

BURY ST EDMUNDS GOLF CLUB
WOODLAND MANAGEMENT PLAN



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1. INTRODUCTION

John Nicholson Associates have been asked to produce a plan that identifies the existing tree cover and details the management required to ensure its sustainability. The woodlands are an intrinsic element of the golf course, helping form the landscape in which golf is played.

Management is vital to ensure the woodlands potential is realised and their long-term future safeguarded. The woodlands at Bury St Edmunds have received little management in recent decades the woodland has an even aged canopy this means that all the trees will reach maturity at the same time. This creates a fragile ecosystem with low sustainability. The purpose of this plan is to provide a practical, workable document that will enhance the aesthetic and conservation value of the property and create sustainable woodland.

Within the preparation of a plan the first thing to be assessed should be the *Genius Loci* of the site and Bury St Edmunds has evolved over the years from calcareous grassland to a more wooded landscape. Any area of un-mown grass will develop into woodland. One has therefore to decide at which point in this process the character is defined. As the course has developed tree planting has been introduced to supplement the areas of natural regeneration.

Unfortunately, this has been with species that are more appropriate to a garden than a large landscape. Scale, colour, texture and form all should be taken into account when designing planting within a golfing landscape.

The clubs website describes Bury St Edmunds as a mature parkland golf course.

It is therefore essential to have prescriptions which safeguard the woodland and enhance the parkland character. The landscape presently has an identity crisis this needs to be addressed if the course is to reach its true potential where the landscape and layout harmonise. Small garden trees need to be replaced with large parkland species and areas of natural woodland.

Many of the playing surfaces are now under severe pressure from trees woodlands and shrubs through lack of light, poor airflow and enrichment. Light is necessary to ensure growth, air flow is required to dry playing surfaces and reduce disease, enrichment by trees and shrubs creates an ecosystem more favourable to the broadleaf grasses which then dominate the fine grasses required for good golf.

The green keeping staff should be complimented in their efforts considering the difficulties of light and shade on many of playing surfaces. However nature will always prevail it is therefore essential that the greens and tees receive more light and air if the course is to be maintained at a high standard.

The course is presently at a crossroads; where if management does not occur the situation will become irretrievable regarding the trees as the poorer specimens will permanently damage the climax crop. The competition for light will cause the trees to become either of poor form or drawn predisposing them to wind blow. Thinning is necessary to create sustainable woodland and to ensure that growth is concentrated on the trees that you wish to retain.

Further, many attractive trees are now compromised by the presence of others this removes their landscape integrity; the clearing of the scrub around the trees on the 17th illustrates the potential to create a much more attractive landscape which compliments the strong layout of the course. The temptation to plant any gap which appears should be avoided tree planting should always be planned and the effect of the trees on the agronomics, strategy and landscape of the course assessed.

During thinning trees in scale with the landscape (larger parkland species such as oak, ash and beech) should be favoured this will increase the landscape value and sustainability of the arboreal landscape.

With regard the agronomy many tees and greens receive no light until midday this means that the playing surface does not warm sufficiently to allow growth and it predisposes the grass sward to disease (Most favour humid conditions).

As the composition of committees change regularly, this gives rise to different policies on land management and course improvement. Woodlands and grassland are constantly developing but the slow rate of change often goes undetected by those who view it every day. Trees and fine grass tend to be viewed as a permanent fixture rather than dynamic, living entities that have a limited lifespan. Woodlands are naturally mobile and will invade areas of un-mown grass. The use of this document will enable the committee to maintain a consistent approach in order to manage the woodlands and grassland effectively.

Individual trees and small copses can have a major impact on the golfing strategy or landscape of a particular hole. Golf course and landscape design has few absolutes and are subject to a wide spectrum of opinion. As a result, a golf club committee often has a wide range of views as to the main issues and how they should be resolved. The aim of this plan is to provide an objective view on how the woodlands and trees impinge on the landscape, agronomy and strategy of holes.

Consideration has been given to enhancing the true character of the course by taking into account the scale, shape, texture and colour of trees, their location in relation to views, strategy, interesting features and their effect on the agronomy of the playing surface and grassland.

Bury St Edmunds has the potential to become one of the best courses in the area. A combination of woodland management and a continuation of the recent strategic improvements will without doubt ensure this.

2. DESCRIPTION

2.1 Location

Ordnance Survey Grid Reference at centre TL835654.

2.2 Climate

Jan. 6-8°C avg.

July 14-16°C avg.

Annual rainfall 0-625mm.

Growing season 7-8 months.

2.3 Geology

Clay over gravel and chalk locally.

2.4 Soil Type

Clay.

2.5 Drainage

Relatively free draining.

2.6 Size of woodland

Approximately 20 hectares.

2.7 Rights of Way

A number of public footpaths traverse the course.

3. BACKGROUND INFORMATION

The course was originally laid out on calcareous grassland by Ted Ray with further alterations by J.J.F. Pennick and Martin Hawtree.

Tim Lobb of Thomson, Perrett & Lobb is presently implementing a more strategic design element into the layout. This will undoubtedly improve the pleasure of golf for members and visitors alike.

4. WOODLAND DESCRIPTION

The woodland at Bury St Edmunds is largely undermanaged with a closed even aged canopy; this creates a fragile environment as all the trees will reach maturity at the same time. The

woodland is predominantly secondary oak woodland with beech and sycamore dominant locally. Minor components include hornbeam, pine, sweet chestnut, cherry, horse chestnut, willow and occasional ornate species.

Within a number of areas pioneer species such as hawthorn and blackthorn have invaded open grassland and are dominant locally.

The majority of the woodland has developed a heliotropic edge which encroaches on the adjoining grassland.

Rhododendron and laurel are sporadic throughout the course.

Many of the individual specimen trees have lost their integrity as planting has introduced in their immediate vicinity.

5. MANAGEMENT AIMS AND OBJECTIVES

5.1 Maintain and enhance the quality of the golf course

- To protect the golfing strategy of holes by creating sustainable woodland cover and ensuring that the trees do not impinge on the design strategy of the hole.
- To improve the quality of grass sward by managing woodland edges to ensure light and air reaches the playing surface and to remove encroachment which restricts the full use of tees.

5.2 Maintain and enhance the long-term landscape value of the course.

- To safeguard the character of the golf course.
- Bring existing woodlands into management so their long-term impact on the landscape can be preserved.
- To ensure that growth is concentrated on desired trees.
- To expose the large specimen trees which have lost their integrity to regeneration or planting
- To concentrate growth on the more desirable parkland species
- To reinstate views across the course
- To expose veteran trees in order to enhance their landscape interest

5.3 Enhance the value of the course for wildlife.

- Utilise native species.

- Thin existing woodland where appropriate to encourage the development of natural regeneration of tree species and ground flora and create a more diverse canopy structure.
- To remove non-indigenous trees and shrubs where possible.
- To expose veteran trees to light in order to enhance their ecological value

5.4 Ensure safety of members, guests and employees.

- Fell or make safe trees identified as potentially unsafe. Make safe boundary trees.

5.5 Encourage long term vision and continuity of management policy.

- Ensure all work proposals are specific, measurable, achievable, realistic and costed.
- Review the Management Plan annually.

6.0 METHOD

The woodlands have been surveyed to identify and assess their ecological value and importance in order to preserve any environmentally interesting features.

The woodlands have also been surveyed in order to produce a management prescription that will protect and enhance the sustainability of the landscape.

The strategy of the course in relation to trees and golf has been assessed and suggestions have been made in a holistic manner. Similarly, the agronomic influences of the trees and woodland have been investigated.

7. GENERAL MANAGEMENT PRESCRIPTIONS

Recent decades have seen an increase in tree cover as grassland has succeeded to woodland and extensive planting has occurred. Whilst trees and woodlands are now part of the character of the landscape and strategy of the course, care must be taken to preserve the fragile chalk grassland.

Undoubtedly, the chalk grassland was what attracted golf to the site with the fine grasses and free draining soil. However, this habitat is under threat as the area of trees and woodland increase and light and shade have their affect. This will in the long term adversely affect the quality of the golf course as broadleaf grasses will become dominant and disease will become more common.

Chalk grassland, if managed correctly, can provide a diverse habitat for butterflies and invertebrates and can add a new dimension to the landscape and ecological value of the course benefiting the agronomy and creating a more interesting landscape. Further, it can act as a buffer between the woodland and playing areas enhancing the strategy and interest of the course.

A cut and collect management prescription would be necessary to ensure the fine grasses are preserved and enrichment is avoided.

A policy of consolidating and enhancing existing woodland areas should be implemented. This will serve to maximise the benefits of tree cover whilst ensuring the long-term sustainability of the open grassland.

At present, the course has an identity crisis. The immediate feel as you enter the site, is that the course should have a parkland character. Over time the woodland edges have been restricted through mowing creating a linear appearance and heliotropic edge on a number of holes.

With some judicious removal, gaps can be created to break the symmetry and edges can be scalloped, exposing individual trees and copses to enhance the landscape value.



Nature never works in symmetry; therefore linear edges appear unnatural. However, by scalloping edges and creating gaps the symmetry can be broken.

7.1 Continuous Cover Management.

Woodland managed in a sustainable manner seeks to ensure that a young generation of trees are produced to replace those in senescence. In commercial forestry, this is often achieved by clear-felling then restocking an area of woodland. When the objectives are aesthetic and conservation based, it is preferable to have a range of age classes within the wood.

Continuous cover management has advantages in providing continuity of landscape and wildlife habitats. In mature woodland, restocking occurs via natural regeneration or planting in gaps in the canopy. These gaps may arise as a result of natural tree death or wind blow. Where natural regeneration or planting is required and no gaps exist these will need to be created by selective felling.

7.2 Selective Thinning of Even-Aged Stands.

Assuming the average lifespan of birch woodland on the golf course is 40-45 years; a significant proportion of the woodland area must be regenerated each year to prevent a rapid deterioration in future decades.

The removal of stunted stems and those of poor form will concentrate future growth on better, more attractive trees particularly around tees and greens. Tree removal will allow better light penetration and air circulation and this will improve the quality of the grass sward. The opportunity should be taken to break up stands that are linear in appearance, creating gaps, thinning and scalloping edges will create a more natural appearance. Homogenous stands may then be inter-planted in order to increase species diversity.

The stability of the woodlands will improve as the trees are not allowed to become too 'leggy' and the potential for returns from future timber sales are increased. It is recognised that regular golfers may be alarmed by large scale felling operations. Therefore, it is recommended that members are informed of the reasons for managing the woodland and the consequences of non-intervention. A members evening and course walk could be arranged, if thought necessary.

7.3 Trees and Golf Strategy.

Consideration should be given to the shape of the woodland edge in relation to the golfing strategy of holes. Trees can benefit the strategy of a golf course in many ways. They can be used to frame a fairway which cannot be seen due to the topography of the site. Trees can emphasise a dogleg hole by exaggerating the orientation of the fairway. The strategy of the course should be dictated by bunkering as trees are not sustainable and form a very strong three dimensional hazard which can easily destroy the intended design of a hole if planted in the wrong place. Trees are a dynamic entity; increasing in size over time and often encroaching into the line of play.

Harry Colt, the doyen of strategic design, was the first person to add tree planting to a course design. Although, he had great reservation as to the use of trees within the strategy.

'Trees are a fluky and obnoxious form of hazard but they afford rather good protection, and if a clump of these exists at such a spot it might well be considered justifiable to leave it standing.' (H. S. Colt, *Some Essays on Golf Course Architecture*, 1920)

The reason for this view, is that no matter what standard a player is, if he is against the trunk of a tree, it is a chip sideways. This neutralises the skill of the better player and removes the adventure from the shot.

The aim of this document is to preserve and enhance the playing characteristics of the golf course and avoid radical change.

7.4 Woodland and Grassland Management

It is often forgotten that grassland is an ecosystem that is in a transitory form and will revert back to woodland very quickly, if left unmanaged. It is necessary to assess whether areas should be managed as woodland or grassland, in order to ensure the correct prescriptions are employed to safeguard the desired ecosystem.

The danger is that clubs thin their woodlands or open up the margins and then think that no further work is necessary for the foreseeable future. However, if a long-term management strategy is not implemented then the woodland will return to its former self very quickly. Bramble and other weeds will re-establish over the cleared areas making the course both unsightly and of low ecological and landscape value.

In areas where the re-establishment of open grassland is desired, it is first essential that the effect of the woodlands are reduced. As well as creating dense shade which chokes other plant growth, trees actively move nutrients from deep down in the soil to the topmost layer through the dropping of exhausted leaves, usually in autumn, but in mid-summer in the case of evergreens. The typical plants of open grassland are able to grow in low-nutrient situations such as those prevalent on the chalk based terrain but are rapidly out-competed by taller-growing less desirable plants where the nutrient levels become enhanced. Reducing leaf-drop also reduces autumn maintenance on the playing surfaces. Further, improved light and air to the manicured areas will safeguard against disease and ensure stronger growth in the more desirable finer grass.

