

BUNKER REVIEW  
FOR  
AMPLEFORTH COLLEGE  
GOLF CLUB

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## Ampleforth College Golf Club

### Introduction

In common with many 9-hole golfing facilities, the Ampleforth College Golf Club, has over the years, had to cope with limited financial resources. Despite this, the Club has managed to develop and improve the course, add new holes and reorganise the layout accordingly. It has also made the most of opportunities, for example, by undertaking construction works as and when materials became available at minimal or no cost. The Club has plans to develop a new Clubhouse whilst continuing with its course improvement programme. The club has commissioned a review of the bunkering on the course as a part of that programme. There are competing priorities for limited resources and continued prudence is essential.

### Review

#### **The need for permanency**

Any proposed changes should be able to stand the test of time, to avoid subsequent calls for further changes to be made, which would be an unacceptable waste of the Club's modest resources. To achieve this objective, the club committee has sought an external qualified, second opinion, hence my involvement. The club committee has initiated the bunker review by seeking views from the committee and consulting the membership. There is a general consensus that the bunkering can be improved with some bunkers being barely used and others with maintenance problems. However there is a diversity of view on how and in what order this should be done. The club seeks to improve the golfing challenge whilst also achieving an overall reduction in the cost of bunker maintenance. Any changes need to strike a balance between what is desirable and what is feasible. This report seeks to assist the committee in addressing the issues and determine the order of priorities.

Before addressing the specific brief it is useful to reflect on the "golfing experience" in a more general sense and consider the balance between costs and priorities.

#### **The golfing experience**

The golfing challenge of a golf course is of course very important, however it is only a part of the total golfing experience. A major appeal of playing golf is that it is played within attractive and varied landscapes. No two golf courses are the same. As a first time visitor, one of the attractions of the Ampleforth golf course is the consistency of its landscape character.

The Ampleforth golf course forms part of the wider landscape character of the area. The underlying rocks, probably Middle Jurassic Limestone (overlain with boulder clay), are the major influence on both the landscape character and ecological make-up of the area. Beech, oak and lime trees are the predominant species within the course and surrounding park land and in turn influence the prevalent wildlife species. Increasingly it is being recognised that it is important to preserve and maintain the ecological fidelity of an interdependent 'ecosystem' within an area to ensure the survival of historic landscapes and threatened species.

There are many examples of golf courses throughout Britain, which have developed within previously consistent natural landscapes but have been degraded by inappropriate (often 'exotic') species planting. Indeed there is a golf club not too far away, which to my knowledge had a very natural limestone open 'downland' landscape character thirty years ago with banks of gorse, hawthorn and blackthorn, which has subsequently been largely spoiled by extensive planting with inappropriate species.

One of the attractions of playing other courses is to encounter an entirely new landscape experience. Keeping this pure, is the best way of maintaining a 'sense of place' and 'a unique point of sale' and appeal and ultimately its continuing viability. This should be jealously guarded. It can take only one exotic specimen to seriously degrade a previously consistent landscape character, especially if seen from a wide area.

### **The balance between priorities.**

Improvements can be made whilst conserving maintenance costs and this is clearly a desirable objective. However it is important that they are implemented without adversely compromising the golfing and visual qualities of the course and of individual holes. Maintenance savings in the short-term should never be achieved at the expense of longer-term objectives such as membership levels and green fee income. It is important that the overall effect of proposed changes should be perceived as enhancing, rather than diminishing, the existing admired qualities. Otherwise any short-term savings will be more than offset in the long term, by members and visitors 'voting with their feet' with a consequent reduction in income from subscriptions and green-fees, a wholly undesirable result.

## **Course Visit**

### **First Impression**

Prior to my visit I had been furnished with a diagrammatic plan of the course showing the distribution of the bunkers on each hole. My initial impression was that some bunkers had been positioned without a clear 'golfing strategy'. I envisaged therefore, my main task would be to identify a number of the least ideally located bunkers, find new and more challenging locations, and provide a reasoned argument explaining the justification for such changes. As expected I found most bunkers are situated in 'green-side' locations and because they do not generally intrude into the line-in to the putting surface, only catch shots which are going to miss the green anyway. As such, they make no significant contribution to the golfing strategy of an individual hole.

However during my tour of the course I also began to appreciate that many of the bunkers were located with other objectives and therefore my recommendations have been tempered accordingly.

