining, it is probably not the right location for a golf course. Water that is collected by the drainage system needs somewhere to go. Ensure there are appropriate water outlets. Water capture and use are critical considerations for sustainable golf course design.
- **Irrigation:** Irrigation requirements vary from area to area but water will be an important consideration for the golf facility so it is necessary to understand the water source and storage needs based on the local climate and the turf requirements of the golf areas being developed.

When these elements have been considered by qualified experts, a clearer picture of what options are available emerges. Beyond the client's team, lawyer, accountant, Head Greenkeeper and Golf Professional, the expert consultants required may include:

- Golf course architect
- Planning advisor
- Irrigation designer
- Agronomist
- Drainage/Civil engineer



6-hole training facility with teaching tees for Old Fort Golf Course. Opened in 2014 on 5.7 Ha (14 ac), the course measures 574 m (628 yd) and includes a practice tee

NEXT DESIGN PHASES

Having set the strategy, selected the site, and completed a pre-design analysis, the next phases of designing a golf course may include:

- **Concept Design:** This phase is a series of sketches to unlock the golf possibilities and flesh out the golf facility options. Consider access points, clubhouse and maintenance buildings, parking, power, water, sewerage, sun and wind directions, safety issues etc.
- **Design Development:** Having selected the preferred concept design, this phase adds greater detail to advance the plans to a stage when preliminary costings and quantities can be established.
- **Permits and Financing:** A master plan is presented to the team so the permissions and capital can be gathered to start construction.
- **Construction Documents:** The suite of plans based on the approved master plan are created and issued to the golf contractor.

HOLE LENGTHS AND PAR

For any golf course, the design team will be looking to create a course with a series of interesting holes that offer variety and challenge to all golfers. One tool they have is to vary the pars—3s, 4s and 5s around the course, and to adjust their direction, width and slopes. The system of 'par' is an old one and a version of it dates as far back as 1891. It was developed to compare golf courses based on the lengths of their holes. Short holes are par-3s, where a golfer is permitted one shot to hit the green, and two putts. Longer holes also allow two putts per green, but more shots to get to the green based on their length. So a par-4 allows two shots to reach the green, and a par-5 three shots etc. The system aids golfers to keep track of their score, (ie how many shots they are above or below par), but the Rules of Handicapping™ also feature par in the calculation. This is important for golfers wishing to measure their progression in the game and for inspiring improvement.

A 9-hole course needs to be at least 685 m (750 yd) in length to be eligible for a Course Rating. Par for individual holes can be calculated as shown opposite.

ESTABLISHING PAR

The *Rules of Handicapping* feature *par* as a factor in the calculation of:

- *Course handicap*,
- *Net double bogey* and
- *Net par*

It is important that an accurate *par* be established for each hole on a *golf course* for both men and women, and these values should be printed alongside each hole on the scorecard.

It is recommended that *par* be established for each hole in accordance with the following hole lengths:

Par	MEN	WOMEN
3	up to 260 yards (240 m)	up to 220 yards (200 m)
4	240 to 490 yards (220 to 450 m)	200 to 420 yards (180 to 380 m)
5	450 to 710 yards (410 to 650 m)	370 to 600 yards (340 to 550 m)
6	670 yards and up (610 m and up)	570 yards and up (520 m and up)

Note: these guidelines assume an altitude less than 2,000 feet/610m above sea level.

As *par* reflects the score a *scratch player* is expected to score on a given hole, it may also be appropriate to take into consideration the following information when allocating *par*:

- The playing difficulty of the hole, including any effective length correction factors, such as elevation changes, forced lay ups and prevalent wind.
- Where a hole length falls within two *par* ranges, for example 470 yards (men) or 400 yards (women), the *par* may be allocated as 4 or 5 depending on the difficulty of the hole.
- The way the hole is designed to be played.

Where appropriate, the standardisation of *par* across tee sets is recommended. For example, if the hole lengths from all sets of tees on a specific hole lie within the recommended *par*-5 range for men, with the exception of the forward tee at 410 yards, the forward tee should also be designated as a *par*-5 hole if it can be determined that it was designed to be played as a *par*-5 for the majority of players who will choose to play the hole from that tee. Additional consideration may also be given to the set of tees most commonly played by men and women and the most common *par*, for men and women, across all sets of tees on a hole.

The standardisation of *par* helps to simplify:

- The calculation of the number of strokes given or received when players are competing from multiple sets of tees.
- The consistent application of net double bogey and net *par* to determine a player's adjusted gross score across all tee sets on a hole.

FOR INCLUSION IN THE RULE BOOK FOR ASSOCIATIONS THAT HAVE SELECTED NOT TO INCLUDE COURSE RATING-PAR (as contained in a discretionary item that appears in Rule 6.1)

The standardisation of *par* helps to simplify the consistent application of net double bogey and net *par* to determine a player's adjusted gross score across all tee sets on a hole.

GETTING A COURSE RATING

A *Course Rating* is the evaluation of the playing difficulty of the course for the scratch player (0.0 handicap) under normal playing conditions. The main formula evaluates the effective playing length of the course. Besides length, the five primary factors shaping the outcome are ball roll, elevation, wind, forced lay-ups and altitude. Obstacles such as bunkers, fairway width, penalty areas, trees and topography are also considered. The result is expressed in strokes to one decimal place – eg 71.8.