Where it is desired to re-establish grassland the situation needs monitoring in order to find the correct procedure for that particular area. Seed beds can be at different depths and regeneration can respond to different prescriptions.

Once established it will be necessary to cut and collect arisings in order to avoid enrichment.

Further, if the area is cut and collected at the correct time then a source of seed for new areas is produced from native-provenance plants. Cutting and collecting the arisings is also highly recommended for tall, rough maintenance as this will reduce the establishment of shrub and coarse herb species by reducing the accumulation of nutrients from the cut material. This does create a need to deal with the cut material. However, this may be fairly simply composted (along with green cuttings) producing a material that is suitable for top-dressing fairways.

Care has to be taken as the increased air and light also benefits unwanted plants such as legumes that actively fix nitrogen from the air, creating enriched soil which benefits the plants which are undesirable and pressurise the grassland communities. It is therefore essential to have a weed control programme within the woodland.

Ongoing management allows you to assess the situation regarding ground conditions after the work has been completed i.e. whether further stump removal is necessary or whether an area is not going to regenerate as first thought and therefore a different objective is needed.

The following should therefore be considered:

- Targeted spot-spraying of areas dominated by bracken, bramble and rhododendron; the requirement for this to be reviewed on an area by area basis annually
- A programme of regular cutting to suppress undesirable annuals and perennials such as dock and nettle. This would require that the surface is left so that machinery can gain access and should be a management option which is reviewed annually and applied as required. This would include unwanted areas of taller-growing plants.
- Stump removal and ground preparation to suite the present situation and management aims
- Reassessing the visual aspects and identifying where further improvements to the landscape can be achieved by tree removal
- Ensuring the agronomy of the golf course is safeguarded and does not revert back to previous conditions through shading
- Ensuring that the woodland is sustainable

The club is at a crossroads where it needs to decide on the direction it wants to take; if the character and condition of the course is to be maintained to its greatest potential. A return to a more grassland nature is recommended. This will safe-guard the finer grasses which golf demands and will ensure the true parkland character is maintained. There is no conflict between good ecological management and good course maintenance as both demand the same ecosystem. However, if the progress of the woodland is not addressed then the broadleaf grasses will dominate and the course will deteriorate and become one of the many woodland courses that suffer badly in winter and never achieve the quality of a links during the season. If you consider all the courses that receive high regard few are tree lined. Many feature trees such as at Sunningdale, but the trees are remote from play and only act as a backdrop rather than impacting on the strategy of the course.

7.5 Rhododendron, Bracken and Bramble

Rhododendron and Laurel

Rhododendron and Laurel cause a number of problems within woodland. They aggressively colonise the under storey of a woodland, shading out regeneration and produce producing a chemical in the soil which stops the germination of seeds belonging to other species. The

colonisation is rapid as they reproduce vegetatively through suckering from its roots. This has long-term effects (and they have long term effects) on the ecology and sustainability of the woodland. They also acidifies the soil with its leaf litter making the germination of native species improbable.

The removal of the rhododendron must be followed by a programme of spraying in order to control any re-growth from the stumps and roots left in the soil. Rhododendron will regenerate vigorously from any remaining vegetative material left in the soil therefore a programme of control is necessary to ensure that the woodland does not return to its original condition.

The regeneration should be treated with a mixture of glyphosate and an adjuvant such as Mixture B. The additive is needed to ensure that the chemical adheres to the waxy leaves of the plants.

Weed control is normally required for 3 years after the removal of the parent plant.

Bramble and Bracken Management

Both these plants are mainly associated with the woodland edge and a closed woodland canopy. One of the immediate outcomes of increasing the light to the floor and edges of woodland is a rapid enhancement of this habitat component. Whilst both have their place in providing insect and bird food with their flower and fruit neither is particularly welcome in large expanses. Ecologically, they suppress many other plants and can create slow play due to lost balls.

Effective control of both plants is a high priority for golf courses especially in those parts of the rough that comes into play. The player who has got into the rough has problems enough, without searching for a ball, often to the great annoyance of those who follow. There are two approaches to control: chemical and mechanical. Both have their place and need certain conditions to be met before they are appropriate.

Chemical control: This is largely terrain dependent as chemical is applied by a man with a knapsack sprayer. Targeted spraying is always better than blanket application. Although, several hours spent in full spraying gear in warm weather would blunt anyone's enthusiasm. Therefore, this is best done in short sessions, if at all possible.

Bramble: The spray used has a fairly wide action and many other plants will also be killed by it. The end result may be that the tougher weeds such as bramble and nettle, although set back, may retain sufficient vigour to come back with a vengeance in the absence of competition from other plants. Careful spot-spraying of small stressed plants growing under the canopy before or straight after thinning is probably the most suitable situation. This will kill the bramble before other plants appear in response to the increased light levels (bramble will generally appear as the first plant after thinning) and their immaturity makes them susceptible to the spray. Where there is a dense layer of bramble, the spray may not reach the lower branches resulting in only a partial kill and it may be necessary to cut patches over with a strimmer or flail before spraying and then treat the re-growth.

Bracken: This plant has a great ability to spread through underground runners with new plants arriving several metres from where the main stand is. The most frequently used chemical control, Asulox, has just been withdrawn as it has been shown to contaminate water supplies. A new chemical, Bracken-x, is expected to provide similar control. Both these chemicals have little effect on other plants, other than Docks and Sorrels, a distinct advantage. Repeated use of chemical seems to promote the development of resistance and such plants when freed from competition can spread rapidly. Once bracken cover is less than 50% complete it is often very wasteful to spray as much of the chemical is landing on non-target areas. The best option if further control is required, is to cut twice a year (end May - mid July, as the plant puts up new shoots and before these have fully unfolded). It is very important to apply chemical at the right stage of growth, at full frond unfurling, before any hint of yellowing. If there is no vegetation under the bracken Glyphosphate may be used with very good results.

Using chemicals adjacent to water bodies is not allowed under the Pesticides Regulations providing the labels allows.

Mechanical control: Where it is possible to get at bramble and bracken with a flail, this should be considered as repeated cutting, a minimum of twice a year but preferably three times. This method is slower but overall more effective than spraying as this management strategy encourages the development of a closed turf structure which restricts the opportunities for further seedling establishment in bramble and seriously weakens any shoots of either plant which dares to put their head above the ground! As with all cutting management, this is much more effective if the arisings are removed from the cut area because this encourages the growth of competing plant species.

The best way forward is probably to use chemical treatment well into woodland and to establish a situation where the woodland edge and the adjacent rough can be cut mechanically where invasion by either plant causes a problem.

As in all weed treatments, prompt action before the problem becomes overbearing is the best policy. This requires that potentially problematic areas are regularly monitored and reviewed. One of the best ways of achieving this at low cost is to take a yearly series of fixed-point photographs at all such points around the course, including from the tees and to spend a winter's day looking at the development of the rough over the previous couple of years.

7.6 Summary of Management Proposals

- To thin the woodlands in order to improve the sustainability of the landscape and to improve the conservation value of the site.
- To leave, where safety allows, occasional standing dead timber for conservation.
- To encourage a more diverse ground layer.
- To remove invasive non- native species such as gorse, laurel and rhododendron.

- To maintain and enhance the original design philosophy.
- To open out ponds and water courses to improve their conservation value.
- To maintain and enhance views and vistas.
- To manage the woodland edge to stop encroachment and reduce shading of adjoining grassland.
- To expose specimen trees.

7.7 Mammals and Pests.

Juvenile and semi-mature trees can be seriously damaged by squirrels. Bark stripping and ring barking may occur causing the top half to die, hence drastically affecting the form and growth of the tree. If the squirrel population begins to pose a significant threat to the trees Warfarin baited traps can be used to control numbers. Normally, a small level of damage has to be tolerated.

Deer browsing is a major factor in the sustainability of the woodland if the present high population of deer is to be retained then enrichment planting in guards may be required.

7.8 Tree Safety.

Ongoing monitoring of tree health and safety should be carried out on an annual basis. Particular attention should obviously be given to trees on and immediately surrounding the playing surfaces and boundaries.

7.9 Poplars, Willows and Golf

Poplar and Willow are normally planted for their rapid growth. They are fast growing but it is often forgotten that they have a relatively short life span. Commercial hybrid poplars have a rotation age of 40 years meaning that beyond this point they will deteriorate very quickly. Further, poplars are unsuitable for golf courses as their surface rooting habit often results in damage to expensive machinery. They liberally drop debris such as branches and twigs and will reproduce vegetatively through producing suckers from their roots.

It is often mistakenly thought that poplar and willow will solve drainage problems by soaking up water in wet areas. Although they are high water demanders, short mown grass will normally require more water than a tree. Further, they will always find the easiest source of water, normally field drains, and will compound drainage problems by creating blockages and casting shade. It is not uncommon to find 40m of fibrous root completely blocking a drain. It should be noted that poplar roots can spread up to 2.8 times the height of the tree and therefore extensive damage can occur in areas thought to be well removed from the trees' influence.

Finally, from both a landscape and conservation viewpoint, poplars have little value. Their shape, texture and colour all contrast with the native trees of the broader landscape. Poplars

also have little timber value and are expensive to remove. Their extensive root system can create a long-term management problem as they will regenerate aggressively from any remaining plant tissue. It is necessary to stop their re-establishment as this will be to the detriment of other more desirable species.

The removal of the poplar will have many beneficial effects. Drainage problems and unnecessary maintenance to field drains should be reduced and any suppressed species of more desirable trees such as oak or ash would be released.

8.0 General Comment

Bury St Edmunds is a very pleasing golf course in an equally attractive setting. The infertile grassland and grazed landscape were undoubtedly what attracted golf to the site. Architects of the golden period of design, quickly identified that infertile free draining sites with the subsequent fine grass closely resembled the links land where golf prospered. The early clay based courses around London soon became unpopular and golf moved to the heaths and chalk downs of the surrounding countryside.

Bury St Edmunds would have been a very different landscape when the course was opened with a few specimen trees and copses and a much more open aspect. Landscapes are ever changing and areas of grassland/heath will quickly establish as woodland if left unmanaged, the woodlands then enrich the adjoining land creating an ecosystem that favours the more robust broadleaf species of grass



Bury St Edmunds has many fine specimen trees which have lost their integrity as regeneration has grown up around them.

There is an abundance of woodland courses but few true parkland ones with real character and history. Bury St Edmunds is lucky that it has all these attributes and this sets it apart from the ordinary. It is essential to maintain the *Genius Loci* of the site within any changes made to the course.

During the management of the woodlands, a number of issues should be addressed; all playing surfaces require light and air and so woodland edges should be relocated into positions where their effect is minimised. Woodland edges should be scalloped to break any linear patterns and gaps should be created to improve light and air to the playing surface and any specimen trees exposed so that they provide landscape interest. This will ensure that the golf course has a true character and that the agronomics are safeguarded.

“In cases where the ground is covered densely with trees it is often possible to open up beautiful views by cutting down a little additional timber.

In such cases it would be unwise merely to clear certain narrow lanes which are required for play. The ‘landscape’ effect should be studied and although great care should be taken not to expose any unpleasant view in the process, every endeavour should be made to obtain a free and open aspect.

Swinley Forest, St George’s Hill and Stoke Poges may be cited as cases in which tree-cutting has greatly improved the views, and in the case of the two first mentioned clubs a great deal more felling has been done than would have been necessary from a purely golfing point of view”. (H S Colt, Some Essays on Golf Course Architecture, 1920)

By adopting this policy the landscape, agronomic and strategic value of the course will be maintained.

“It is highly desirable that the aspect from the clubhouse windows should be attractive, so that the player may get a favourable impression when he arrives, and may get the greatest possible enjoyment at a moment of rest. To achieve this result it is best, if possible, to create an atmosphere of large unrestricted space, which is the most delightful contrast to the cramped and restricted streets and offices of a large town.” (H.S.Colts, 1920)

8. HOLE BY HOLE - ASSESSMENT

Hole 1



By removing the foreground interest the landscape on the first hole could be greatly improved

The view from the first tee and clubhouse could be enhanced by creating a more open landscape and a feeling of space. This would help the speed of play as competitors would move on faster.

The creation of areas of calcareous grassland close to the clubhouse would add ecological interest and improve views from the patio.