### **Brief Acquaintance**

Throughout my visit I was conscious that my brief acquaintance with the course (Monday 13<sup>th</sup> February) was in holding mid-winter conditions. This inevitably contrasts with the competition season, when running conditions will ensure holes will play significantly shorter. This is likely to be more marked on Par 4's and Par 5 holes. On holes with very positive land-forms, such as the 6<sup>th</sup>, extreme of bounce can produce both variable and often unpredictable results.

I played the course in the morning in the company of the Secretary Dr. Michael Wilson and I was grateful for a significant amount of invaluable 'local knowledge'. In the afternoon I walked the course with the Secretary and the Green-keeper Tom Berriman, who were able to assist my understanding of the characteristics of the course, the various course improvements undertaken in the past and the issues under active consideration for the future.

### **Strategy**

All golf course architects subscribe to the ‘strategic’ philosophy of bunker placement, as being the most effective method of enhancing the playing challenge of a golf hole. Such ‘golfing strategy’ and ‘risk and reward’ is the fundamental basis, which has guided golf course architecture for the last century. Because such principles are particularly relevant to some of my proposals (see 3<sup>rd</sup>, 4<sup>th</sup> & 5<sup>th</sup> Holes) a fuller description of this strategic approach is included as an appendix. It is also referred to in appropriate sections of the body of this Report.

On the majority of golf courses green-side bunkers tend to intrude into the line leading to a part of the green, making this part more difficult to access. Often (on par4’s and 5’s) this is co-ordinated with a drive-length bunker requiring a golfer to carry or play close to the bunker, in order to provide the best line-in for the second-shot.

### **Other roles for bunkers**

Many bunker positions provide better definition or visual clues to assist the golfer with the correct line where there are blind spots.

Some bunkers enhance the visual or ‘photogenic’ appeal of a green’s setting (as at the 9<sup>th</sup>) or frame a green approach (as at the 8<sup>th</sup>).

Other bunker locations make much more sense in reality than they do on a plan of the course because they have been located to take account of the particular land-form, a logical and practical location.

It is also necessary to recognise that when bunkers are in situ, members can develop an unexpected affection for their contribution to a particular hole. It would be entirely inappropriate to propose a radical change, which would be costly and disruptive, when it is unlikely to find favour with the membership.

## **The Issues**

### **Hazards make golf interesting**

It is bunkers and other hazards and the need to avoid them, which makes the game more challenging and interesting. Without such difficulties, the game would be little more than a game of yardage and much less rewarding to play. Such features help to define and separate more sharply, different skill levels.

### **Golf course design principles**

It is accepted that resource constraints mean that it will take a number of years to implement a programme of alterations to the course bunkering. It is important therefore that if the proposals contained in this Report are to be of lasting value, they need to be clearly based upon sound principles, which have the continued confidence of the Club Committee and membership.

Whilst my recommendations and proposals are tempered with appropriate regard for the particular site characteristics which prevail at Ampleforth, a fundamental objective in this report is to create a much greater ‘strategic’ emphasis to the course than currently exists. There are essential differences between ‘penal’ and ‘strategic’ design philosophies for bunker placement. I therefore believe it is necessary to clarify the difference. I have for example identified opportunities for enhancing the golfing challenge of the two new holes the 4<sup>th</sup> and 5<sup>th</sup>, with the introduction of bunkers in key locations based upon such principles.

## **“Penal” and “Strategic” design philosophies**

A brief mention of these alternative philosophies was made earlier in the report, however because the issue is so important a full explanation of the origins and differences between the different philosophies is provided in an Appendix.

The main difference is that bunkers laid-out with a ‘strategic’ emphasis, promote golfing initiative and risk-taking, in return for a tangible reward, usually an easier next shot. A golfer, who declines such a risk is usually faced with a more difficult next shot e.g. a bunker directly in the way of an approach to the green. A ‘penal’ layout of bunkers seeks instant retribution for a poor shot, however this usually requires multiple bunkers at different lengths (and to a degree off-line) in order to achieve this objective. With a strategic layout, golfers are usually offered alternatives and choices, within a ‘risk and reward’ framework.

There are no prescribed standards for bunker placement, with no absolutes and few ‘rights and wrongs’. Surprisingly however, despite the wide choice of potential alternative locations all bunker placements tend to fall into one of two categories, ‘penal’ or ‘strategic’.

## **Physical features of the land**

Bunkering must take account of the existing physical features of the land. Landform, woodland and individual trees and water all contribute and in some situations strong natural features can obviate the need for bunkering or make it either subservient or merely complementary. The very positive topography on the Ampleforth golf course means that bunkers are only one element in the provision of the golfing and visual qualities of the course and its individual holes. It follows that although bunkering should be along strategic lines, positioning bunkers on the golf course is not an ‘academic exercise’, following strictly purist objectives, the bunkering must also be in sympathy with the existing physical characteristics of the land.