A *Bogey Rating* represents the expected score for a bogey player (ie Male 20.0, and Female 24.0 handicap). The difference between the *Course Rating* and *Bogey Rating* is used in the determination of the *Slope Rating*. A golf course of standard relative difficulty has a *Slope Rating* of 113.

Around the world, Authorised Associations are responsible for determining and issuing these ratings for golf courses within their jurisdictions. These can be issued to golf courses with a minimum length of 685 m (750 yd) for 9-holes and 1,370 m (1,500 yd) for 18 holes.

To gain a *Course Measurement*, each hole must be measured by a qualified person or organisation to the nearest metre/yard for each set of tees from a permanent distance marker. When setting up a course, the tee markers should be placed within 10 m (10 yd) of the permanent marker. To ensure the

accurate application of a *Course Rating* or *Slope Rating*, over an 18-hole round, the course should not be shortened (or lengthen) by more than 100 m (100 yd) from its measured length. For 9-hole courses this is reduced to 50 m (50 yd).

The Course Rating, Slope Rating and Par for each set of tees must be available to players so they can convert their *Handicap Index* to a *Course Handicap* and *Playing Handicap* to submit and acceptable score.

Course Ratings must be reviewed periodically and revised and reissued as necessary. New golf courses can change frequently during the first years after opening and must be re-rated within five years of the initial rating rate. Thereafter, courses must be re-rated every ten years.

STEPS TO PREPARE FOR A COURSE RATING:

- Course assessments are usually done in Spring or Autumn
- Install visible tee measuring blocks on every tee
- Provide Course Raters with average normal daily green speeds, rough heights and wind speeds
- On the day the rating is undertaken, cut the fairway and greens to normal widths and sizes and set the flag in the centre of the green
- Process may take three to six hours depending course size.

THE CHOICE OF NATURAL OR ARTIFICIAL GRASS



The choice between natural and artificial grass will depend on the type of golf facility being created, how much play it is likely to get and also sustainable design and environmental considerations.

Although synthetic grass is normally made of either nylon or polyethylene, which are both types of plastic, the environmental impact of using it needs to be weighed against the impact of the maintenance inputs that would be required to maintain natural grass. The balance will tend to favour synthetic grass on small areas which will receive a lot of wear such as on the holes of putting courses and the tees

and greens on a P&P course. It cannot normally be justified on fairways, green surrounds or larger tees, although in arid climates, where water supply and use is the primary concern, synthetic grass might be a reasonable option for these areas.

The whole life-cycle of the artificial grass surface needs to be considered including inputs during manufacture, transportation, installation and replacement when it eventually wears out or looks unattractive. Normally on a well-used tee or putting course the surface will need to be replaced within five to ten years. Daily maintenance will generally be limited to removing debris from the surface of the grass and occasional brushing to lift fibres which have become flattened. Annual maintenance will include jet-washing or vacuuming the grass to remove contamination from vegetation which falls on it. Sand-filled artificial grass will need to be top-dressed occasionally with new sand which will need to be brushed into the fibres. Some synthetic grass surfaces do not have sand fill and these will be easier to maintain, although they may also wear out more quickly.

There are many types of synthetic grass on the market with varying lengths of fibres for use on putting surfaces, green collars, fairways and semi-rough areas. Some contain 'dead' grass fibres to give a more natural appearance. Other fibre colours, such as white or yellow, can be purchased to represent bunkers or to highlight target areas on driving ranges.

ACCESSIBILITY

It is important that the golf course and other facilities are accessible for golfers with disabilities and this will also broaden its appeal. Design considerations will include:

- Providing some wider parking spaces to allow for wheelchair access (see p.36)
- Avoiding steps for access to the clubhouse/café and within the golf course
- Providing manageable slopes for wheelchairs around the clubhouse (maximum of 1:12 normally) and for specially-designed mobility scooters and wheelchairs used for playing golf
- Provide wide doorways and access gates to allow wheelchairs and mobility scooters to pass
- Ensure that there are specially adapted toilets available in the clubhouse/café and ideally also on the golf course
- Making all tees, bunkers and greens wheelchair accessible.



SUSTAINABILITY

Sustainability is important in golf course design, construction and maintenance. All sectors in the golf industry are increasingly finding ways to improve the financial, environmental and energy efficiency of their facility.

- **Energy:** Petrol, diesel and electricity are significant costs for a golf facility so finding ways to be more efficient is important. Buildings will require electricity for lighting and general use and switching to LED lights will decrease power bills but as electric mowers are becoming increasingly common on golf courses the need for more electricity is pushing golf courses to seek cheaper and more environmentally friendly power sources. Alternative sources to getting electricity from the grid include small wind turbines but the power generated needs to be stored in charging areas so this needs to be considered. Petrol and diesel can be stored in tanks.
- **Waste Management:** Some materials will be able to be recycled or reused but others will need to be taken away and this should be calculated. Washdown bays for machinery can be designed to reuse wastewater and filters will collect any grass clippings and debris as well as separate any oils, grease and other hydrocarbons that may be in the water.



- Environmental:** Habitat creation is a real opportunity in and around a golf venue, particularly in the out-of-play areas. Diversity of habitat types is important as is making sure that any wildlife areas around the venue are connected, where possible, by habitat corridors. A well-managed natural landscape around the facility can also complement the golf holes and create a more memorable venue and better experience for the golfer.