The copse to the left front of the tee is beginning to encroach and will effectively reduce the size of the tee as players will naturally favour the unimpeded line of play. It also restricts the view from the clubhouse to the first hole. The end of the copse should be removed and the area developed as grassland. This will safeguard the playing surface and improve the view from the clubhouse.

The trees to the left of the hole have closed canopy; thinning is required to allow the remaining trees to reach their potential. During thinning the density of trees should be reduced to safeguard the fine grasses and to allow the larger species to develop in keeping with parkland character.

The planting of ornate garden trees is common on golf courses and although well intentioned it often has a detrimental effect on the landscape. Parklands are large canvases and require trees that are in scale with the broader landscape. Scale, shape, form, texture and colour all need to be taken into account when planting. If Bury St Edmunds is to achieve its true potential then the landscape needs to compliment the golf course. All great courses harmonise with the broader landscape. The trees to the left of the fairway should be thinned to reduce density and create a more open aspect. Larger parkland species such as oak, ash, lime and beech should be favoured where possible. Trees of poor form should be removed.

Cherry has been used extensively throughout the course. Cherry has a number of weaknesses when on a golf course; it has hard surface roots which cause damage to machinery, it does not take kindly to golf ball damage and it suffers badly from canker. Cherry is a relatively small tree and is not in keeping with the parkland nature of the course. It should be targeted during thinning.



Cherry is surface rooting and has very hard wood which causes damage to machinery and golfers.



The poplars to the right of the hole create a very linear appearance and are suppressing more appropriate trees. It should be an objective of the club to remove all the poplar from the course to improve the landscape, drainage and safety of the site. Poplar has a rotation age of 40 years after which it will decline quickly, dropping limbs and snapping from the top. It causes unnecessary work with leaf and branch drop and will invade the field drainage system at every opportunity. It should be policy to remove all poplars from the site.

The poplars should be removed and the remaining trees thinned to release the better stems. This will improve the landscape value and will create a more interesting opening hole where a player would feel he could open his shoulders on the first tee.

During thinning a gap should be created next to the fairway bunker; this will emphasise its presence and improve the strategy of the hole. It will reduce maintenance as tree roots and leaves in the bunker will be avoided.

To the left of the hole beyond the bunker trees form a double hazard and penalise a brave shot which takes on the carry of the bunker.

'Most golfers have an entirely erroneous view of the real object of a hazard. The majority of them simply look upon hazards as a means to punish a bad shot, when in fact the real object is to make the game interesting.' (Alistair Mackenzie, **Golf Architecture, 1920**)



The trees form a double hazard with the bunker and only penalise a brave players who take on the carry of the bunker.

All great golf holes involve risk and reward. If a hole becomes over penal than the fun and challenge is lost. The fairways at Bury St Edmunds are in places are only 20 paces wide (the same as for the open championship); this is often due to the encroachment of trees. It would be sensible to widen fairways to a more acceptable width. The challenge can still be maintained by the bunkering proposed in Tim Lobb's report. This would create a more enjoyable experience for all categories of golfer and would speed up the rate of play.

The first hole has many attractive parkland trees which have lost their integrity due to the density of planting. Cherry, alder and birch are often used as nurse crops to draw the climax species. However, if the nurse crop is not removed then it will suppress the final crop and all the trees will become misshapen resulting in a poor landscape.

There is an old saying "*you cannot see the wood for the trees*", this is very apt for Bury St Edmunds. The opportunity presently exists to expose the better stems and achieve a quality crop but if thinning does not occur relatively quickly then the situation will become irreversible and the club will be left with many poor trees.

Behind the green are a number of trees that limit the walk off area, cast shade on the green and serve no strategic purpose. If they were removed then the agronomics of the green would

be enhanced. The walk off area and surround of the green could be improved and the back drop would be unaffected as there is woodland beyond.



The view to the first green would be unaffected by the removal of the trees to the rear but the walk off area and green would benefit from improved light and air.

To the left of the footpath leading to the second hole are trees which cast shade on the 18th tee and serve no real purpose; these should be removed to improve light and air to the playing surface. Presently, the green staff are maintaining the course to a very high standard yet

nature will always win and standards could improve further if more light and air was available to playing areas.

Hole 2

To the rear of the tee new planting has been introduced in the only area that allows light and air to the tee. The planting should be relocated to the boundary by the 14th to create seclusion.



The woodland on either side of the fairway is casting heavy shade and reduces air flow. The edges have become heliotropic (one sided looking for light) and will encroach each year as the trees are putting all their vigour in one direction. The green and surrounding area are suffering badly as a result.

The woodland surrounding the hole should be thinned to release the better stems and ensure sustainable woodland cover. During thinning, the heliotropic edge should be removed on either side; allowing the tee to be relocated further to the right. This would remove the congestion around the 10th/17th/12th tees and would allow a different line of play. Further, the right greenside bunker has lost its character as it is now virtually within the woodland. Thin either side by 50% and relocate the woodland edge creating scallops to give a natural appeal.

The thinning would also benefit the 17th green and 9th tee where light and airflow would be increased.



The tee could be relocated further right to reduce congestion in the immediate area.

The area to the left of the green has recently been re-turfed in areas where the grass has died. Unfortunately, this only deals with the symptoms rather than the disease which is a lack of light and air. The trees to the right of the path are part of the cause of the problem. They do add to the interest of the tee shot; if substantial thinning occurs in the area beyond these and providing enough light and air is gained to maintain the grass sward then it may be possible to retain the trees.

The interesting contours should be the real feature however the trees now dominate the landscape. If they were removed then the seclusion would still be maintained by the area of woodland beyond and the character and condition of the hole would be enhanced.

The green is really suffering badly from shade and is prone to disease. A gap needs to be created in the area of the walkway to allow morning sunlight to the playing surface. Removing the trees to the back and left of the green would ensure better agronomics. It would also allow the walk off area to be improved and widened to reduce wear. The area could then be re-contoured by your architect. I would strongly recommend his involvement as creating a finished product that enhances the hole would be key to the success of the project.



The green and surrounds are suffering from shade and poor airflow.

To the rear of the green laurel has been introduced. This will greatly reduce air flow to the playing surface and looks unnatural; this should be removed and replaced with either gorse which can be managed more effectively or by subtle mounding to give separation to the 8th green. (Discussion with your architect as to the preferred option is recommended) this will improve the agronomics and enhance the landscape value.



The laurel to the rear of the green will reduce air and light to the playing surface and creates an unnatural appearance.

Any specimen trees should be opened to view during the thinning process in order to improve the landscape value.

To the right of the green the woodland edge should be relocated to emphasise the presence of the bunker and to increase light and air.

In the walk off area, trees have been topped. This is bad practice and will not solve the problem of light as the trees apical dominance is removed and the co-dominant shoots then fight for dominance increasing growth and creating a denser crown.

The laurel and scrub to the right of the path leading to the 3rd tee is having a detrimental effect on the 3rd and 9th tees and the 2nd green this should be removed and the area re-contoured as part of the project. This will ensure that the agronomics are improved and the landscape value is increased.

Hole 3

The 3rd tee is suffering badly from a lack of light and air and competition for water and nutrient from the laurel and oak tree situated on the tee. The entire area is suffering from shading and a holistic approach is required on this part of the course if the quality of the playing surfaces are to be maintained.

The laurel on the tee provides visual separation but creates noise pollution as out of sight is out of mind. It is noticeable where the laurel ends, the quality of the tee improves! The laurel should be removed. The oak also competes for water and nutrient and if removed would allow the tee to be developed fully.





The shade and competition for water and nutrient are adversely affecting the quality of the grass sward.

The area to the rear of the tees causes the most damaging early morning shade. The laurel should be removed and the trees thinned to increase air and light to the tees.

The large oak to the front right of the tee has an intimidating effect and reduces the size of the tee as players naturally favour the unimpeded line of play. The oak is not a good specimen; it should be removed. The oak beyond could then become a feature tree.

The removal of the oak would also help in increasing the air and light to the 4th green.

The copse between the 3rd tee and 4th green should be thinned to release the attractive oaks. During thinning any heliotropic stems should be removed. This would aid both the tees and 4th green as light and air would be increased.

To the right of the tee is small stand of trees that separate the hole from the 5th tee. The trees cast shade on the 3rd and 9th tees and do not actually provide a screen. The trees should be removed and if thought necessary separation could be created with soft mounding. (This could be undertaken during the works on the second hole under the guidance of your architect)



There is in fact no separation between the 3rd and 5th tees but the trees do have a detrimental effect on the 3rd and 9th tees.

The copse to the left is beginning to encroach and appears linear; this should be thinned and gaps created to allow more light to the 9th green.

The three dead stems in front of the copse should be removed to improve the landscape value. Dead standing timber can be left within woodland areas where it does not adversely affect the landscape value, this will add to the ecological value of the site without compromising the landscape. Where possible some larger stems will be left in contact with the soil within the woodland for the benefit of invertebrates.



The 3rd tee is suffering from encroachment on either side this effectively reduces the size of the tee and restricts the strategic options available.

To the right beyond the four oaks the stand becomes linear and unnatural in appearance; it requires thinning to release the more appropriate species of tree. The stand should be thinned by 50% targeting the poplar, thorn and birch and any trees of poor form.

If the fairway were to be relocated further to the left then play would move away from the 4th hole removing congestion and improving the safety of both holes. This would require the trees to the left of the fairway (towards the green) to be removed. The fairway could then be re-bunkered to give a more interesting strategy that would also safeguard the 3rd/4th holes. The true approach to the green is presently in the semi rough to the left of the fairway however if the fairway was relocated to the left then the braver player who takes on the fairway bunker, which is proposed by the architect, would be rewarded.

This would create a more interesting strategy and would remove the present situation where you need to fade the shot into the green which endangers the 4th tee.



The photograph illustrates the true entrance to the green is presently in the semi rough to the left of the fairway. If the fairway was relocated further left then the strategy and safety of the hole would be improved.

The moving of the fairway would then allow the declining poplars to the right of the fairway to be removed. This would improve the landscape value of both holes.

To the left of the green is a stand of thorn and cherry which is having a detrimental effect on the green surround. These should be removed and the copse beyond thinned and the edge scalloped to create a more natural appearance. This would also benefit the playing surface of the green as light and air would be improved. Once the edge is relocated more interesting contours could be added by the architect.



The quality of the green surround could be greatly improved by the removal of the thorn and cherry adjoining. The area can then be redeveloped.

The woodland behind the green should be thinned to release the better stems. During thinning the edge should be scalloped to give a natural appeal and to improve light and air to the playing surface.

Hole 4

The pines to the back and immediate left of the tee serve no purpose as regards safety as play is from the opposite direction to their location they do however cause problems with the agronomics of the tee. They cast shade, reduce airflow and compete for water and nutrient. They should be removed and the remainder of the stand thinned to create a more sustainable screen.

The stand of poplar to the right is over mature and will decline quickly. Poplars when over mature will without warning start to drop debris and large limbs. Poplar will readily block field drains and will compete for water and nutrient with the adjoining fairways. They have little landscape value as their shape and form conflict with the more rounded shapes of the native trees. It would be advisable to remove the poplar as soon as possible. Within the line of poplar are two stands of more appropriate trees; these should be retained to preserve separation and to maintain the orientation of the hole.



The 2 characters of the 4th hole are exemplified in the photographs linear appearance and conflicting form of the poplar and pine compared with the natural beauty of the broadleaf trees.

Trees have been planted below the canopy of the existing trees in an attempt to improve sustainability. Unfortunately, planting below existing canopies only produces trees of poor form as they are forced to look for light and become heliotropic. The planting should be removed and relocated into more appropriate areas.

Guidelines say a 15x15 metre gap is required in the canopy for successful establishment.

The sporadic trees to the left of the fairway on the outside of the dogleg should be selectively thinned to allow the fairway to be widened on the left. This will then move the fairway centre away from the third hole improving safety. The new line of play could then be further enhanced by removing the birch and first oak that are closer to the green. Remove 11 trees.

The lodgepole pine to the left create a linear unnatural appearance; the stand should be thinned to ensure a sustainable screen to the tee. During thinning the symmetry should be broken to improve the landscape value.

The broadleaves beyond the pine on the left should be thinned to favour the more desirable parkland species and trees of better form.

To the right is a second stand of poplar that also conflicts with the landscape and is over mature; these should be removed this will reveal the more attractive oak beyond.



The area of natural woodland to the left should be thinned to release the better stems and create sustainable woodland. Any heliotropic trees should be removed and the edges scalloped to create an attractive edge to the woodland.

To the right near the green the stand of trees appears linear. It requires thinning to release the more attractive trees that are being suppressed. During this process the symmetry of the stand should be broken.