In the case of Ampleforth College Golf Course, the land is deeply contoured and a valley runs from in front of the 3<sup>rd</sup> tee in the West to near the 9<sup>th</sup> green in the East. The 1<sup>st</sup> to 3<sup>rd</sup> holes and 6<sup>th</sup> to 9<sup>th</sup> holes run along this valley or across it. The valley and the woodland bordering the valley are major influences on the layout of the individual holes and a strictly orthodox approach to bunker placement is neither necessary nor appropriate. In addition there are other more subtle land-form features which will influence bunker disposition.

## **The cost of bunker maintenance**

The club committee has already recognised the labour intensive nature of bunker maintenance, and the costs involved. It is known that some bunkers are infrequently visited, whilst others are not readily visible from the shot about to be played, resulting in a question over their continued relevance. Some bunkers have already been filled in e.g. behind the ninth green to be replaced by a grassy hollow, and other hollows have been introduced when reconstructing greens e.g. on the 7<sup>th</sup>, 8<sup>th</sup> holes.

## **Design and maintenance**

The design of bunkers should recognise any maintenance difficulties. For example, the surface water run-off from higher ground should be deflected away from the bunker to avoid sand wash-out and prevent water collecting in a bunker. This has occurred with the bunker on the right side of the 6<sup>th</sup> green, degrading the sand and

creating difficult playing conditions. The only solution may be the filling in of the bunker, but where a bunker is planned for reconstruction, careful attention must be paid to any potential maintenance problems.

Well designed bunkers function well and look 'right' in their location and do not present any unnecessary maintenance problems.

### **Bunker visibility and providing definition**

A bunker has more impact upon a golfer about to play a shot if it is clearly visible and a shot can reach it.

A number of the existing bunkers cannot be seen from down the fairway as the nature of the landform makes this impossible. These are candidates for being filled-in. There are also some bunkers which are not visible, or barely so, but could be made more visible primarily with additional build-up of material, whether imported or from an internal heap. The visibility of a bunker helps with definition and provides the suggested line of play.

### **Aesthetic qualities and visual integration**

Ideally bunkers should improve the visual qualities of each setting. For them to do this they should have an attractive shape and appearance, which fits naturally into the surrounding land-form. They should look 'right'.

The visual qualities of the existing bunkers on the course vary. Some are not readily visible, others have a resemblance to a sand pit, a number of the bunkers are in prominent settings and enhance their location, but their shape could be improved and a few are too formal. There are a considerable number of alternative bunker shapes starting with simple round links-style (including near vertical turf-riveted faced pot bunkers) to the multi-bay complex-shaped American-style. Wherever it is situated a pleasantly shaped bunker should fit appropriately into its surroundings and be designed with due regard to its cost and maintenance.

In some cases a comprehensive reconstruction may be the only effective approach (e.g. the 5<sup>th</sup> green-side bunker), but a simpler and cheaper approach will be sufficient on many of the 'pit style' bunkers on the course. For instance a limited reshaping of the outline shape can be achieved by a combined process of widening (cutting-out) and narrowing (with turf) to produce softer flowing shapes.

### **Drainage problems**

Clay based soils are slow draining and although the gradients on the course assist the drainage process, care has to be taken to avoid creating better drainage around existing bunkers resulting in water filled bunkers or filling in bunkers to produce "water hollows" rather than grassy hollows.

### **Pit style bunkers**

The land-form characteristics have meant that a number of low-lying, pit-style bunker locations are inevitable. However these bunkers are examples of catching the shot which is going to miss the green in any case. Visibility in these locations can also be a difficulty, but the sites have been carefully chosen and by and large this does not appear to be a problem.

These locations tend to have drainage problems, however on visiting the day after prolonged rain, they appeared to drain well. If drainage becomes an issue, raising the sand level could be beneficial, which also makes the maintenance of the grass around the bunker edge a little easier.

There is logic to a pit shape in some of these locations, but the shape can detract rather than enhance the visual effect. Their visual contribution could be improved by reshaping using a combination of slightly enlarging the sand area by cutting out, whilst narrowing with turf in other locations to produce a more flowing outline to the bunker.

