

# WOODLAND MANAGEMENT PLAN

GREEN PARK

2023 – 2033



Prepared by: Steve Maros

18A The Coach House

High Street

Sydling St Nicholas

Dorset

DT2 9PD

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## 1. Property Details

Woodland Property Name	Green Park Activity Centre, Stablebridge Road, Aston Clinton. Buckinghamshire HP22 5NE
Grid reference	OS ref: SP884 114
Owner / Manager	Inspiring-Learning / Guy Chadwell
Contact number	07976681876
E-mail	<a href="mailto:Guy.Chadwell@inspiring-learning.com">Guy.Chadwell@inspiring-learning.com</a>
County	Buckinghamshire
Local Authority	Buckinghamshire Council
Management Plan Area (size)	Approximately 14 acres
Have you included a Plan of Operations with this management plan ?	No
List the maps associated with this management plan	See contents page
Do you intend to use this management plan and plan of operations to apply for a felling licence ?	No
Do you intend to use this management plan and plan of operations to apply for a thinning licence ?	No
Do you intend to use this management plan and plan of operations to apply for a Woodland Regeneration Grant ?	Not immediately, but it is worth considering in future.
Declaration of management control and agreement to public availability of the plan.	No

## 2. Vision and Objectives

The following vision states the overall direction of management for the woodland and how we envisage it will be in the future, for both the life of this plan and beyond.

### Vision

Our vision is to maintain and improve the woodland in terms of private amenity, habitat creation, biodiversity and landscape. We intend to improve the woodland resource through good arboricultural and forestry practice and to actively manage the woodland. We will ensure that the site is maintained as a diverse and healthy woodland habitat as much as possible in perpetuity.

### Management Objectives

The following objectives state how sustainable woodland management will be achieved. Management objectives are specific, quantifiable statements that represent what needs to happen in order to achieve the long term vision. They encompass environmental, economic and social considerations within the scope of the plan.

No.	Objectives
1.	Ongoing management of the woodland based primarily upon ensuring its continuation and keeping it in a safe condition to protect visitors. In the medium to long term, improving the quality and life-span of the current mature trees.
2.	Business use - use income generated from leisure activities to facilitate the management of the woodland.
3.	Increase resilience to disease and climate change by diversifying age structure and species within the woodland where appropriate. Due to the presence of Ash Dieback in the woodland a specific section is devoted to this later in the report.
4.	Maintain and enhance wildlife habitats with particular focus on open space and edge habitat.

### 3. Woodland Survey

The following section encompasses the detailed woodland survey information including any statutory constraints and woodland resource characteristics.

#### Description of woodland in the landscape

The site is broadly flat, being located in the Vale of Aylesbury at the foot of the Chiltern Hills, which rise steeply to the south, dominating the park. Its proximity to the Chiltern Hills is evidenced by that fact that it straddles the geological boundary between chalk and cretaceous gault clay, creating the spring line within the site which has influenced its overall design. To the north is the fringe of Aston Clinton village. To the west is an airfield and forestry plantations. The park enjoys long views over the Vale of Aylesbury. The largely ornamental woodland was originally part of the Aston Clinton Park and sits on a site which has changed hands several times since 1851 and has had several owners and changes of use. The most notable owner being Sir Anthony de Rothschild. It was eventually bought by Buckinghamshire County Council in three lots from 1959 – 1967. The bulk of the woodland, gardens and parkland were developed by Lady Battersea in 1902. As a result of this, there are several distinct areas within the woodland – lime walk, coniferous shelterbelt screen (mainly pines and yews) and the Fairy Glen where the huge weeping copper beech is located. There is historical evidence to show that during the early 1900's the wooded area was managed by using a number of techniques, including grazing and coppicing. Although many features and much woody planting survives, including parkland, losses and change have been sustained in the 20<sup>th</sup> century, including during the 1960's adaptation to a training centre by Buckinghamshire County Council.