To the left of the green is a large character oak that is surrounded in scrub; the scrub removes the integrity of the tree, channel's wear and reduces light and air to the grass sward. The scrub should be removed to highlight the oak and improve the agronomics.

The gorse to the rear of the green should be managed on a rotation basis. It should be coppiced to ground level 20% per annum. This will ensure new growth from the root system creating sustainable cover.





The large oak to the left of the green should be exposed to view by removing the trees and scrub surrounding. This will also help to alleviate the wear to the grass sward.

Hole 5

The trees and scrub behind the tee serve no purpose as a screen but they do limit light and air to the 3rd and 5th tees and 4th green. They should be removed to improve the agronomics of the playing surfaces.

The stand to the right of the hole has become linear and heliotropic. It requires thinning to release the remaining trees. During this process the symmetry should be broken and the trees of better form released.

The area of natural woodland to the left is predominantly elm. This will undoubtedly become diseased and without major investment and dramatic changes to the landscape, non-intervention is probably the best course of action. When areas of elm do die, then simply coppice the dead stems and burn the arisings.

To the right the dogleg has become excessively severe due to the heliotropic edge encroaching. The woodland does protect the 8th tee and a screen is required. However, if the bunkering on the green was reversed to make the approach from the left of the fairway more advantageous then the line of play would be moved away from the 8th tee improving safety. This should be discussed with the club's golf course architect before decisions are concluded.

The stand should be thinned to release the better stems. During thinning the heliotropic edge should be removed. Further, towards the green the protection given to the tee is less significant and this area can be thinned to a higher density targeting the elm. To the rear of the 8th tee the trees serve no purpose in relation to safety. Furthermore, they reduce light and air to the playing surface and are generally of poor form. The area should be cleared to improve light and air to the tee. This would improve the landscape of the hole as the specimen oak and pine would then be visible.

To the left of the hole beyond the elm is an area of natural woodland. This should be thinned to create sustainable woodland; thin by 40%.

To the right of the green, new planting has been introduced under the canopy of the mature oaks. This will lead to a reduction in light and air to the 7th green and 6th tees; this should be removed before it establishes and damages the agronomy of the course. The real feature of this area should be the specimen oaks. These should be exposed to their full potential by removing the scrub that adjoins them. This will then silhouette them improving the landscape value of 3 holes.



Planting beneath the canopy of mature trees should be avoided as it will remove the integrity of the specimen trees and will adversely effect the agronomy on the playing surfaces.

On the path to the 6th tee is a dead thorn this should be removed.

Hole 6

To the left of the hole is an Indian bean tree and a stand of scrub that screens the left of the fairway. This only penalises the high handicap golfer and forces play towards the 7th fairway creating danger and removing the framing effect of the woodlands on either side. Both should be removed.

The stand to the right nearest the tee effectively reduces the size of the playing surface as players naturally favour an un-impeded line of play. The end of the copse nearest the tee should be removed to allow full use of the playing surface. Bury St Edmunds, like many courses of its generation, has small tees by modern standards and it is therefore imperative to allow as much light and air to the tees as possible if they are to withstand the pressure of modern golf.

The remainder of the copse beyond appears linear and requires thinning to release the remaining tree. During this process heliotropic stems should be targeted and the symmetry broken.

The woodland to the left of the hole forms an important barrier to the road and should be managed to create sustainable cover. Planting should be considered towards the road to improve the sound barrier. The existing trees should be thinned to create sustainable cover.

To the right by the bunker a double hazard exists where a player cannot take the adventurous line of play as trees penalise a brave shot. Further, the trees adjoining the bunker are having an adverse effect on the agronomy. The dogleg should be softened to improve the strategy and grass sward.

The remainder of the copse should be thinned to release the better stems and more desirable species. Thin by 40%. In the area of more natural woodland the thinning does not need to be as intense - a 30% thin is required to break the age structure and encourage regeneration. After thinning, a programme of weed control will be necessary to stop the dominance of bramble and other such weeds.

Towards the green, the heliotropic edge needs to be removed and the woodland edge relocated further from the green. The recent works have undoubtedly helped the agronomy of the green and surrounds. However, pruning heliotropic trees is a pointless exercise as they will regrow very quickly in the direction of the green as this is their only source of light. The edge should be relocated beyond the path and the remainder of the woodland thinned.

To the left and rear of the green the woodland should be thinned to improve light and air to the playing surface and ensure a sustainable screen. Care has to be taken not to open views to the road.



Removing the trees on the dogleg to encourage a brave shot could enhance the strategy and fun on the 6th.



The pruning has gone some way towards aiding light and air to the playing surface however the green still suffers from heavy shade and pruning is only a short term solution the woodland edge needs to be relocated and the woodland thinned to solve the problem.

Hole 7

The 7th tee suffers severe shade and the woodland either side is encroaching effectively reducing the size of the tee. The woodland on both sides requires thinning to improve light and air to the tee. During this process, the heliotropic edge should be removed and the edges scalloped to create a more natural appearance. Rhododendron been has planted to the right of the tee; this will compound the problem regarding airflow and will create a gardenesque appearance. This should be removed.



The photograph illustrates how the wear is concentrated to the centre of the tee as players naturally favour an unimpeded line of play. The tee suffers heavy shade and poor air circulation stressing the grass sward and predisposing it to disease.

To the left of the tee, a vista should be created on a diagonal in order to allow early morning light to the playing surface the diagonal will lessen the landscape impact of the gap.

The hole has become very linear in appearance during management works, the symmetry should be broken by creating a scalloped edge.

The woodland to the right of the hole should be thinned to release the better stems in order to create sustainable high conservation woodland.



The 7th tee suffers badly from a lack of light and air and hole appears linear; however by scalloping the edges and creating copses the linear appearance would be removed and light and air would be increased.



The old forward tee is now within the trees this shows how much ingress has occurred from the woodland.

The woodland to the left of the hole should be thinned and broken into copses and gaps created where there is interest in the landform. A number of old bunkers are present within the woodland; these should be exposed as appropriate to add interest. Specimen trees should be highlighted and allowed to reach their potential.

On the left of the fairway towards the green, the trees become even more linear in appearance the trees have closed canopy and need releasing in order to produce quality specimens. The stand should be broken into copses or individual specimen trees to break the symmetry and to allow the remaining trees to reach their potential.

To the right of the fairway the stands of trees should be thinned as per Hole 6.



Many interesting features are now lost to trees these should be exposed during management as they are unique to Bury St Edmunds.

To the rear of the green the large specimen trees have lost their integrity to regeneration. The smaller poor quality stems and new planting should be removed so that the specimen trees show their full potential as landscape features. This will also improve light and air to the green benefitting the agronomy.



The specimen trees to the rear of the green should be exposed as the true landscape features that they are.

Hole 8

The tee is under severe stress from the trees which surround it, light and air are at a premium especially as the tee is raised and therefore very free draining. The removal of the trees to rear as per Hole 5 will help to improve light and air to the tee. The tee is also suffering from the ingress of trees. This effectively halves the width of the tee as players favour the unimpeded line. During the thinning process, any encroaching trees should be removed to allow full use of the tee. This will also enhance the strategy of the hole as the present very penal design creates one-dimensional golf.

The remainder of the copse to the right should be thinned to release the better stems to the centre of the stand. This will help to soften the dogleg on the 5th hole and will maintain the safety of the tee and safeguard the agronomy of the playing surface.

The trees to the left of the tee should be thinned to release the better stems and increase light and air to the tee.



The encroachment on especially to the right creates one dimensional golf if this was removed then a much more interesting strategy could be created.



To the right of the fairway the trees should be thinned to release the more desirable species. Larch, birch and field maple should be targeted.

The oak adjoining the fairway bunker should be removed to allow proper maintenance of the bunker.

The woodland to the left of the hole encroaches on the apex, screening the view to the green. This should be removed during management and will enhance the strategy and allow the architects plan to be fully developed. The remainder of the woodland should be thinned and any interesting features exposed to add to the landscape interest.

The undulations of old bunker near the green should be revealed and the edge of the woodland relocated this is in keeping with the architects report and will allow play further from the 3rd and 9th tees improving safety and adding interest to the golf.



Many interesting features have been lost but could easily be re-introduced to add to the visual and strategic value of the golf course.

The trees and scrub around the green should be thinned to improve the aesthetics and agronomy.

To the right near the green, the shrubs and trees should be cleared to improve the agronomy on the 2nd green and 3rd and 9th tees as previously mentioned. The opening of the left side of the fairway in the area of the old bunker would mean that the centre line of play would be moved away from this area reducing safety issues. Many problems with trees and shade are a result encroachment elsewhere, which has forced play into an area which was not part of the

original design concept. This then causes a reaction that does not address the real problem of encroachment but addresses the symptoms and new planting is introduced to compensate. Often, the consequences of the new planting are not appreciated and shading or encroachment results elsewhere.

Once the area to the right is cleared then the architect can re-contour as necessary to improve the surrounds and walk ways within the area. By thinning the trees and removing the shrubs light and air penetration will be improved this will allow a quality grass sward to be developed.

Hole 9

The oak and laurel on the tee provide limited visual separation and cause noise pollution as player are unaware of their neighbours. The tree does have some landscape value but ideally should be removed. Remove laurel and consider removing the oak.

The copse to the front right encroaches effectively reducing the size of the tee as players favour the unimpeded line of play the end of the copse closest to the tee should be removed along with the dead stems. This would allow full use of the tee and would enhance the landscape value of the hole.

The woodland to the left requires thinning to release the remaining trees. During thinning the heliotropic edge should be removed and scallops created to add to the landscape value.

The remainder of the copse to the right should be thinned and the edge scalloped to remove encroachment on both the 9th and 3rd holes.

To the right rear of the green, a gap should be created to allow light and air to the putting surface; this will increase morning light warming the green quicker and will help remove the moisture from the playing surface reducing disease.



Encroachment is occurring to the right of the hole this effectively reduces the size of the tee predisposing it to wear.

Hole 10

The 10th tee is suffering shade early morning light is crucial to good agronomy. The stand of trees to the right of the tee has a closed canopy. This should be thinned to improve light and air to the tee and 11th green, stop future encroachment and release the remaining trees.

The stand adjoining the 2nd Hole casts shade on 3 tees during management light and air penetration should be improved to the effected playing surfaces.

The trees between the 10th and 11th holes requires thinning to concentrate growth on the more desirable trees and to ensure they reach there potential. The parkland species should be favoured.

By the fairway bunker to the right the tree line should be relocated to remove the double hazard that presently exists.

“Most golfers have an entirely erroneous view of the real object of a hazard. The majority of them simply look upon hazards as a means to punish a bad shot, when in fact the real object is to make the game interesting.” (Alistair Mackenzie, Golf Architecture, 1920)

To the left of the fairway sporadic planting has been introduced with mixture of ornate and parkland trees. In some areas, canopy closure has occurred; the trees require thinning to release the climax crop. During thinning, the parkland trees in keeping with the landscape should be favoured.

Blackthorn has been introduced in a number of areas. Blackthorn forms thickets that become impenetrable and a haven for rabbits. It reproduces vegetatively through suckers and spreads rapidly forming a very penal hazard and slowing play. The blackthorn should be removed before it establishes.

To the right near the green, the end of the stand is shading the green and encroaches on the tee shot on Hole 11. The end of the stand should be removed.



The 10th and 12th suffer from early morning shade.

Hole 11

The hedge to the right and rear of the tee casts shade and competes for water and nutrient with the grass sward. It creates a gardenesque feel which conflicts with the parkland character and creates unnecessary work as it has to be managed. The hedge should be removed.

Encroachment has occurred to the right of the hole; this effectively reduces the size of the tee as players naturally favour the unimpeded line of play. It screens the fairway bunkers from view and creates an unnecessary blind shot. The trees should be thinned and the edge relocated to allow full use of the tee and visibility to the bunkers and fairway. This will improve the landscape strategy and agronomics of the hole.

To the left planting has been introduced which encroaches making the tee shot uncomfortable and the left of the fairway inaccessible. It screens the natural hedge beyond which would act as an interesting feature in its own right and makes maintenance of the hedge more difficult increasing man hours. The poplars are out of character with the landscape and will adversely affect the drainage of the course. The trees to the left should be removed and the area could then be developed as calcareous grassland; this would add landscape and wildlife interest.



The 11th tee is effectively halved in size due to encroachment the fairway bunkers are no longer fully visible and the result of a tee shot is now blind.

“The greater the experience the writer has of designing golf courses, the more certain he is that blindness of all kinds should be avoided.” (Alistair Mackenzie, Golf Architecture, 1920)

To the left of the fairway is a stand of pine that requires immediate thinning if wind blow is to be avoided and sustainable woodland is to be achieved! Planting has occurred to the

fairway side of the woodland with more ornate species; this should be removed to allow visibility to the more natural woodland beyond. The area can then be developed as calcareous grassland that will act as a buffer between the woodland and fairway. This will enhance the strategy, landscape and wildlife value of the course.