For more information and examples of the ways golf venues are implementing sustainability, read about the work of GEO Foundation for Sustainable Golf at sustainable.golf



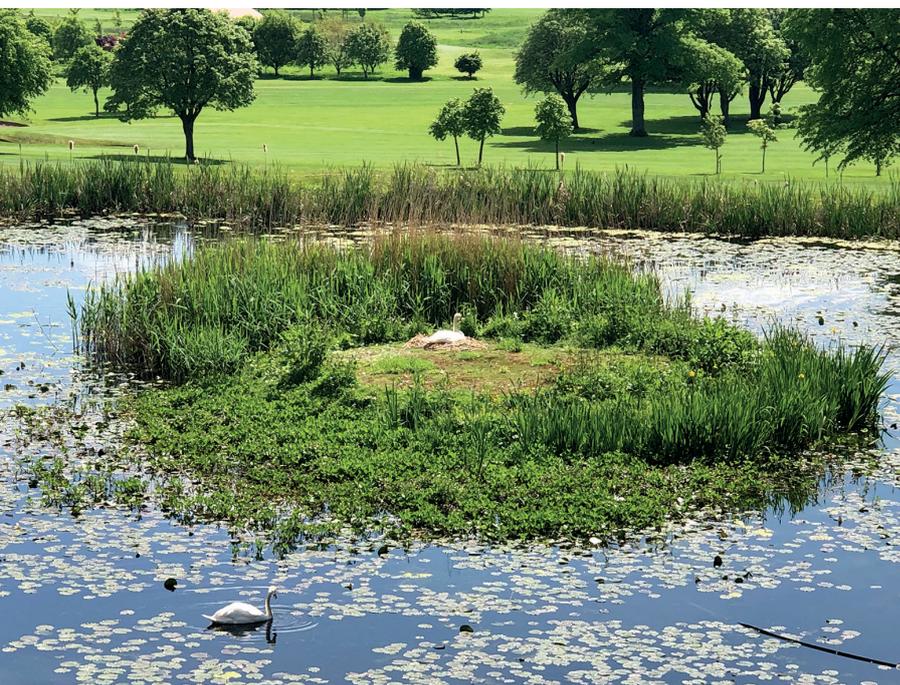
Ombria Resort, Loule, Portugal. An education and community engagement event on the golf course to show the local school group the nature that was around the golf course



CostaTerra Ocean and Beach Club, Comporta, Portugal. Local cork beehives (unusual as beehives are usually polystyrene or cedar wood) that were installed by the club to boost pollinator numbers in the previously degraded woodland habitat – promoting food production, reducing pest insects and creating local honey products for consumption in the on-site restaurant (zero food miles). The woodland is also being regenerated by promoting native species and removing invasive species such as eucalyptus



A group of deer running across the fairway at Golf It! Glasgow – an R&A facility



Swans nesting on an island in a lake at Close House Golf Club, Newcastle, England



Biodiversity woodland habitat area with education boards



CONSTRUCTION

The success of a project may be determined by the quality of the construction and maintenance of the facility. It is important to consider:

- Contractor (eg experience, technical and labour capabilities).
- Materials being used for construction (eg availability and quality).
- Quality of construction for elements such as earthworks, drainage and irrigation.
- Site supervision of the construction to ensure the design is finished in a way that is maintenance-friendly. New areas should be seeded or turfed correctly and at the best time of year to ensure a successful establishment of the grass.
- Optimise the use of resources. There is growing importance around sustainability and reducing carbon footprints so sourcing local materials, reducing energy use and the efficient use of labour should be considered.

MAINTENANCE

The quality of the maintenance for a golf course will often times determine the success of a golf facility so it is important that the green keeping team are fully resourced, well trained, and supplied with the correct equipment. Each type of facility will have a level of maintenance that is required but this can be minimised by good design and construction. Indoor facilities that use synthetic turf, projection units, ball-tracking and impact nets may require specialist help. Outdoor golf facilities require a level of maintenance such as the mowing of the grass, irrigation, drainage and soil amendments, however, there are two primary phases:

- 1. Establishment and Grow-in.** Having skilled personnel to grow-in the new golf facilities to the required condition for the proposed opening.
- 2. Long-term maintenance.** While some feature areas may require a slightly higher level of maintenance, the aim should be for the course to be affordable to maintain in the long term. For many facilities, this will mean most areas shall to be easy to mow and not be labour intensive. An example of this is constructing bunkers with flatter bases, and softly sloping edges such that they can be mostly mown and raked by ride-on machinery.



Mowers and maintenance equipment

The primary factors to consider are:

- **Labour:** Each golf facility must have sufficiently well trained staff to adequately maintain the golf course all year round. The greenkeeping team must be well lead, trained and resourced and follow a programme set to ensure the course is in its best possible condition.
- **Machinery:** There are different financial models for the purchasing or hiring of machinery but it must be well maintained and will also require storage areas. If maintenance is done at the golf facility well trained mechanic/s with the right equipment need to be in place to service the machinery so it is always ready for use.
- **Staff Welfare:** Provide safe, warm and satisfactorily sized buildings for staff that includes changing facilities.
- **Materials:** A wide range of materials are needed to maintain a golf course from topdressing and bunker sand, fertiliser, pesticides, soil amendments, drainage pipe and gravels, irrigation hardware for heads, pumps and control systems, etc. Dry storage areas are also required.