## **Hole by hole analysis**

### **Hole 1**

The major golfing feature of the hole is the elevated green location, which is difficult to access through a very narrow entrance. Such a narrow 'window' greatly favours an aerial route, so that reaching the green in 3 shots is not too difficult, but finding the green in 2 shots requires considerable accuracy. It is in many ways an ideal short par 5.

The mature belt of Beech trees running the entire length of the left side is a major golfing and visual feature of the hole. There are sound arguments for a drive-length bunker on the right to bring the trees even more into play, on this relatively wide shared fairway. However, choosing the most effective location would be problematic and arguably, with such a cross-slope, unfair.

The two existing bunkers do not contribute greatly to the golfing qualities of the hole, even though they catch their fair share of shots.

The visible bunker at the foot of the bank has a 'sign-posting' function for visitors uncertain as to the greens location. However its appearance is less than ideal and if the bunker is to remain, it should be reconstructed to make the most of its location. If savings are required, this is not an important bunker and could be removed.

The small pot bunker to the right of the green is entirely blind from the fairway and has no significant golfing function and arguably a grassy hollow could perform the same role. However it does add to the visual appeal of the hole when on the green, in a difficult to define, but quirky way. For that reason alone, it probably should be retained, but if in the future, savings were essential, it would be difficult to argue for its retention.

## **Hole 2**

The partial obscuring of the left side of the green, adds a measure of golfing uncertainty to the tee-shot. In drier conditions the bank on the left feeds the ball onto the putting surface but if slightly strong, the back-left bunker awaits. Being blind and catching shots which have already missed the green, this must be a prime candidate for turning into a grassy hollow.

The bunker on the back right, similarly only catches shots which have already missed the green, however it contributes to the visual framework enhancing the appearance of the green's setting. The bunker in front of the green has a strategic role in encouraging the golfer to take an aerial route to the green with the risk of dropping in the bunker if the shot is short, however its shape could be improved.

## **Hole 3**

The 3<sup>rd</sup> hole has 3 drive-length bunkers, on the right hand-side. These bunkers help to bring the mature woodland belt down the left-side into play. This is accentuated both by the landform and prevailing wind pushing shots towards the bunkers. In addition, the bunkers are logically progressively offset towards the woodland, where this opens-out. Arguably with the recent improvements in equipment technology they would be of even greater significance if they were located say 15-20 yards further from the tee. The value of these bunkers is greatly diminished by the fairway not being cut out beyond them, which would provide more benefit to those carrying the bunkers. This diminishes the 'risk and reward' strategy to their disposition making them 'penal' in type in that they only punish the poor drive. There is little discernible reward for taking on a carry over them.

There are also three green-side bunkers, one on the right, the other two on the left located short of the green, all intruding into the line-in and requiring a carry from some directions thereby providing a measure of strategic value. The curvature of the fairway precludes visibility of the green's surface and partially obscures the bunkers. The right-side bunker is more visible than the bunkers on the left side, however none have a particularly attractive appearance.

In addition there is an imbalance in the overall bunkering on the course in that this hole has six bunkers and the remaining eight holes have only 13 bunkers in total between them. I question such an imbalance. This hole offers the greatest potential for savings on bunker maintenance.

The 3 green-side bunkers taken with the 3 drive length bunkers add to the playing difficulty of the hole but overall the strategy of the hole is confused and lacks cohesion because there is no obvious correlation between the drive length and green side bunkers.

A very simple but effective playing strategy for the hole could be achieved, by the careful placement of a single green-side bunker on the line of the approach from the right-hand side of the hole. Such a bunker would intrude into the line-in to the right half of the green, covering more of the green's approach the further right, the tee-shot. Conversely, more of the green surface would be accessible from the fairway, particularly the left half. A tee-shot hugging the trees, would provide the best line-in.

The 3 drive length bunkers on the right could be retained as grassy hollows to present some difficulty without the ongoing cost of maintenance.

### **The 'New 4<sup>th</sup> and 5<sup>th</sup> Holes'**

These relatively recently developed holes are within a separate parcel of land with a distinctively different character being flatter and more open than the older part of the course. The holes have been thoughtfully laid out to take advantage of the limited but subtle flow in the land-form. The mounding, at the back of the 4<sup>th</sup> Green, particularly the right hand side is an attractive feature. This being said, however the character of the area and the individual holes are still somewhat bland and lack definition and an intimate nature. The golfing challenge of the holes could also be improved.

#### **Hole 4**

The two existing bunkers, short of the green on the left, contribute little to the playing qualities of the hole, they are too innocuously placed to present any significant challenge and do not have any visual impact. Indeed it would be possible to play the hole a number of times and not notice their presence.