Further, towards the green to the left the planting becomes more sporadic and requires thinning to release the more appropriate stems. During this process, a gap should be created to improve light and air to the green. Poplar and cherry should be targeted.

To the right of the hole, the pit should be exposed and enhanced to add a more interesting risk and reward strategy. The blackthorn thicket should be removed to ensure the correct balance of risk and reward is achieved and to increase the speed of play.

“The characteristics of a hazard are that it should be difficult but not impossible to play out of; that it should not cause lost balls; and that strokes played out of it should be calculable as regards strength and direction, and should depend for their success on skill and not brute force alone.” (H S Colt, **Essays on Golf-Course Architecture, 1920**).

To the rear of the green planting has been introduced; this creates wear on the walk off to the next tee and encroaches on the tee shot on the 12th hole. It does not give any real protection to the green as the trees that cause the wear are in fact beyond the green when looking from the 12th tee. They should be removed and the area re-instated.





The rear of the 11th green is suffering from wear due to the presence of trees.

Hole 12

The stand of trees behind the 11th green from the birch forwards, cause shade and reduce air flow to the tee. They encroach making a one dimensional tee making the left of the fairway inaccessible.



“No tee shot can be described to be good if the proper place to be is the centre of the fairway” A quote regarding strategy from Tom Simpson

The hedge to the right of the tee reduces light and air to the tee. Consideration should be given to laying the hedge; this would make an attractive feature and would improve the agronomics while maintaining separation.

To the right beyond the hedge the trees are encroaching. If the left of the fairway was opened to play then these trees could be thinned and exposed as features. This would take play away from the 17th hole and would add to the strategic and landscape value.

The pine wood to the left should be thinned as per Hole 11 and heliotropic edge removed during thinning.

To the left of the hole is a stand of poplar which adversely affect the landscape character as previously mentioned poplar and willow are detrimental to the needs of golf and should be removed where possible.



The poplars shape, form and scale conflict with the natural beauty of the landscape.



The recent thinning has returned the integrity to the mature parkland trees

Towards the green to the right is an area of more natural woodland. This requires thinning to allow the remaining trees to reach their potential. The woodland should be thinned and the symmetry of the edge broken to improve the landscape value and increase light and air to the fairway and green.



The woodland on the right has become linear and casts shade on the fairway and green.

The woodland to the rear of the green requires thinning to release the better stems and to create a sustainable screen to the urban landscape. During thinning the heliotropic edge should be removed and air and light improved to the 16th green. A vista should be created to the rear right of the green at an angle to improve the light and air to the green without compromising the view.



A diagonal gap could be created to improve light and air to the 12th green and 17th tee.

Hole 13

The stand of pine to the right encroaches slightly on the back tee the stand should be thinned and the end closest to the tee relocated to balance the landscape.



Beyond the stand of pine the trees should be thinned to release the better stems some gaps should be created to break the linear appearance.



There are many attractive parkland trees which have lost their integrity due to the density of planting these should be release to improve the landscape value of the course.

To the left of the hole the area of woodland should be thinned to create a sustainable screen holly could then be introduced to act as a barrier to the adjoining property.

Hole 14

To the rear and right of the tee, holly, should be introduced along the boundary this will act as a screen and deter trespass.

The woodland to the left forms an important screen to the houses; it is essential to thin the woodland in order to create sustainable cover.

To the right near the 13th green the stand of pine and mixed broadleaves should be thinned to avoid wind blow and to concentrate growth on the better stems. During this process, the large oak which forms an attractive landscape feature should be highlighted by scalloping the adjoining edge.



The attractive oak should be highlighted as a landscape feature by scalloping the adjoining woodland edge.

To the right beyond the pine is an area of natural woodland which requires thinning in order to create sustainable high conservation woodland. This should be thinned and the edge scalloped to create a more natural appearance.

To the left of the fairway semi mature trees encroach forcing the dogleg they detract from the natural woodland beyond and create a very penal pinch point on the fairway. They also remove the integrity of the pine and depression beyond. They should be removed to improve the strategy and landscape of the hole. The hollow can then be incorporated into the design of the hole this will require the trees surrounding it to be removed. This should be discussed with the golf course architect.

To the right beyond the dogleg is a linear stand of trees that screens the wonderful large oaks that should be the feature of the landscape. Some of these trees have been pollarded and look very unsightly. These should be removed and the oaks exposed as the true landscape feature. A pushed shot would still be penalised by the retained trees and the improved light and air would allow the semi rough to be developed. The challenge of the hole would still be retained and the interest of the hole would be increased. A further benefit would be the increased light and air to the 15th green and surround.

To the left of the green are a number of mature poplars that cast shade to the green and surround these should be removed and the remaining trees thinned to create a sustainable screen.

The oaks to the rear of the green create wear on the walk off and compete with the grass sward for water and nutrient. These should be removed; no loss of landscape value would occur as the woodland beyond would form an equally pleasing backdrop. The remainder of the woodland to the rear of the green should be thinned to release the better stems and improve light and air to the green and 15th tee.



The green could be greatly improved by increasing light and air and removing competition for water and nutrient.



The strategy and interest of the 14th could be greatly improved by the removal of the small trees that force the dogleg and the hollow towards the green could then be incorporated into the design of the hole.

Hole 15

The tee is suffering from shade mainly due to the large oaks to the right of the tee. These should be removed; the woodland beyond will maintain seclusion without causing excessive shade. The woodland should be thinned to improve the age structure and release the better stems.



The 15th tee suffers from excessive shade; the large oak to the right of the fairway has lost its integrity due to the encroachment on the left of the tee.

To the left of the hole, the large specimen oak has lost landscape presence. This should be exposed to view so that it compliments the large oak on the opposite side of the hole; this will create a framed view in keeping with the character of the course.

The woodland to the left has become heliotropic and requires thinning to create sustainable high conservation woodland.

The poplars to the right of the hole create an unnatural linear appearance and they are causing agronomic issues on the 14th hole as well as being in decline. They should be removed to improve the landscape and agronomy of the course.

The woodland edge towards the green should be relocated to allow the left of the green to be redeveloped. The path could then be relocated further from the green within the woodland.



The area to the left of the green could be redeveloped if the tree line was relocated further from the green improving the strategy and agronomics.

The trees to the rear of the green are out of scale with the landscape and screen the more attractive woodland beyond. They should be removed. The woodland beyond should be thinned and during this process the woodland edge should be scalloped by the green to improve light and air to the playing surface. This would also allow the rear of the green to be developed as appropriate.

Hole 16

The woodland to the right of the tee encroaches effectively reducing the size of the playing surface. During the management of the woodland the edge should be relocated and any heliotropic trees removed. The large specimen tree to the front of the stand could then be exposed as a landscape feature.

To the left of the tee trees have been pruned and topped this is bad practice further part of the trees impact on the agronomy is their roots that compete for water and nutrient. These remain unaffected and are encouraged to take up even more water and nutrient as the trees try to redress their loss of leaf. The trees should be removed.



The 16th tee suffers from shade and competition for water and nutrient the area round the tee should be thinned to improve the agronomics.

The planting to the left of the fairway requires thinning to expose the more appropriate parkland trees and remove the linear appearance.

The birch to the right should be removed to allow the fairway to be relocated as per the architects plan.

To the left is a stand of sycamore and oak that requires thinning to allow the oaks to develop to their full potential.

The stand of lodge pole pine requires thinning to create a sustainable screen to the 3rd tee. During thinning, the view to the fairway should be improved. To the back of the copse (rear 3rd tee) a gap should be created to allow more light and air to the 3rd tee without compromising safety.

To the right of the fairway the natural stand of trees near the 13th green should be thinned to ensure sustainable cover during works any heliotropic stems should be removed.

Beyond the copse the trees appear linear, these should be thinned to favour the more appropriate species and expose the specimen trees. This will improve the landscape value of both holes.



Many fine specimen trees exist and should be exposed as true landscape features

The woodland to the left requires thinning to improve the sustainability and conservation value of the woodland. The edges should be scalloped and the corner removed near the 17th tee this will increase light and air to the playing surface improving the agronomics of the walk off area and tee.



The walk off area and 17th tee suffer severe shade this could be alleviated by removing the end of the woodland this would then allow the paths to be redeveloped successfully.

Hole 17

The woodland to the left of the tee is encroaching effectively reducing the size of the tee. The woodland also casts shade and reduces air flow to the playing surface. The woodland requires management in order to create sustainable high conservation woodland. During thinning, the edge should be relocated and scalloped to improve the agronomics and landscape value of the hole.

The woodland to the right should be thinned to release the more desirable stems and the linear appearance should be removed by creating scallops and gaps which will improve the light and air to the 12th hole.

The recent works undertaken to expose the specimen trees have greatly improved the landscape value.



The integrity of the oaks has been returned

The sporadic planting and scrub to the left of the fairway should be removed to reveal the specimen trees and allow the calcareous grassland to be developed. This will also remove the need to play towards the 10/12th tee complex making the tees safer.

The creation of areas of infertile grassland will greatly benefit the landscape and ecological value of the site. Calcareous grassland is a habitat favoured by many butterflies and invertebrates this would add to the interest and diversity of the course.

To the left of the green the large specimen sycamore should be exposed as a landscape feature. This would be done by removing the scrub that surrounds it and this would also improve light and air to both the 9th and 17th holes.



The large sycamore should be silhouetted as a character tree.

The trees and hedgerow to the right should be thinned to improve light and air to the 10/12th tees. Care must be taken to maintain some screening for safety.

To the right of the green the walk off area is badly affected by trees and the grass sward is under severe stress. The encroaching trees should be removed to spread wear and to allow the agronomics to be improved. The woodland between 17 and 2 requires thinning to release the better stems during thinning the heliotropic edge by the green should be removed. The management of this area of woodland will benefit many holes as light and air is improved.

The green surround could then be redeveloped and the access road moved to within the woodland. This would create space so that a much more attractive green complex could be developed.



The trees in the walk off area channel wear and adversely affect the agronomics. To the right of the green the trees should be removed and the access road could relocate to within the woodland this would create space for the surrounds to be developed with more interesting contours.

Hole 18

The 18th tee is suffering from shade from the adjoining trees to the left and rear of the tee. The trees serve no purpose and are damaging the playing surface; they should be removed.

The left of the fairway should be selectively thinned to favour the parkland species. A net reduction in numbers and a net gain in quality will ensure that the landscape compliments the golf course. A more open aspect from the clubhouse will enhance the feeling of space and allow those on the veranda to enjoy the view.

The development of calcareous grassland as a buffer between the trees and fairway will add to the strategy of the course and improve the agronomics. Further, the linear appearance of the hole could be removed with judicious removal.

The trees to the right of the fairway should be selectively thinned to favour the parkland species and to remove the symmetry. The pines on the ridge to the right opposite the bunker should be highlighted to compliment the bunker on the opposite side of the fairway. This will also reveal a little more of the clubhouse while playing the hole.

The copper beach to the left of the green should be exposed as a feature of the last hole.



The 18 fairway appears linear however a more natural landscape can be achieved by judicious removal of trees and the development of the calcareous grassland.

APPENDIX : TREES AND GOLF

1. Trees on the golf course.
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1.0 TREES ON THE GOLF COURSE

Trees of appropriate species, planted in suitable locations, can enhance most golf courses, new or established, although they should be rarely planted on links land and only with great caution on heathland.

Trees, however, are only one of the design elements available to a golf course architect and rarely, if ever, should they be the exclusive or even the primary hazard on a golf hole, although their landscape contributions may be paramount particularly within land lacking in attractive landscape character.

Tree planting on a new course should be an integral part of the overall layout and design of each hole, not applied as an optional extra or a cosmetic application. Tree planting should have an overall structure so that it provides a co-ordinated appearance that also relates to the trees and woodlands around the course and the wider landscape character.

2.0 THE MAIN DESIGN ROLES OF TREES ON A GOLF COURSE

Trees play a number of roles on the golf course that include:

- * landscape and aesthetic objectives
- * creating or improving the golfing challenge
- * provision of wildlife habitats
- * promoting safety and providing shelter

These various roles are not performed independently, indeed they are closely interrelated and therefore tree planting should be designed and located so that it fulfils as wide a range of objectives as possible.

Further, tree planting is only one of the elements in the design of a golf hole and should not, therefore, be considered in isolation, it should be an integral part of the total design.