ANCILLARY FACILITIES

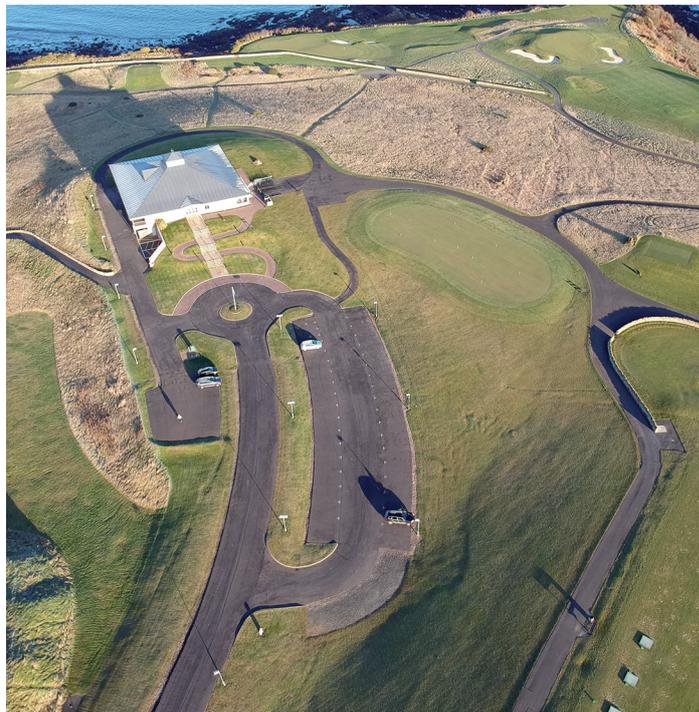
PARKING

Car parking requirements for different types of golf facility may be as follows:

COURSE TYPE	CAR SPACES
18-hole Putting Course	20–40
Pitch & Putt Course – 9 holes	20–40
Par-3 Course – 9 holes	20–40
Intermediate Course – 9 holes	20–40
50-bay Driving Range	50–70

Note: for golf facilities with multiple attractions, parking spaces need to increase cumulatively eg a P&P, intermediate course and driving range may require 150 parking spaces. Extra account may need to be made for staff and to allow for future expansion of the car park. Calculations are indicative only.

The number of car parking spaces required at a golf course will vary depending on whether visitors can easily walk, access the facility by public transport or if they need to drive by private vehicle. In addition, if a café/restaurant is provided, golfers will stay longer which could double the number of people present at any one time. If the café/restaurant is also available for



The layout of the car park determines the efficiency of vehicle flow, drop-off areas and the number of car parks available. This car park has 38 spaces with additional overflow parking

non-golfers to use then the number of parking spaces will need to be increased further to accommodate the extra visitors this could generate.

CAR PARK DESIGN

There are many ways to design and surface a car park. Typically, modern car parks are finished with hard surfaces such as asphalt or concrete. However those seeking more environmentally friendly solutions can install sustainable systems where surface water is allowed to soak into the soil below the parking spaces rather than flowing off and being discharged into drainage systems. Loose stone or paving are common choices. Alternatively, after the base work is completed a plastic grid can be placed on the top surface and backfilled with stones or seeded.

Parking for people with a disability are included in modern car park designs. In the UK, guidelines say spaces should be 2.4 m x 4.8 m, with an additional 1.2 m safety zone around the sides and back of the space. These parking bays are ideally positioned close to access paths and the clubhouse or golf facility and paving surfaces should be smooth.



Here the plastic grid is filled with topsoil and seeded with grass. This system can be used on the access road, as well as for an overflow parking area



Car parking space composed of a plastic grid, filled with fine gravel, which is laid over a road-stone base. Also note – the electric car charging station



The location and perimeter of disabled car parking spaces should be clearly marked, and positioned near to the building/facility entrance

RECEPTION/FOOD AND DRINK

It is important that the reception area is designed with sufficient circulation space for its needs. This may range from a simple ticket booth for a putting course to the counter at a café or to a desk within a driving range entrance building or clubhouse.

Providing a café or restaurant for food and drinks will yield another source of revenue. It may also encourage golfers to have another game after their break or try one of the other golf facilities provided at the centre.

If the café is open to the general public and situated so that they can watch the golfing action, either on the golf course or on television, it may also encourage them to give golf a go.