Bunkers should be used sparingly, but effectively. The presence of a bunker should make the golfer think about the shot to be played. They should be provocatively placed, on or very close to the line between tee and green.

Par 5 holes offer greater scope for developing a more complex and interesting golfing strategy than par 3's and 4's. Some of the interest lies in the fact that most golfers will require a minimum of 3 shots to reach the green whereas a longer hitter can reach in 2-shots, achieving a birdie with 2 putts or an eagle with a single putt.

Many modern golf courses are designed with water features to make going for a par 5 green in two shots particularly risky. I recommend that a measure of risk and reward should be introduced into the disposition of the bunkers on the 4<sup>th</sup> hole as a water feature is not an option. A co-ordinated bunkering strategy should be introduced with one bunker on the inside of the dog-leg (at around 240-250 yards), a second on the opposite side of the fairway and a third guarding the green approach (obscuring up to a half of the line-in).

The 3 mounds at the back-right of the green provide good visual definition and have a pleasant appearance, contributing significantly to the green's setting. The lower mounds to the back-left are lower and their shapes less positive and do not relate as well to the right-side mounds. It would take very little work, however, to produce a modest revision with a more pronounced dip between the third right-side mound and the first low mound using additional material to provide a slightly higher but a softer shape more in keeping with the mounds on the right.

The step in the green's surface is somewhat formal and artificial compared with the informal and subtle contours created at say the 8<sup>th</sup> green. Whilst having a part of the green elevated possibly on the right a more subtle slope on the left side may be worth considering and achievable using only the front part of the green during alteration works.

### **Hole 5**

The existing bunker is ideally located on the right and higher entrance to the green. This makes an approach shot from the left side of the fairway easier than from the right. However whilst this bunker is suitably situated it has an artificial appearance. It is a roughly square-shaped shallow pit and has an unusually sharp cliff-edged face. The bunker fails to enhance what should be a visually appealing situation. I believe the appearance of the bunker could be greatly improved by a comprehensive reconstruction.

The existing bunker effectively guards the right side of the green and a new drive length bunker should be located on the left edge of the fairway at around 220-240 yards to provide a classic co-ordinated, risk and reward, golfing strategy for the hole. A good drive on the left will be rewarded by an easier shot into the green with the risk of a poorly hit drive reaching the bunker. The safer line on the right will result in a more difficult second shot to the green guarded by the reconstructed bunker.

An even more complex risk and reward strategy could be introduced with a 3<sup>rd</sup> bunker at drive-length on the right on the inside of the dog-leg at around 200-220 yards.

### **Hole 6**

A blind drive on this dog-leg right hole means drive-length bunkers are inappropriate. The green has an interesting and attractive location with drop-offs either side where low-lying bunkers are located, which only catch shots, which are going to miss the green.

The bunkers have some visual appeal. The right side bunker is less visible than the larger bunker on the right and has major drainage issues. The sloping bunker base collects water at the front of the bunker, seriously degrading the sand and resulting in compaction and discolouration of the sand. The problems of keeping it in good playing condition must be very significant. Although the bunker makes some contribution to enhancing the visual appeal of the green's setting it is only at close-quarters. This bunker is a prime candidate for converting to a grassy hollow.

The appearance of the left side bunker should be improved by reshaping the sand/turf line to provide a more variable and flowing shape, using a combination of digging out in places and narrowing with turf in others to produce the desired result.

### **Hole 7**

This is a recently reconstructed uphill par3 playing longer than its yardage. The bank on the left kicks the ball to the right towards the green. The advantage depends where on the bank and how far up a shot pitches.

It is difficult for me to comprehend just how far a ball will run in summer conditions and what impact the grassy hollows to the left and front of the green will have on a running shot, but I imagine they will slow and stop a number. I do not believe any changes are required to this hole.

## **Hole 8**

Although played downhill this is a challenging par 3. In reality the bunkers do not make the tee-shot more difficult as they only catch shots which are missing the green anyway but their strong visual presence in defining the green's setting threatens the tee-shot and therefore contribute to the overall playing difficulty of the hole. Being in them certainly does. If savings were required, their removal could be contemplated, but only after culling others.

The grassy hollows on the left also contribute to the overall challenge of the hole, whilst the subtle shaping of the green surface, makes finding the right level important, if three putts are to be avoided. This is a very difficult hole to par.