In addition, whilst the contribution trees make in the creation of golfing challenge, promoting safety and providing shelter, as well as improving the aesthetic appearance of a golf course, any failure to consider the landscape aspects is likely to result in an unnatural appearance of both the planting and the golf course. In the design of a new golf course careful consideration should be given to how the existing trees on the site can best be incorporated into the overall layout of individual holes to fulfil the objects and roles outlined above. Consideration also needs to be given to how and where the existing woodlands are deficient and how they can be supplemented to fulfil these basic roles. On established golf courses a critical analysis of the existing trees and woodlands needs to be undertaken to see if all of the basic roles are met as a prerequisite of any new planting plan for the course.

3.0 TREES AS HAZARDS

Trees can be used as penal or strategic hazards or as a combination of both. Woodland on either side of the fairway is a particularly penal situation, whereas trees on one side of a hole can be used strategically. A golf hole, which has trees provocatively and strategically located on or close to the ideal line, will be both aesthetically and strategically popular with golfers. However, the three-dimensional hazard a tree presents can be both daunting and uninteresting, if used too commonly within design.

Care should, therefore, be taken when using trees strategically, there are often instances when trees are planted to tighten up a hole when in fact the correct hazard for the situation is a bunker which will afford the opportunity to recover if the hazard is found. A hazard in a strategic position should not be so penal as to put off the adventurous shot, trees unfortunately can often have this affect.

4.0 THE DETAILED ROLES OF TREE PLANTING ON THE GOLF COURSE - LANDSCAPE AND AESTHETIC OBJECTS

4.1 Screening Out Unsightly Views

Where there are unsightly elements such as industry or unattractive housing either located on the edge of the golf course or can be easily seen, consideration should be given to whether this can be screened out by appropriate tree planting. Even if it cannot be completely screened out, because of topographical reasons, any partial screen as quickly as possible, consideration should be given to the long term and landscape implications.

A planting screen should not rely on a single, especially relatively short lived, species. A most effective screen, is used in agriculture as a shelter belt, it comprises of Silver Birch, Scots Pine, and Beech. The Silver Birch is quick growing in most situations and also acts as a nurse species protecting and promoting quicker growth of the other two varieties. The Scots Pine is relatively long lived and provides the screen in winter, all are entirely natural looking species in the English countryside.

4.2 Framing Attractive Views

In producing a planting plan for a golf course, careful consideration needs to be given to whether existing attractive views should be retained and protected from being screened out as the trees mature. In some situations a particularly good viewpoint can be made more spectacular by screening out the view from the approach until you reach the specifically dramatic point that provides the visual impact. Similar principles also apply to internal views around the golf course.

Care must also be taken when managing existing woodland on a site, regeneration needs to be controlled so that such views are not lost, once a view is lost it is often lost forever as future generation will never know it existing.

The creation of woodland edges is an effective form of management in this respect and has

the added benefit of creating a more diverse wildlife habitat, which will improve the ecological structure of the golf course.

4.3 Enhancing the Appearance of the Golf Course

Providing tree planting is located and designed having regard to the general character of the surrounding landscape and reflects, rather than conflicts, with the landform and providing considerable care is taken in species selection having regard to the aspects of each individual hole, then it will enhance the golf course.

4.4 Visual Characteristics of Trees

In consideration of the aesthetic contribution tree planting can make, regard needs to be given to the visual characteristics of the various species chosen. This will include the massing or outline of the mature shape (whether as an individual specimen or within a group or copse), their appearance at various times of year, their texture and colour and how this changes with the seasons.

4.5 The Relationship of Tree Species

Some varieties, possibly because they are often found together in the wild or because they are suited to the same conditions, and are therefore generally planted together, always look right, conversely some species, usually because of massing, texture, colour, or shape, never look right together. Care will therefore be taken when selecting species to be planted, in order to create a pleasing, naturalistic composition.

4.6 Visual Composition

The objective is to create composition where all elements, such as, landform, tree planting, bunkers, fairways, greens, combine to form a harmonious landscape. To this end the characteristics of different species of tree will be used to help create the composition.

4.7 Specific Visual Objectives

Trees behind a green help to provide locational emphasis and definition, particularly where it is not possible to see the putting surface. They can also assist in judging the distance. Trees either side of the fairway provide strong definition and, therefore, a visual framework. Where fairways disappear over brows and it is not possible to see the landing area, trees will be used to define the target area, particularly important if the hole doglegs, even if only slightly.

5. THE INFLUENCE OF THE AUGUSTA NATIONAL GOLF CLUB, GEORGIA, USA.

To golfers in Britain it was the classic links and heathland courses that were the subject of golfers swapping information and discussing the relative merits of golf courses. That was until the advent of televising the Masters Tournament from Georgia, USA., the Augusta National Course with its manicured turf and flowering shrubs, made British courses after a long winter, appear drab and colourless. Therefore who does not respond to the majestic images of Augusta, welcome sunshine, the vivid green grass and bright blue of the water hazards, the latter two being dyed if they fail to live up to the Augusta National legend in any particular year.

Every hole has banks of flowering shrubs and is named after the particular species which is present. What many people do not realise is that the land was a nursery before the golf course was developed. The shrubs all come into flower for the Master, while there is little colour at other times of the year. In almost all situations the banks of shrubs are located under mature pine woodland which provides a broad structure to the landscape.

The layout is so specious that the banks of shrubs are not in play, an enviable situation not possible on the majority of courses. The undulating landform allows the location of the banks of shrubs on facing slopes which add to their 'visualness'. The semi-tropical climate allows many shrubs to thrive that cannot be translated to the British climate. It should not be forgotten that the flowering shrubs exhibited at August are native to the area and are, therefore, in harmony with the surrounding landscape.

6.0 LANDSCAPE CONSIDERATIONS

6.1 Planting Proposals Influenced by Surrounding Landscape Character

Before any planting proposals are prepared, an analysis will be made of the surrounding landscape character and features, especially basic landform and existing structural planting.

Whilst it is not necessary to reprocate an identical landscape character, in general planting proposals should be in harmony and not create conflict.

6.2 Within Areas of Strong Structural Planting

Where afforested areas and areas of mature woodland are strong visual elements in the landscape and combine with the broad landform to produce a positive landscape identity, and if space within a golf course development allows, the planting proposals will similarly reflect a strong structural emphasis and where possible key into surrounding woodland areas to create a comprehensive appearance. Structural planting proposals will produce flowing, harmonious outlines related to the broad landform, creating enclosure where appropriate.

6.3 Areas of Subtle Landform

Where the landform is more intimate and small scale, or where there are existing visual features, care will be taken to avoid screening out these views, with insensitive mass planting. Copses or clumps of trees, if carefully arranged, could look like solid planting from one direction but afford views through from another.

7.0 LANDFORM AND ITS INFLUENCE ON PLANTING PATTERN

Any planting proposals should seek to reflect the landscape character of an area. Within the English landscape, either by design or accident, many woodland groups are situated on steeper slopes, on bluffs, within sleepy valleys and on the exposed higher ground. Sympathetic planting should reflect this because to ignore basic principles will result in an artificial visually discordant appearance.

8.0 TREES CREATING AND IMPROVING THE GOLFING CHALLENGE

Trees are a very strong 'hazard'. A ball can be unplayable if caught up against the trunk and roots. A large mature tree can be up to 100 feet high and 70 feet wide and, therefore, can have a considerable impact on the playing of a hole or shot.

Woodland, alongside a hole, particularly if it is the full length, can be an extremely strong hazard. At best it may mean a hack out sideways, but can often mean a lost ball particularly if the under storey or field layer is not kept down by the leafing characteristics of the tree. However, certain varieties of shade bearing trees, can provide clear ground beneath, particularly suited to the task are Beech.

9.0 TREE PLANTING AS AN INTEGRAL PART OF THE DESIGN

On the proposed area of new development (land fill site) it would be wise to consider tree planting as a fundamental and integral part of the design and not as an optional extra being added at the end to fill in the larger spaces between holes, or even worse, as a last ditch attempt to mitigate the problems or deficiencies.

Tree planting can play a wide variety of function roles on a golf course including:

- * creating or reinforcing the golfing strategy
- * providing definition
- * promoting safety
- * providing shelter
- * subdividing the land into smaller landscape compartments
- * creating a positive character in an otherwise poor or bland landscape
- * visually reinforcing the strategy of a hole where there may be some confusion

i.e. where the landing area is not visible from the tee, tree planting can provide the necessary definition.

10.0 TREE PLANTING AND LANDSCAPE CHARACTER

18 hole golf courses occupy between 100 and 120 acres (40-50 hectares) and are, therefore, major elements in any landscape contributing toward its character.

Tree planting should compliment and enhance the existing landscape of an area and not, as has so often happened on golf courses, conflict with its character. However, whilst the broad landscape character of an area should, in general, influence tree planting proposals on a golf course, it should not necessarily be a slavish observance, particularly if the general landscape character is somewhat bland or poor. It is worth reflecting that two of the finest inland courses in Britain, Woodhall Spa in Lincolnshire and Ganton in Yorkshire, are oases of heathland in an otherwise flat featureless agricultural landscape.

An assessment should be made of the surrounding landscape to determine its characteristics and best features that may be appropriately reprocated within the course. An assessment of an area's existing landscape character should be made as a baseline. This assessment should include:

- * broad landform divisions
- * skylines
- * view points, areas generally overlooked
- * large woodland groups and their pattern and relationship to landform and other physical elements
- * small tree groups and their distribution pattern
- * individual trees and their distribution pattern
- * hedgerows, field sizes
- * water bodies/water courses
- * agricultural practices and their effect upon the landscape

Care should always be taken not to conflict with the broad landscape.

11.0 PRINCIPLES OF DESIGN

Although every golf course requires a different approach so not to lose its character or individuality there are certain principles which remain constant regardless of the situation.

The wider landscape and vistas should always be the first consideration when undertaking any planting on a golf course, a balance should be achieved between the demands of the golfer and the aesthetics of the landscape. The principles of woodland design within the landscape apply just as much to a golf course as to any other woodland development, this is summed up very eloquently in the forestry commissions guidelines.

“It should reflect and enhance the natural qualities of the landscape, incorporate natural features and detail, and reduce visual intrusion and eyesores as far as possible. It should assist in the development of a wide range of habitats, recreational opportunities and meet the operational needs of efficient woodland management.”

Community Woodland Design Guidelines. Forestry Commission. 1991.

If the site is within an area of rolling countryside then the design should generally follow the soft flowing lines of the surrounding vista, alternatively if the situation is that of the harsh jagged peaks of Austria, then a more angular approach may be appropriate. The first priority should therefore be to identify the major landscape influences of the area, these should then be used to form the basis of any design. This should take into account the flow of the natural landform and any dominant vegetation which is present.

As the landform is the basis of all great gardens and parks, so it should be for the golf course, much can be learnt from the great English landscapes created by Brown, Kent and Repton.

Their gradual departure from the regular symmetrical patterns of the Tudor and Baroque styles, parallels in some ways the evolution of the golf course, from the early days of square bunkers and rectangular greens to the more natural rolling contours which typified the designs of Colt, Mackenzie and Hotchkin.

In the same way as the classic English landscapes used trees to frame a view or draw the eye, so too did designs on golf courses. This can be a very effective strategic weapon. For instance, a water body, may well be out of the line of play but may psychologically become a threat. Similarly trees can be used to form an avenue, up which the fairway is routed, deceiving the eye that the landing area is much narrower than it really is, and on a dog leg trees can be used to lead the eye to a bunker.

Trees may also be used to foreshorten views, a large tree adjoining a fairway confusing the player as to the distance of the green. Design of this complexity requires great skill, and should only be undertaken with professional advice.

“Most people appreciate and have some understanding of a lovely landscape, but not one golfer in a hundred knows a good hole when he sees it, or has any understanding of what goes to make a good hole. He may like or dislike it, but

that has nothing to do with whether it is good or bad. The same applies to wine, or a picture gallery. It is the expert alone who is competent to say whether the wine is a great wine, or whether the pictures have anything more than decorative, wallpaper value.”

Tom Simpson ~ Golf Course, Design, Construction and Upkeep. Sutton 1950.

11.1 Unity with the landscape

Unity is the most disregarded and least understood principles of design. It is perhaps easier to appreciate unity when it is lost, “It is a blot on the landscape” refers simply to the lack of unity. On the golf course this often takes the form of a large exotic tree or bed of shrubs, which mimic designs from across the ocean. It is often forgotten that the colourful, exotic trees and shrubs seen at, for instance, Augusta, are in the most part native to that area, and are therefore in unity with the surrounding landscape.

Many of the classic golf courses, exhibit perfect unity, the character of the landscape, has been complemented by the use of native vegetation such as pine, birch and heather, creating the illusion that the golf course has always been a natural part of the landscape.