Open plan café at Golf It! Glasgow



A typical club house with table seating and open areas



Comfortable seating at L'île Fleurie where golf can be watched on the TV



A golfer being custom fitted for new clubs at a driving range

CLUB HIRE AND FITTING FACILITIES

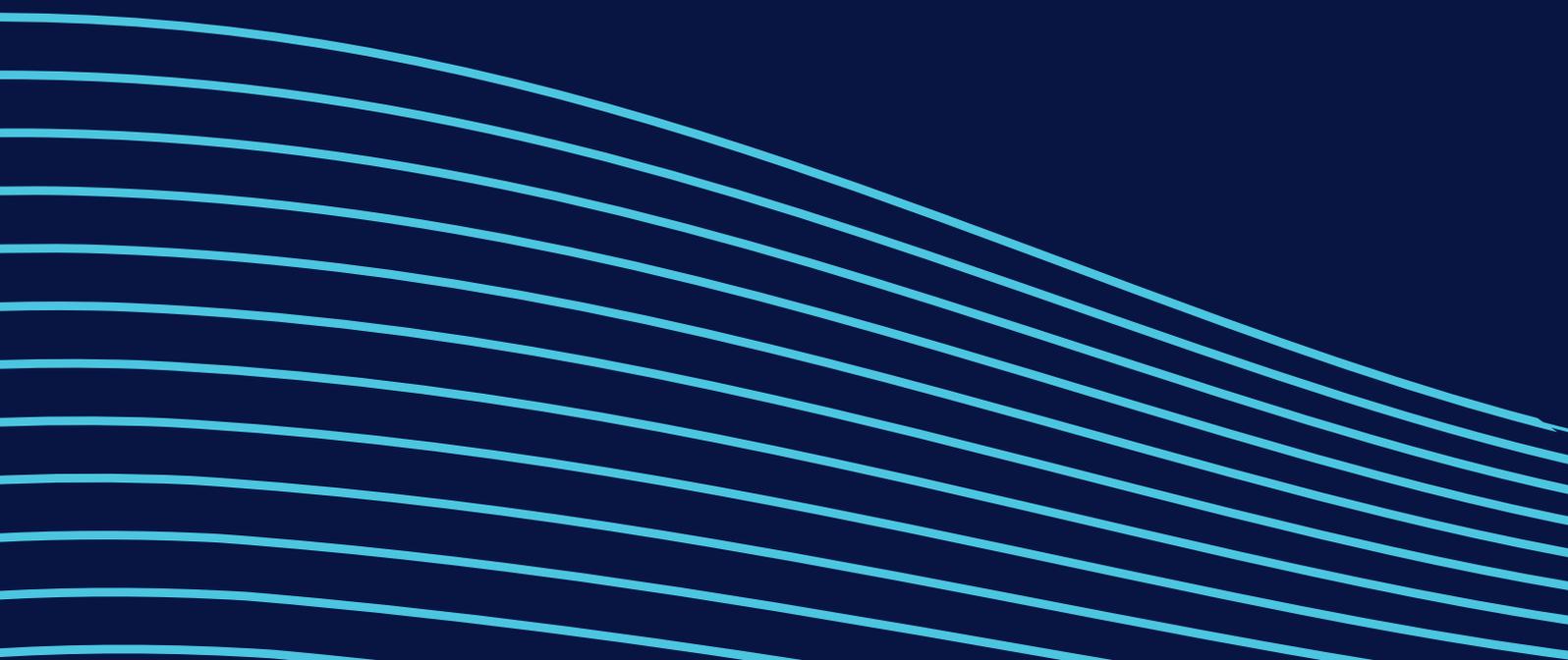
A barrier to playing golf can be access to equipment. Fortunately many golf facilities have all the golf clubs, balls and accessories that people require when they arrive at a venue. For example, clubs can be hired for P&P, par-3 and at intermediate courses. Prices vary but hire costs are often very reasonable. Golf clubs and balls are usually included in packages for certain golf events such as adventure golf or junior golf camps. Driving ranges that target the non-golfer and entertainment sector also often provide free golf clubs for use in the hitting bays.

From putting labs to full swing studios, some golf facilities offer club fitting services where golfers are individually assessed by specialists using high-tech cameras and ball tracking devices. With the aid of the data, golfers may then be sold new golf clubs tailored to match their swing.

PART 3

Case Studies.

The following projects are a small selection of real world examples of golf course facilities on small areas of land. In different ways they illustrate the various short course and practice facility design options open to golf clubs and developers. Beyond statutory, safety and environmental considerations, with creativity and energy, golf can be adapted to almost any site. May these facilities provide inspiration.

- The Furrows, Kingston Heath, Australia
 - Shanx Golf, Australia
 - Kevin Duggan Golf Academy, Luton, England
 - Golf Up, Grimaud, France
 - Repton Short Course, Rudding Park, Harrogate, England
 - El Cortes Golf Academy, Mexico
 - CVR Links Golf Academy, Andhra Pradesh, India
- 



THE FURROWS AT KINGSTON HEATH, MELBOURNE, AUSTRALIA

FACILITY: 9-hole, par-3 course. Length = 580–885 m (634–968 yd)

LAND AREA: 8 Ha (20 ac)

DESIGNERS: OCM Golf

OPENED: April, 2023

The Furrows is a 9-hole short course designed for members of Kingston Heath Golf Club and their guests. Used primarily as a market garden in the 20th century, the rectangular parcel of land was acquired in the 1990s by the golf club initially to protect the boundary of the main 18-hole course. The ground was first made into a 19th hole for the club. It still exists but the surrounding land has now been transformed and is a par-3 course aimed at new golfers, older golfers and family groups and to act as a pathway into golf. With holes playing less than 120 m (131 yd) long, the course acts to hone the short iron, approach shot, chipping and putting skills of golfers. It is separate from the main course and the practice area and is designed to be played in one to two hours.

The course has bent grass greens but also features native grasses and 50,000 indigenous heathland plants and shrubs so the course has a similar look to the main course.





SHANX @ Melbourne Cable Park (MCP)
 Area: 2,200m
 Layout: 18-holes, 36 pins
 Courses: SHANX Course = challenging, MCP Course = easier



SHANX GOLF, AUSTRALIA

FACILITY: Australia-wide

LAND AREA: 700m² – 5,000m² (0.17 – 1.2 ac)

DESIGNERS: GreenSpace Management /
 Peter Vlahandreas

COMMENCED: 2020 onwards

Based in Australia, these facilities are hand-built miniaturised golf courses. Requiring an area of land between 700m² and 5,000m², depending on the number of holes created, the facilities are made with synthetic grass but can include indigenous vegetation around the holes. Courses are not 'amusement based' with windmills, but rather short golf holes with tees, bunkers and holes. Courses are aimed at golfers and non-golfers and can have lighting installed for evening play.