## **Hole 9**

This hole has a relatively wide shared fairway and a drive-length bunker would normally be appropriate, but finding an appropriate length would be problematic and effective positioning on the cross-slope extremely difficult.

The logical 'strategic' bunker location, for a second shot to the green, would be short and right of the green to place a demand for a 'properly struck' approach shot to deter the speculative run-in type of shot. However this hole is probably difficult enough to negotiate in the summer without an additional problem.

The existing green-side bunker only catches those shots which are missing the green anyway, but does have an 'intimidating' role. The bunker also enhances the visual setting of the green and on balance I recommend it is retained.

## **CONCLUSION**

The recommendations are presented in summary form overleaf for clarity. It is strongly recommended that they are considered in relation to the development of a particular hole as in the preceding hole by hole analysis.

If all the recommendations are accepted it will result in a fewer number of bunkers to maintain, fewer maintenance problems, a significant improvement in the golfing challenge and a more attractive visual appearance.

## **Summary and Recommendations**

Every bunker involves additional maintenance costs and unless a club has unlimited resources care must be taken to ensure that every bunker serves a useful purpose. The decision to add, remove, or reconstruct a bunker must take account of many factors as outlined in the report. Members will also have views, which may or may not accord with the recommendations below, it is therefore essential that the reasons for any change are presented in a clear and logical manner. The report identifies a range of factors and issues, which are relevant to the decision process. The summary below lists those bunkers recommended for removal, those recommended for conversion to a grassy hollow, those recommended for remodelling and the additional bunkers recommended for construction.

### **1. REMOVAL/CONVERSION**

The main criteria for the removal of a bunker or conversion to a grassy hollow are:

- A low frequency of visits demonstrates that the bunker is irrelevant to the golfing challenge
- A bunker that cannot be seen by the golfer taking a shot
- A bunker with high maintenance problems
- A bunker with only a penal value

#### **Recommendations**

- The two bunkers to the front and left of the fourth green are removed.
- The two green-side bunkers on the left of the third green are removed
- The bunker at the right side of the sixth green is converted to a grassy hollow.
- The bunker at the rear of the second green is converted to a grassy hollow.
- The three drive length bunkers on the third hole are converted to grassy hollows.

### **2. REMODELLING**

The main criteria for recommending the remodelling of a bunker are:

- A bunker with maintenance problems
- To improve the golfing strategy
- A bunker lacking visual appeal
- A bunker lacking visibility

#### **Recommendations**

- The bunker in front of the fifth green is comprehensively remodelled
- The bunker on the right of the third green is remodelled to extend across the right face of the green
- The bunker on the left of the sixth green is reshaped
- The bunker in front of the second green is reshaped
- The bunker in front of the first green is reshaped

### **3. ADDITIONAL BUNKERS**

The main criteria for recommending an additional bunker are:

- To improve the golfing challenge in a strategic manner
- To replace an existing bunker in a new site to improve the golfing challenge

**Recommendations**

- An additional bunker in front of the fourth green
- An additional drive length bunker on the left of the fourth fairway
- An additional bunker at around 400 yards on the right of the fourth fairway
- An additional drive length bunker on the left of the fifth fairway

## **APPENDIX 1**

### **Possible Pond at 3<sup>rd</sup> Hole**

The creation of a pond has been suggested at the 3<sup>rd</sup> hole some 50 yards or so in front of the tee. I have considerable reservations regarding such a proposal which include:-

#### **Viability of the water supply**

It is possible that there is a viable 'year round' water supply coming from the higher ground to the west, through the woodland belt but it needs checking. This could be proved, or otherwise, by a trial dig. If it runs with water even in the driest summer conditions then a pond here would be feasible, if not maintaining an appropriate topped-up level will be a problem. Unless the water level is kept topped-up at an appropriate level an unsightly beach will greatly detract from the visual effect. An impermeable lining for the pond will only be a partial solution, as it will not overcome the problem of high evaporation rates in summer. Using a mains water-supply for topping-up will be expensive.

#### **Golfing issues**

The location will only affect a beginner from the third tee. It will be more a form of intimidation from the second tee but will not add any strategic value to the hole. For these golfing reasons its establishment would arguably be a waste of valuable and limited resources.

#### **Aesthetic and landscape issues**

I believe it would be difficult to create a pond, which would look visually appealing and natural in this situation at the head of a valley. Creating the earthworks, which would allow a dam to be visually tied-back into the existing surrounding land would involve a substantial amount of work and spare material to make it look passably natural. Even then I sincerely doubt if it will ever look entirely natural.