In order to gain unity one often has to abandon thoughts of elaborate planting, forsaking the spectacular in order to gain compatibility, this point is emphasised by Sylvia Crowe in the publication “Garden Design”, when discussing unity.

“The site its self imposes discipline. A garden whose design is based on the shape of the ground and the character of the surrounding landscape may or may not achieve the highest standards of beauty, but at least it will have a restfulness which comes from compatibility, and the more difficult and unusual the site conditions are, the stronger this virtue will be”.

Sylvia Crowe. Garden Design, 1994.

Geometric planting should be avoided, as nature rarely works in such a way, such planting therefore infers that the woodland is man-made. Gentle contours harmonise with landscape and give a natural more relaxing feel to a view.

Straight parallel lines should always be avoided especially, adjoining fairways or boundary fences, as this exaggerates the symmetry.

Size, form and colour all have a part to play in unity, the unity of the golfing landscape is often broken by the planting of unsuitable ornamental trees which conflict with the rest of the vista.

Golden cypress with their bright colour and conical shape are often the culprits, both their shape and colour conflicting with the rounded shapes and pastel shades of the native trees.

11.2 Space Division

Space division is the balance between mass and open space, when associated with tree planting on the golf course, it is the visual relationship between the surrounding landscape, the trees themselves and the short mown grass of the fairways and greens, the architect can use space division in order create the impression of either closed or open space, and can therefore deceive the eye into thinking that a shot is tighter than it really is.

This illusion can be magnified by the combination of trees and water, a modern vogue to have par 3's across lakes, to a green surrounded by trees gives the impression that the hole is not only longer but also tighter than it really is.

11.3 Colour

Obviously the colour which predominates on the golf course is that of the grass, the trees planted on a golf course should therefore compliment rather than contrast this. Although contrasts are possible in design they are often the most difficult to achieve in an acceptable way. Few trees or shrubs have strong enough colour to contrast the bright green of the turf, there is however always the exception the most notable being gorse, the contrast is startling and yet unity is retained.

However when selecting trees for the golf course it is advisable to "play safe" and select those which compliment rather than contrast. By using trees native to the area nature will normally blend colour for you, pine and birch, ash and rowan, oak and bluebells and so on.

11.4 Appeal through the Seasons

Appeal through the seasons can be gained by the use of texture, colour, shape and form within the planting design.

The temperate climate and predominance of deciduous trees within the British Isles, mean that this is an area of design which deserves careful consideration if a bland winter landscape is to be avoided. The use of colour, form, shape and texture within planting design schemes can achieve spectacular autumn results, and the use of a subtle mix of conifers within the planting mix can add colour during winter months.

As with all design discretion should be used when planning such mixes as too great a contrast will look unnatural and out of place within the wider landscape.

11.5 Woodland Edges

The creation of woodland edges may be beneficial to the golf course in many ways, it can be used as a way of removing and managing regeneration that is infringing on the line of play or is blocking a desirable view. Woodland edges are aesthetically more pleasing to the eye and is therefore an important consideration when implementing new planting on a golf course.

They are valuable areas where shade intolerant species can survive, this in turn allows the woodland edge to support a large and varied animal and invertebrate life.

A woodland edge should be created in three bands, an outer band of short grass and wild flowers, an intermediate band of shrubs and small trees, and then the inner band of forest.

To maintain this, the short grass should be cut once a year in the winter, after the flowering season has finished. The centre band should be cut back every 2-3 years, but clearing the whole area at once should be avoided. Instead the area should be broken into compartments and these should be cleared on a rotational basis, so to avoid the risk of destroying any particular habitat and it will mean that there is no sudden change to the landscape, when the work is initiated.

The creation of woodland edges will benefit a golf course in a number of ways

- * *Aesthetically it will be more pleasing to the eye*
- * *It will control invasive regeneration*
- * *It will improve the wildlife diversity of the area*
- * *It will create new wildlife habitats*
- * *Politically, it will be more acceptable than removing woodland that infringes on play or views.*

12.0 CONSTRAINTS ON PLANTING

12.1 Air circulation

To allow good air circulation and exposure to sunlight, dense plantations or large shade bearing trees should not be planted adjacent to greens, fairways or tees. Poor air circulation during summer increases temperatures and humidity, inhibits surface and soil drying and promotes the development of disease (such as Fusarium). During winter the shade can prolong snow and ice cover rendering the course unplayable for longer than necessary and can increase the possibility of frost damage. Where these problems exist, felling or heaving pruning are the only solutions and as both of these are unpopular and costly it is therefore advisable to avoid such problems at the establishment stage.

12.2 Leaf Litter

Care should be taken when planting trees which shed leaves which are not easily dispersed by the wind or are easily degraded (Horse Chestnut, Sweet Chestnut, Oak and Beech), the leaf fall can have a detrimental affect on the grass sward below, if the leaves are not cleared within a short period then the grass becomes stressed through lack of sunlight, rendering it prone to disease or wear.

The planting of such species as birch can not only avoid these problems but can also save man hours as leaf clearing will be unnecessary. It will also have the added bonus of increasing the speed of play as balls will not be hidden by the leaf litter.

The planting of trees near to bunkers or the sighting of bunkers near to trees can cause problems of leaf litter as the bunkers will collect leaves.

12.3 Rooting Habit

Care should be taken when planting trees near to greens, tees and fairways as the roots of trees will compete with the turf for water and nutrients. This when combined with the possible affects of shading can severely inhibit the development of a good sward.

Surface rooting trees should be avoided close to playing areas as the roots may receive damage from machinery and visa-versa. Roots are also unpopular with golfers themselves as playing a golf shot from amongst the roots of a tree is a nerve racking experience which often results in damage to expensive equipment. Trees should not be planted close to bunkers as their roots can invade the base of the bunker resulting in a severe shock for both the tree and the golfer when the hidden roots are discovered at the expense of a sand iron.

The trees themselves will suffer physical damage not only from machinery but also from the spiked shoes which are worn to play the game and the roots will become compacted from the traffic. Care must be taken when using such species as cherry and poplar as they may produce suckers from their roots and no green keeper will thank you if a mini forest appears in the middle of one of his greens.

12.4 Planting close to the Line of Play

The eventual size and form of trees must be taken into account when planting near tees, fairways or greens, as the eventual size and form of the tree may encroach on the line of play. I have often been involved in planting on a course when a member has approached me and said "Plant some over here near the fairway and tighten the hole up". The result would have been a tree extending its eventual canopy into the middle of the fairway, and I am sure that the same gentleman would, if still around in fifty years, be saying who planted this.

If planting is to occur near to any of the line of the line of play then consultation with a golf course architect is advisable as the strategy of the course or hole may be adversely affected. Discretion is often advisable when undertaking planting on a golf course and planting can often take place within the landscape of the course acting as a backdrop or framing a scenic view and have just as great an aesthetic effect without putting at risk the character or strategy of the golf course.

12.5 Shading

Tall growing and dense foliage trees will throw heavy shade (Oak, Beech, Ash, Horse Chestnut) and their roots will compete for moisture within the soil, this will stress the sward beneath predisposing it to disease. These problems are compounded if the grass is kept cut short or the area receives heavy traffic. Grass allowed to grow between 3 - 4 inches will not be as stressed and can compete better against the tree roots for moisture and nutrients, and if cut less frequently will be much less prone to disease. Dew persists longer under trees which cast heavy shade and may encourage fungal disease such as Fusarium which thrives in moist cool conditions. There are, however, grass mixtures specifically developed for such situations, which can be used.

The relationship between large shade bearing trees and areas of short cut grass should, therefore, be carefully thought out. Clearly, greens, tees, fairways should not be too closely related to such trees, although less serious if the tee, green or fairway is to the north west to north east quadrant, as the angle and direction of early morning sunlight affects the extent of drying which the grass received. The problem can be partly alleviated by pruning, the removal of lower limbs will allow more sunlight to penetrate to the ground layer and will have the benefit of permitting play from beneath the canopy, thus allowing a shot to be played without incurring damage to the tree.

12.6 Soil Types

For a tree to grow successfully and to reach maturity in a healthy condition it needs to grow in sizable soil conditions. Soil fulfils a number of functions.

Mechanical - being able to support the roots and weight of the tree in wind, to retain and supply sufficient water, nutrients, and air to the roots.

Water supply - is necessary to trees as not only is it a major component in their make up, but it is also the means by which they collect and transfer nutrients. It also is necessary in order for the biochemical reactions to take place which are a crucial part of the trees life cycle.

Soils vary in the amount of water which they hold, generally it is the clays which have the highest water holding capacity, this is due to the small particles (less than a thousandth of a millimetre) which go to make up their structure. Sands on the other hand are composed of large particles and are therefore considered free draining.

However, clay often does not release the water easily as it adheres to the small particles within its structure, it is then up to the resilience of the tree to extract the moisture that it requires.

Loams on the other hand allow much of their water content to be extracted easily, however which ever soil type is involved the content of organic matter has an influence on this ability.

Oxygen - All plants need oxygen to respire and this takes place throughout the plant including the roots, in natural well drained soils oxygen can make up 15-20% of the total soil gases (Urban Forestry Practise 1989). However, many golf courses suffer from compaction and it may be necessary to aerate the soil in order to prevent anaerobism which can cause the death of tree roots.

Nutrients - Soils are composed of both mineral and organic materials, these are responsible for producing the essential nutrients that a tree requires and takes up through its roots.

The demand for individual nutrients varies depending on the species of tree involved.

pH - The capability of the soil to release these nutrients is greatly influenced by the pH. That is whether the soil contains free calcium carbonate (alkaline) or does not (acidic). A pH of 5 - 7 is ideal for most tree species.

The combination of these factors mean that species selection is a crucial part of tree establishment, account should be taken of surrounding vegetation as this can be an indicator to the soil type, or alternatively soil samples can be taken and analysed.

Soil types can be broken into 4 broad spectrums -

- * *Heavy duty clay - slow draining, easy compacted - no air, draining may be necessary*
- * *Very sandy - free draining, nutrients washed away out of reach of roots, similarly moisture may struggle to support massive tree species*
- * *Loam's - ideal for most tree species*
- * *Chalk - restricts the choice of species to those tolerant (Beech, Sycamore, Norway Maple, etc*

13.0 TREE ESTABLISHMENT

In order to successfully manage trees on a golf course a number of unique problems must be considered, compaction, close mown grass, unintentional vandalism, clubhouse politics, and a lack of continuity of management are all major influencing factors on the sustainability and establishment of woodland cover.

13.1 Compaction

Compaction is often a major problem on a golf course, this is due to a combination of the factors, soil type, the traffic created by the golfers themselves, and the constant movement of the machinery which is necessary for the intensive management that is required to maintain quality turf cover. Compaction is detrimental in many ways to tree establishment it can cause anaerobic conditions, waterlogging, physically restrict root development and cause nutrient lock up.

Cultivation may therefore be necessary before planting in order to improve the soil structure which in turn will benefit root development. The most common form of cultivation is ripping, using deep winged tines (0.5 - 0.7 in depth and 1.2m wide). The ripping should only take place during the summer months, as dry firm ground is needed to achieve the heaving and shattering effect. If the work is carried out on wet ground then little benefit will be gained. The problem faced by the arborist is in persuading the golf club that the aesthetics of ripping are worth suffering in order to achieve a successful crop. The thought of ploughing up an area of a golf course is quite naturally alien to most golf club committee's as they have striven, often for many years, to achieve a managed, manicured golf course.

13.2 Weed Control

The most competitive weed in relation to young trees is short mown grass, as mowing increases its rate of transpiration by maintaining the grass in a state of active growth, allowing it to compete more effectively and for a longer period during the growing season.

As short mown sward is the predominant vegetation on a golf course, weed control therefore becomes paramount.

Weeds reduce the survival and growth of young trees by competing for light, space, nutrients and water. Soil moisture deficits are increased under weeds due to their

ability to transpire rapidly over a long period. In comparison, bare earth will form a cap relatively quickly thus restricting further moisture loss.

Weeds around young trees can harbour mammal pests such as mice and voles, fungal pests such as mildew, and can physically damage trees especially after heavy snowfall.

It is therefore vital in order to ensure good establishment, that a programme of effective weed control is implemented. Maintaining a 1m.sq. weed free area around each tree is crucial to good tree establishment and this practice is essential for a minimum period of three years after planting. For the maximum survival and growth, newly planted trees should be weed

free from the start of the first growing season as newly planted trees are sensitive to early season growth when root development is critical. Forestry Commission experiments have shown that the difference between trees given weed control and trees planted on a mown sward are dramatically different. In the first years growth, weed controlled trees put on growth approximately 10 times that of those without.