Courses typically have two pins per hole allowing for a variety of play as well as varying skill levels. Players will select a pin when they start, SHANX course (always the most challenging) or local course (always the easiest) and play their round. The different courses allow for a variety of play as well as options to create a composite course during competitions and league play.



Shanx golf facilities top to bottom: Melbourne Cable Park (plan and top photo); Regency Park, Adelaide; Pacific Harbour, Bribie Island



KEVIN DUGGAN GOLF ACADEMY, LUTON, ENGLAND

FACILITY: 9 holes, Pitch & Putt course

LAND AREA: 3.5 Ha (8.6 ac)

DESIGNER: Ken Moodie, Creative Golf Design

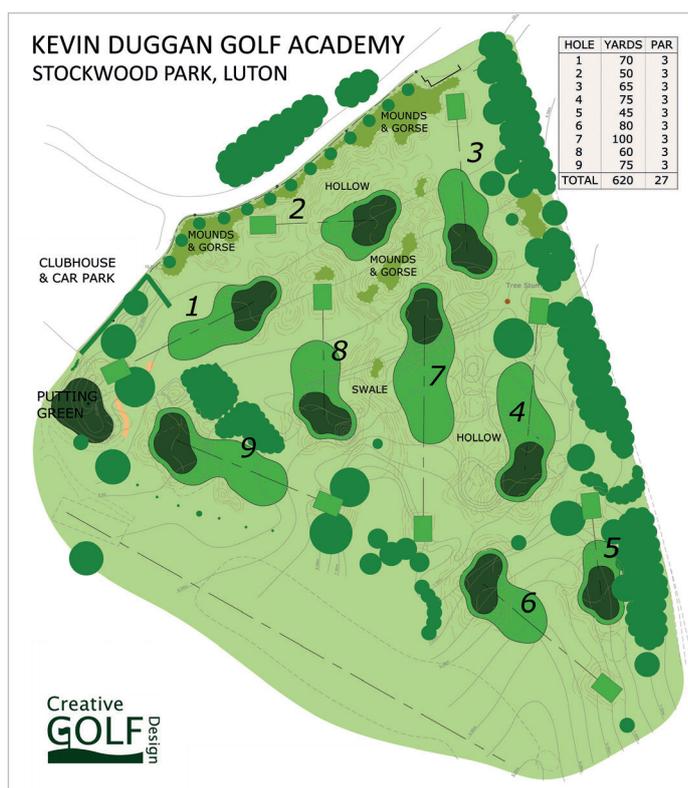
OPENED: May, 2005



The KDGA was built on public land, adjacent to the municipal golf course of Stockwood Park, by a charitable group who raised the money for the construction of the golf course in exchange for free use by disadvantaged children. The Council agreed to maintain it on the basis they would receive income from the general public who could use it the rest of the time.

The golf course was designed to a high standard with USGA specification greens of 200–250 m² (2,150–2,690 sq. ft) in size. Tees of 80 m² (860 sq. ft) were built containing an artificial tee mat of 4 m x 3 m size, which is used for most play, with the grass areas of the tee reserved for special events. There is only one bunker on the course (on the 9th green) but mounds, hollows and swales have been designed to create plenty of chipping interest. A central swale winds its way between several holes and doubles as a drainage feature, picking up the piped drains from each of the greens via a central drain that exits into a large hollow. This is a very efficient form of drainage and saved money in construction.

Footgolf, using a football which is kicked by the player, is also played on the course but to separate 'greens' which are cut out of the grass just short of the proper greens. This helps to attract footballers to the golf course who might not consider playing traditional golf and adds an additional income stream. Footgolfers are not allowed to use football boots, with studs or cleats, in order to avoid damaging the grass.



GOLF UP, GRIMAUD, FRANCE

FACILITY: Synthetic turfed range, practice area and 9-hole, par-3 course

LAND AREA: 3.3 Ha (8.2 ac)

DESIGNER: Jean-Claude Cornillot

OPENED: April, 2017

This Pitch & Putt course sits on a compact site in the south of France together with a driving range, chipping green and practice putting green. This case study is unusual in the fact that all of the grass surfaces on the golf course and driving range are synthetic. This minimises the daily maintenance requirements and negates the need for irrigation in this dry part of France. Of course, the synthetic grass will eventually wear out and will need to be replaced and the cost of this has to be factored into the long-term cashflow planning for the golf facility. Synthetic grass poses environmental sustainability questions that golf developments need to consider during the master planning phase.



People practice on the synthetic grass putting green. See also photo on p.19

The Pitch & Putt Course is located to the east and north sides of the driving range as shown in the plan opposite. The holes range from just 32 to 55 metres (35 to 60 yards) in length and vary a little depending on which of the two tees the golfer chooses to play from. The greens range from 197–305 m² (2,120–3,283 sq.ft) in size. The tees are small and average just 27m² (290 sq. ft) per hole. Tall netting has been installed around the driving range to provide protection to golfers on the Pitch & Putt from balls being hit on the driving range.