#### **Safety Issues**

The work is likely to create fairly steep banks, which may mean that it will be necessary to produce a level safe edge to the water feature to meet health and safety regulations for both golfers and grass cutting operations

#### **Further Research**

Whilst I have significant doubts about the viability and wisdom of developing a pond in this location, further research may assist in forming a more conclusive view.

## **Appendix 2**

### **Bunker Location Issues**

#### **The Need For Hazards on A Golf Course**

Without hazards the game of golf would be little more than playing yardage and it is unlikely the game would hold the enduring appeal that it does have. The existence of hazards (in all their various forms, whether defined in the rules or not) and the need for golfers to avoid them, intensifies the golfing challenge and defines more sharply the different levels of golfing skill.

Hazards add greatly to the golfing experience. This is why many discerning golfers seek out the tough tests afforded by courses with quite fearsome reputations, such as Ganton, Woodhall Spa, Alwoodley and 'Open Championship' venue courses and are prepared to pay higher green-fees to do so. A major part of the appeal of these courses is the provocative placement of hazards often on or close to the shortest route between tee and green. Providing such carries are largely attainable and the reward for trying is worthwhile, then the greater the degree of satisfaction in pulling it off.

#### **Recent Advances in Playing Equipment**

Improved performance in playing equipment means that generally golfers hit the ball further and straighter than ever before.

Whilst there has been some talk about limiting equipment performance, the USGA have experienced legal problems and have largely backed off. Whilst the R&A could act unilaterally on such matters, it is far from certain that it will. It is very unlikely the equipment performance levels will actually be reduced below their current levels and every likelihood it will continue to advance.

Possibly the most significant consequence of improved equipment performance has been the markedly greater use of water-bodies in increasingly provocative situations as a defence of course difficulty. Water provides both a visually spectacular and a much greater finality of retribution compared with other golfing hazards.

#### **'Penal' and 'Strategic' Design Philosophies for the Placement of Hazards**

To some it is surprising that despite the considerable range of alternative locations for bunkers on any golf hole, all fall into one of two different design philosophies, either 'penal' or 'strategic'. Having a clear understanding of the essential differences between these philosophies is fundamental to any plans for altering course bunkering. This being particularly important as within all golf clubs there is a body of opinion who still believe that the primary purpose of a bunker is to catch a 'bad shot', despite that this philosophy has largely been discredited for the last hundred years.

A major weakness with locating bunkers designed to catch a 'bad shot', it begs the question, which type of bad shot, and to what degree of error, by which ability of golfer, from which tee and in what prevailing conditions. To catch such an array of potential bad-shots as possible a large number of bunkers would be required in all sorts of locations. Clearly this brings implications for costly on-going maintenance. When such an approach is applied to bunkers at the green, usually this means 'wing bunkers' which only catch shots which have already missed the green anyway.

Until about 1900 almost all golf courses were bunkered with the objective of punishing the bad shot. Cross-bunkers had to be carried by the drive and again just short of the green, and with bunkers left and right, often totalling 12 or more on a hole. With the increasing developed of inland sites however the cost of bunker maintenance became prohibitive and many were subsequently filled-in.

By the early 20<sup>th</sup> Century an alternative bunkering philosophy (strategic) was developed by a new breed of university educated golf course architects, inspired by the principles which the recently widened St Andrews course (from 40 to 100 yards for safety reasons), exhibited. Suddenly the cross-bunkers which previously had to be carried by the drive and again just short of the green, could be avoided by an alternative routes (albeit longer and sometimes taking one more shot) between tee and green.

The golf courses they developed were superior to anything before and today remain among Britain's best courses including Sunningdale and Walton Heath and many others near London, and more locally Ganton, Alwoodley, Moortown and Woodhall Spa. Soon all of the better older links courses (including all Open Championship venues) were re-bunkered on strategic lines.

All golf course architects fully embrace the principles of a 'strategic design philosophy' whilst almost every good golf course throughout the world exhibits primarily strategic principles. Even Pine Valley, which is often cited as being the most 'penal' in America, it is still a strongly strategic golf course. Augusta National possesses only some 40 bunkers strategically located and minimal rough, but is considered a great test.