A range of suitable herbicides are contained in Forestry Commission Fieldbook 8.

13.3 Species Selection

Species selection is a very important decision to make and is determined by the site conditions and the objectives of the woodland in question. The trees selected must be able to grow on the site and if it is a difficult site such as a reclaimed land, then undemanding or pioneer species should be favoured. The surrounding landscape can be used to help in selection as this will indicate species which grow naturally in the area, and are therefore suited to the soil and the local environment. Consideration should be given to the following factors when selecting suitable species -

- * *Soil moisture content and drainage*
- * *Chemical reaction, pH*
- * *Local climate, micro-climates*
- * *Pollution*
- * *Soil type, loam, clay, sand, etc.*
- * *Exposure*
- * *Form, size, shape and compatibility with the landscape*
- * *Shade tolerance, when underplanting*
- * *Wildlife, amenity and conservation value*

Where possible mixtures should be planted as groups or intimate amalgams of different species, as these are often more aesthetically pleasing and are ecologically more diverse than monocultures or rows. Diversity also increases sustainability, as monocultures can be destroyed by one disease along. i.e. Dutch Elm Disease

Within such mixes nurse crops can be introduced, the nitrogen fixing abilities of alder are useful on infertile sites. They form a symbiotic relationship with the micro-organism *Frankia* which forms nodules on the roots and fixes nitrogen. Nitrogen demanding species therefore benefit nutritionally by being interplanted within an alder mixture.

Care must be taken when using nurse crops on a golf course because of the constant turn over of management (if a management plan is not in place) may mean that the nurse will not be removed and may out compete the true crop causing shading, abrasion and suppression.

13.4 Stock Type and Size

The basis of a successful crop is good preparation and establishment techniques. This is particularly relevant to difficult sites where arduous climatic factors or soil structures play a major part. It is therefore very important to start with the correct species and type of stock in order to allow the crop a chance of survival.

Plant types range in size from small seedlings to heavy standards. Large plants are difficult to establish, particularly on poor sites, they are very prone to vandalism and

are very expensive. Alternatively small seedlings are susceptible to frost damage and weed competition.

Transplants, undercuts and containerised stock are consequently suitable for most soils and stand the best chance of survival and are therefore the most economical.

Transplants - are small trees under 1.2m, the preferred being 0.2 - 0.4m in height and up to 4 years of age, with a well balance root to shoot ratio. They should have been raised as seedlings for up to two years then transplanted for a further year to improve growth and rood development. They are often identified as 1 + 1, 1.5 + 1.5, 2 + 1, this refers to the amount of time first as seedlings then as transplants within the nursery.

Undercuts - are the same size as transplants but have undergone a different process within the nursery. They are precision sown seeds which have then been undercut after the first growing season (their roots severed) to improve root mass and control tree height and growth. These are commonly identifier as 5u5, 1u1, 1u1u1.

Container grown - are plants which are pot grown and benefit from minimal root disturbance. Container grown stock is therefore expensive and varies greatly in age, size and type. However smaller younger plants are generally cheaper and most suitable. Sensitive trees such as birch and Corsican pine do benefit from being containerised.

Provenance - Provenance is the geographical source from which the seeds were gathered. This can be crucial to survival, as obviously a seed source in a mild or sub tropical area will produce stock with the ability to withstand drought and high temperatures, but will be ill equipped to cope with the exposure and low temperatures. So if such stock is then located in an unsuitable area the chances of survival will be limited. It is therefore always advisable, if possible, to obtain stock of local provenance and reared in a local nursery.

13.5 Planting Near Landing Areas

Many areas of new planting have been attempted adjacent to land areas, this has resulted in the crop being devastated by the worst pest of all, THE GOLFER, not only are trees destroyed by the incoming ball from the tee shot, but a second opportunity is then afforded with the shot to the green and, if all else fails, he can tramp on the stock while searching for his ball or completely excavate the plant with the assistance of a golf club. Whichever method is chosen, the result is the same, total destruction of the plant.

The attempted establishment of trees adjacent to landing areas should be avoided due to the high fatality rate encountered from physical damage. It is also strategically more acceptable, if such planting takes place between the landing area and the target area as this allows the player the opportunity of manoeuvring his shot around the hazard.

However one method of establishing trees in situations close to the line of play is to introduce

a bunker just short of the trees, so that it catches a high percentage of the shots which arrive in that vicinity. The bunker should have a sufficiently steep face so that it demands a very lofted club to get out. This reduces the velocity and trajectory of the shot, and consequently the damage to the trees.

13.6 Rules regarding the Protection of Planting

The location and species selection (resilience to golf ball damage) will afford some protection to the crop once it is established, but in the juvenile stage rules will be needed to be introduced in order to protect the crop.

The only way to avoid heavy damage is to initiate a dropping zone which removes the crop from the *line of play*. It is often thought that the majority of damage is done by the golf club, when in fact equally as much is done by the ball striking the tree after relief has been taken. Care has to be taken in the wording of such a rule in order to avoid the 'you can't lose a ball in Grounds Under Repair' problem. A rule is therefore needed which requires the player to find the ball in order to gain relief, once the ball is found a free drop may then be given. The dropping zone should consist of rough grass so no advantage is gained.

It is essential to implement such a rule until the trees become well established. It is always unpopular with the membership to introduce such rules, but it is the only way to safeguard young trees in high risk areas. It is also important to educate the membership as to how fragile trees are, this can be done by publishing information and having open evenings etc. This has two benefits, firstly, members then appreciate the difficulties surrounding the establishment of trees on a golf course and are therefore more considerate towards new planting. Secondly, it removes some of the pressure from the committee when implementing unpopular rules.

13.7 Formative Pruning

A golf course requires trees with clear stems and relatively high crowns in order to allow play from beneath and to facilitate easy access for grass cutting. Formative pruning is therefore crucial in order to achieve this at an early stage thus avoiding mechanical damage or the necessity to remove large limbs at a later stage, both of which are harmful to the tree and predispose it to outside agencies. Formative pruning is important to the production of a suitable crop and should therefore be included in post planting maintenance programmes. Formative pruning is a skilled job and should only be carried out by an experienced operative.

14.0 ECOLOGICAL AND WILDLIFE VALUE OF TREES

14.1 Wider Ecological Issues

It is now recognised that the destruction of large tracts of rain forests and the extensive burning of fossil fuel has increased carbon dioxide levels in the atmosphere and caused damage to the earth's ozone layer creating ecological problems that are likely to become more severe if preventative measures are not taken. It is recognised there is a need to plant trees on a massive scale in an attempt to redress the balance, therefore every reasonable opportunity should be taken.

14.2 Wildlife Value

Trees have considerable wildlife importance, they provide food, habitat, shelter and security to a wide variety of wildlife. Some tree varieties are, however, of much greater wildlife value than others. In general, native species are of much greater value than imported and exotics.

The English Oak plays host to more than 300 invertebrate species, near the start of the food chain, whereas many imported exotic species are host to merely 15 species. However this argument can be countered by the fact that certain non native species such as sycamore which do not have the bio-diversity of oak, but do have vast quantities of aphids at a time when other food sources are unavailable. Some tree species are favoured by particular wildlife species, for example the Scots Pine/Red Squirrel.

Golf courses are situated on many different landforms and are the home of many endangered species of flora and fauna, these include many rare reptiles and amphibians, as well as butterflies, birds and flowers. Woodlands play an obvious part in supporting wildlife, but it should not be forgotten that even bunkers are of considerable conservation value as they are used by a range of animals including foxes, badgers and hedgehogs. They also provide an ideal place for reptiles such as lizards, slow worms and snakes to bask and take up the sun.

The rough provides important habitats, housing small mammals which in turn provide an important link in the food chain by acting as a food source for birds of prey, such as barn owls and kestrels. Woodland edges act in a similar fashion but have the advantage of providing a close source of heavy cover and are therefore even richer in diversity.

“Woodland requires management to keep in rich in wildlife. There are all too many instances of neglected or badly managed woodlands which over a period of time becomes a dark, dense tangle of vegetation.”

“The need for effective woodland management has never been greater and clubs whose courses were damaged by the storms of recent years should rethink their management to assist the trees and the wildlife they support.”

On Course Conservation, Managing golf's natural heritage. The Nature Conservancy Council 1991

Woodlands on golf courses can be important within urban localities, as they often provide the

only available seclusion for certain shy species of animal, they also provide significant links in wildlife corridors and food chains. It is therefore important to ensure that new planting should include species which are rich in wildlife value, in order to preserve a healthy, diverse culture.

15.0 SUMMARY - GUIDELINES TO PLANTING TREES ON THE GOLF COURSE

The modern awareness of the benefits of green vegetation within the environment has led to a vast increase in the planting of trees in the golfing landscape, but care must be taken as too many trees can restrict good air circulation and sunlight to vital areas, such as tees and greens. Furthermore, when positioned in the wrong location they can impose severe and unwarranted penalties on golfers and therefore be detrimental to the pleasure of the game.

There are a number of basic principles that should be adhered to before adding trees to golf courses in order to avoid unwanted side effects.

Before reviewing these guidelines one should realise that any one may not apply in all situations, for example, a large mature tree to the south of a green will cause more shade than a similar tree situated to the north.

1. Make sure that trees are not located where their mature canopy will infringe on the line of flight between tee and fairway as this will result in players only using a fraction of the teeing space available, making an otherwise adequately sized tee show uneven signs of wear.

2. To allow good air circulation and exposure to sunlight, dense plantations or large shade bearing trees should not be planted adjacent to greens, fairways or tees. Poor air circulation during summer increases temperature and humidity, inhibits surface and soil drying and promotes the development of disease. During winter the shade can prolong snow and ice cover rendering the course unplayable for longer than necessary and can increase the possibility of frost damage. Where these problems exist, felling or heavy pruning are the only solutions and as both of these are unpopular and costly, it is therefore advisable to avoid such problems at the establishment stage.

3. Never plant trees in straight lines as natural woodlands are never symmetrical and therefore planting of this type looks artificial. Careful placing of copses can be as effective as vast tracts of woodland, they are more natural in appearance and are more economical to produce and maintain. (Less trees, less initial expenditure in planting and less future management.) The use of copses rather than larger areas of woodland also has the benefit of not blocking attractive views which may be unintentionally lost to future generations.

1. In the case of trees which are planted for strategic reasons, great care must be taken to foresee their eventual size and form. It is also important to give consideration to the distance from the teeing ground that a tree or trees are planted. If the planting occurs too close to the landing area then the establishment of trees becomes impossible due to the physical damage inflicted on the crop by both golfers and their equipment. For strategic purposes, there should be enough space between the eventual resting place of the ball and the tree/trees to allow an adventurous shot to be attempted. This may take the form of shaping the shot around or playing over or under the tree - both options should be available to the player.

5. If trees are to be used strategically then the grass beneath should be kept in such a manner to allow the playing of a recovery shot. It is therefore important that the tree spacing is wide enough to facilitate grass cutting without causing damage to the tree or its roots. It is therefore important in such a situation to select species of trees which are not surface rooting, as damage will be incurred from machinery to the root system. (Damage to machinery may also occur.)
6. Never plant potentially large trees close to greens and tees as, in addition to the shading, the turf and the roots will compete for water and nutrients. The roots may extend approximately one and a half times the height of the tree.
7. Flowering and ornamental trees add unmistakable beauty to parks and gardens, however care must be taken when planting exotic specimens within the golfing landscape as they can look artificial and out of place.
8. Avoid screening out scenic views such as the sea, mountains, rolling countryside, stately buildings or other beautiful scenes. A view lost that has been blocked by trees is usually forgotten and lost forever.
9. When selecting species for planting, choose those in keeping with the surrounding area and have a bias to those native to the area. Take into account the suitability of the species regarding provenance, soil type, drainage, aspect, resilience to golf ball damage, form and shape, shade, tolerance, stock type (bare root, container grown etc).
10. Limit the diversity of species, most classic courses have a continuous theme, eg Sunningdale has heather, pine and birch, Brancepeth has beech. Care must however be taken not to create a monoculture as this increases the fragility of the woodland, ie a woodland of purely elm would have been lost in recent years to Dutch elm disease.
11. Adhere to the principles laid down by the original architect as he has created the character of the course and never undertake strategic planting without the advice of a golf course architect.
12. Never plant more trees than be maintained. During the first 5 years a time consuming maintenance programme will be required.

When undertaking tree planting on a golf course one must maintain the existing character of the landscape. Trees can perform many useful roles, but when over planted or misused they can cause turf management problems and detract from the appearance and playability of the golf course.

A golf course forms a significant part of the landscape, its character should contribute to its overall quality and not conflict with or detract from it.

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