Fifty car parking spaces have been provided for the whole facility close to the south-east entrance to the golf centre.

REPTON SHORT COURSE, RUDDING PARK, HARROGATE, ENGLAND



FACILITY: 6-hole, par-3 course

LAND AREA: 4.5 Ha (11.1 ac)

DESIGNERS: Martin Hawtree and Russell Talley

OPENED: Summer, 2008

The Repton Short Course is part of a hotel, conference and golf complex which sits within the historic Rudding Park, designed by the 18th century landscape architect Humphrey Repton, who the course was named after. It was built next to an existing 18-hole golf course, designed by EIGCA Member Steve McFarlane in the 1990's, and opened for play in around 2007. The par-3 course has only six holes and so a round of golf usually takes just 45–60 minutes to play.

The holes range from 59 to 144 metres (65 to 157 yards) in length and the course features a signature island green, set within a man-made lake, on the penultimate 5th hole which was inspired by the 17th hole at The Players Stadium Course, TPC Sawgrass. The greens were built to a USGA specification and average around 300m² (3,229 sq.ft), with the largest close to 500m² (5,382 sq. ft). It provides the perfect facility for corporate guests to have some fun on after a conference in the hotel, for beginners to learn the

game or for golfers wanting to practice their shorter shots. It also gives them the excitement of playing a dramatic, do-or-die golf hole where they can try to emulate their golfing heroes. This is particularly good for an occasional special experience, such as for a hotel guest but perhaps not as well suited to a golf course where you would like visitors to come back again and again.



Left: 5th green inspired by the 17th hole at TPC Sawgrass

EL CORTES GOLF ACADEMY, MEXICO

FACILITY: 10 holes, dual-purpose range/par-3 course

LAND AREA: 5 Ha (12.4 ac)

DESIGNER: Augustin Piza, Piza Golf

OPENED: 2019

This dual-purpose facility is used as a driving range in the daytime for members and visitors, playing on the adjacent golf course, to warm up on before a round of golf, and a pay-and-play, 10-hole Pitch & Putt course in the late afternoon and evening. The old driving range had a simple, mown outfield and few targets for golfers to aim at. The introduction of the Pitch & Putt Course has turned a facility which made no money into one which generates a good revenue both in terms of green-fee sales and in related food and beverage takings. It also provides an excellent starter facility for new golfers to learn on and a good training facility for those wanting to improve their short-game skills. The holes range from 27 to 119 metres (30 to 130 yards) in length and there is a single natural grass tee on each hole. The greens were built to USGA recommendations and seeded with Seashore Paspalum.

The golf academy is used by the First Tee Mexico programme which gives Mexican children the chance to learn and play the game, even if they are from low-income families and would not otherwise have the chance to play.



Facility set up as a driving range (above) and a Pitch & Putt course (below)





CVR LINKS GOLF ACADEMY, ANDHRA PRADESH, INDIA

FACILITY: Multi-use family with range/3-hole loop/9-hole, par-3 course

LAND AREA: 6.5 Ha (16.1 ac)

DESIGNER: David Hemstock

OPENED: 2016

The CVR Links Golf Academy is part of the CVR Southport Golf Club, at Krishnaptnam Port, where there is also a part-completed 18-hole golf course which was designed as part of the development. The Academy consists of a multi-use space that can either be set up as a:

- Driving range, with target greens
- Three-hole loop of a par-4 and two par-3s
- Nine-hole par-3 course

The project is unusual in the fact that it has been built as part of a hospitality zone, to the south of Krishnaptnam Port, to entertain and attract cargo vessel captains and the client company's staff who are sometimes flown in by helicopter for golf and water sports. This means that number of players tends to be low and so the Academy can be set up to suit the visiting party within a matter of minutes. There is also a hole with an island green that is used for the 'Chairman's Challenge' which is essentially a fun nearest the pin competition.

The number of greenkeepers is high since labour is cheap and so more work is done by hand than would normally be the case.



The island green is visible to all who enter the port

Summary.

Golf is, by tradition, a cross-country adventure where players tee off from one location and hit the ball into a hole some distance away. While television broadcasts of championship tour events show vast courses with perfect greens and expansive fairways, golf has many homes from small golf courses in the countryside to urban Pitch & Putt courses, driving ranges or adventure golf facilities. In its basic form, golf has very few restrictions and it is this flexibility that allows it to be played in almost any location – including relatively small spaces.

Short golf facilities – such as par-3 courses, compact courses, P&P and practice facilities – are frequently the places where people first start playing golf. These places attract golfers and non-golfers, beginners and those returning after a long absence from playing, younger golfers and mixed groups of family and friends. Shorter forms of golf are very important to the growth of the game as they increase participation and because they:

- cost less to play
- take less time to play (than an 18-hole course)
- appeal more to new golfers because they often take a more relaxed approach to the etiquette of traditional golf. For example, golfers may play a casual round in groups of more than four, use their phones, wear more relaxed clothing and choose their own format to score the game.