### **The Main Features of Strategic Bunkering**

- on a par 4 hole a co-ordinated placement of drive-length and green-side bunkers means that on a par 4 hole, only two bunkers are required to provide such a simple but effective strategy
- drive-length bunkers are located on or close to the best line-in for the second-shot,
- the fairway is cut-out beyond the bunker to encourage golfers to attempt the carry, in return for a positive reward of either a shorter or easier second shot
- a choice of lines from the tee, is offered to golfers, usually the most hazardous affording an easier second-shot
- a tee-shot can be played either to just miss a drive-length bunker or deliberately short both still affording a relatively easy second-shot (it should be remembered that Tiger in winning his 1<sup>st</sup> Open at St. Andrews was never in a bunker on one of the most heavily bunkered courses).
- where more than one bunker is used at drive-length then a diagonal orientation of these creates a situation of variable carries of varying length, the longest carry affording the shorter or easier line-in.
- from safer lines from the tee a longer or more hazardous second-shot
- a green-side bunker covers the approach of part of the green surface. How much of the surface depends largely on the length of the normal second shot in. The shorter the shot the more the bunker intrudes.

Not only does strategic bunkering provide both an effective golfing challenge but a much more economic method of bunkering, whilst also providing golfers with a choice of alternative ways of playing a hole, a positive 'risk

and reward' emphasis and as a way of encouraging to attempt difficult shots, which if successful, provides a high degree of satisfaction.

### **Strategic Green-side Bunkering, thereby Creating a Wrong and Right Sides of the Fairway for the Drive**

Strategic green-side bunkers are located more at the front of a green. They intrude, at least partly, into the line of play into the green from one side of the fairway, thereby creating a 'right' and 'wrong' side of the fairway for the drive.

From the wrong side of the fairway the width of the green entrance is narrowed, thereby requiring a more accurate second shot to find the green. In addition, from this wrong side of the fairway part of the green is only accessible if the bunker is carried. If the hole is cut behind the bunker (or even close to), this places a considerable demand for a much more precisely played second-shot to access this part of the green.

The presence of such a bunker thereby affords a range of pin placements of varying difficulty depending upon the proximity to the bunker. The most challenging locations behind the bunker can be reserved for events such as the Club Championship, Team Matches, County Events, thereby providing extra difficulty and status.

Driving to the side which affords the easier line-in for the second-shot, therefore becomes a priority, thereby placing a requirement for more accurate driving than before.

### **Co-ordinated Placement of Green-side and Drive-length Bunkers**

Where a drive-length bunker is placed on or very close to the position which affords the best line in for the second-shot, this places an increased demand on good judgement and accurate striking of the drive. A co-ordinated placement of drive-length bunkers and green-side bunkers either creates or reinforces the 'risk and reward' strategy of the hole.

### **Positioning Drive-Length Bunkers**

It is not possible to position a single 'drive-length' bunker, which is equally relevant, to a short-hitting 28 handicapper from the back tee, into the wind, in cold holding conditions (say at about 180 yards or even less) and to a Category 1 golfer from the front tee, down wind in hot and running conditions (at 280 yards or so). Clearly between these two opposites there are a range of possible different locations.

In seeking to locate any drive-length bunker it is generally appropriate to place this to test the better golfer, who is seeking birdies. Ideally the location of any new drive-length bunker should be related to an overall risk and reward strategy for the hole and its location, co-ordinated with a green-side bunker.

### **Many Newer Courses Employ Multiple Drive-length Bunkers**

On many new golf courses, multiple bunkers placed en echelon with variable length carries, plus a range of multiple tees means that the difficulties and golfers abilities can be more easily matched. However whilst this may not be realistically possible, nor necessarily desirable here, some of the principles exhibited, especially the diagonal orientation of bunkers and landing areas, can be usefully employed.

## **Diagonal Orientation of Bunker at Distances to Carry or Run Into**

Even a single bunker can be diagonally orientated and to some extent creates a similar orientated landing area beyond, providing the fairway is cut out accordingly. Drive-length bunkers placed at distances aimed at encouraging golfers to attempt the carry, with the promise of some worthwhile reward, provides greater golfing interest. Especially where these are combined with co-ordinated green-side bunkers. Such placement can be particularly effective on the inside of dogleg holes (even on slight doglegs).

Alternatively, bunkers can be placed at distances for drives to run into, thereby placing a requirement on both judgement and accuracy. Such bunkers are particularly effective on the outside of dogleg holes.

The use of both carryable and run-into bunker locations on the drive-length on the same hole locations is commonplace and providing both are clearly visible provides good definition to a driving area.

There is a wide spectrum of golfing ability and hitting power that a golf course seeks to test. For the more able golfer and especially lower handicap ones, attempting to secure a birdie is a constant objective. For less able golfers securing a par may provide a similar degree of golfing satisfaction.