Smaller golf facilities, by definition, offer another advantage – they can be established on smaller areas of land. At a time when 18-hole golf courses are requiring ever-larger amounts of ground, the nooks and crannies around suburban towns, inner-city brownfield sites and reclaimed or abandoned land, are the types of places that can be positively adapted by landscape design to be valuable habitat areas and delightful places for golfing. Key attributes for a site are:

- Location (access and affordability)
- Area (amount of land that is available, and can be used safely)
- Environmental (eg drainage, irrigation, sustainability etc)

There is no perfect design solution for all situations, however an ideal small outdoor golf facility may include:

- Putting greens
- Short game area
- Driving range (including high-tech ball-tracking technology)
- Golf holes (short course, P&P etc)
- Adventure golf

For developers, an attraction of creating golf facilities on smaller land parcels is that the set-up costs are lower and the facility could make a return on investment more quickly. The features of the most successful facilities include:

- Providing the right golfing facilities for the target market
- Being well maintained
- Offering excellent service
- Being welcoming (to golfers and non-golfers and family-friendly etc)

The R&A has for many years been proactive in funding golf development around the world and recently created their own public, urban, short-form golf facility called Golf It! in Scotland. The facility is community-centred and provides a pathway into golf for people of all ages and abilities. In addition, The R&A has been working to improve course rating and handicapping systems for short courses. These initiatives include looking at rating golf courses for girls and boys, rating individual holes and rating 9-hole golf courses shorter than 685 m (750 yd). This work is continuing with an aim that a greater number of short golf facilities can allow people to get handicaps and be set-up to reward golfers for the improvements in their game.

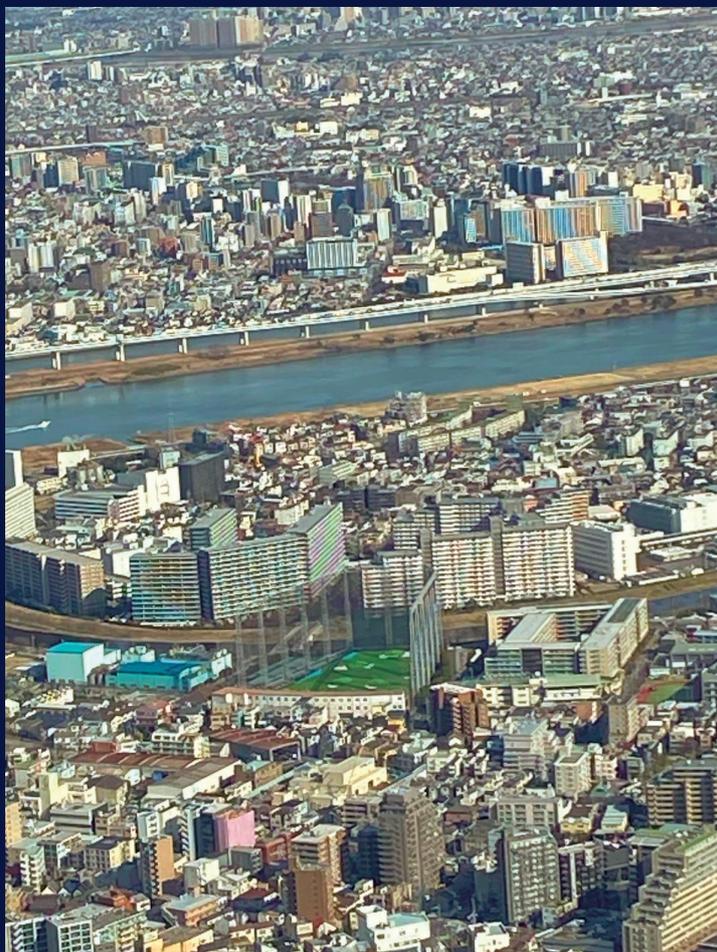
.....

Shorter forms of golf are very important to the growth of the game as they increase participation

.....

Since the 19th century – when golf was transported from the British Isles to Asia, Western Europe, North America, Africa and the southern hemisphere – the game's birth, incubation and growth often started on small areas of land. Courses may have been only 3 or 5 holes but they played a crucial role in the establishment of golf. To ensure the game's continued growth in the 21st century, small parcels of land can again provide golfing opportunities but this time for modern and commercially-viable golf facilities that appeal to tech-savvy, time-pressured and budget conscious golfers.

All golf is golf. In the broad spectrum of the game developing a love for golf has no single starting point. The key is to create places where people can get golfing. Golf facilities in small spaces provide increased opportunities to practice, play and improve. Also to get active, to be social and for the experience to be fun. The smaller golfing spaces may ultimately be the most important places for golf.



This driving range facility in Tokyo is a wonderful small golfing oasis in a big city

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R&A





The R&A group of companies was formed in 2004 to take on The Royal and Ancient Golf Club of St Andrews' responsibilities for governing the Rules of Golf, staging The Open, golf's original championship, and developing the sport. The R&A World Golf Museum in St Andrews is part of The R&A group.

Together The R&A and the USGA govern the sport of golf worldwide, operating in separate jurisdictions with a commitment to a single code for the Rules of Golf, Rules of Amateur Status and Equipment Standards. The R&A, through R&A Rules Ltd, governs the sport worldwide, outside of the United States and Mexico, on behalf of over 61 million golfers in 146 countries and with the consent of 165 organisations from amateur and professional golf.

The R&A has responsibility for running a series of world class amateur events and international matches in women's and girls' as well as men's and boys' golf. The R&A stages the AIG Women's Open and works with the DP World Tour to stage the Senior Open presented by Rolex.

The R&A is committed to investing £200 million over ten years in developing golf and supports the growth of the sport internationally, including the development and management of sustainable golf facilities. For more information, visit www.randa.org.



randa.org