#### History of management

The park was laid out during 1760 – 1808 and evidence of ornamental planting can be seen on the 1814 pre-enclosure map. This consists of woodland, coppice, clumps of trees and specimen trees. The planting is denser nearer to the house and a 'wilderness' of trees and shrubs lies to the south west of the house in which the 'Fairy glen' is hidden. The Rothschilds added belts of evergreens, typically yews and pines along the drive to the east gates. These evergreen plantations survive well today. Along the south side of the London road, the northern perimeter of the park, is a belt of mixed boundary planting, mainly yew and sycamore, screening the road from the park. Many areas of ornamental woody planting survive including remnants of a lime avenue alongside the north drive; several 'roundels' of trees including Wellingtonias, some fenced, others open to grazing animals; and bounding the drive from the east and screening the (former) house is a dense

plantation of yews and deciduous trees, notably a chestnut leaved oak (*Quercus castaneifolia*). Whilst none of the formerly extensive and elaborate garden structures survive, the substantial shelter belt including evergreens remains to define much of the boundary.

### Woodland resource characteristics

The following details the woodland resource characteristics including species composition, age structure and stocking density. The potential timber quality and yield is not relevant in this circumstance. For ease of management planning and clarification, the overall site has been split into 8 zones which are shown on the attached plan.

<b>Zone 1 – this area contains several veteran trees and is part of the activity area.</b>
<b>Main species composition:</b> Redwood, Yew, Beech and Cypress,
<b>Other species composition:</b> Cedar, Hazel, Holly, Sweet Chestnut, Hawthorn, Blackthorn, Elder, Box, Hazel and Cornus.
<b>Regeneration species:</b> mainly Elder, Hawthorn, Blackthorn, Cornus and some Holly.
<b>Age Structure:</b> This varies across the woodland and species. But the mature trees within this zone are all even aged – Cedar, Beech and Redwood. All other trees are early mature. There are many yews of indeterminate age although some of these are likely to be much older than they look. Most of the young self-sown trees are etiolated, misshapen and being crowded out by the older trees. The understorey is swamping several of the younger trees. The hazel present is over-stood and there is little in the way of natural regeneration, except where there are open areas within the woodland.
<b>Stocking:</b> Stocking and quality is average and in need of restorative coppicing and possibly some replanting where necessary. The tree canopy is enclosed in several places whilst being open in other parts of the woodland, due to previous storm damage and open glades. Whilst thinning and selective felling could be used to encourage canopy regeneration and age diversification, I feel that at present this is not something that needs to be considered in the short term. There is the opportunity to carry out some replanting in the clearances, but this needs to be balanced against the wildlife benefits of having woodland rides. Rather than planting in this area, it would be more beneficial to coppice the hazel and clear competing undergrowth away from young trees. The mature trees are all nearing the final third of their life-span and it is crucial that those that are early mature can develop unhindered. As many of the veteran trees have been on this site for many years, it would be a nice touch if seed could be collected from them, germinated and the plants grown on to eventually replace the parent trees. This will provide genetic continuity of the species on site. It will be worth leaving a few areas of dense scrub wherever possible for wildlife. Many trees have ivy growing on them. Whilst ivy is beneficial to wildlife, if left unchecked, it can suppress tree canopies and weaken the tree's growth. Where the trees are of poor quality, the ivy can be left, but on better specimens it needs to be removed.
<b>Timber quality and yield:</b> The area is not suitable to sustain any meaningful timber harvest, therefore the objective of managing for amenity and wildlife is the best option.
<b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. Most of the current tree species are beneficial to birds and insects. The bigger, older veteran trees are also good habitats for bats and other small mammals.
<b>Zone 2 – Lodge village area.</b>
<b>Main species composition:</b> Sycamore, Lime, Yews, Evergreen Oak and Beech.
<b>Other species composition:</b> Horse Chestnut, Hawthorn, Elm, Holly, Apple, Cedar, Field Maple, Redwood, Norway Maple and Ash.
<b>Regeneration species:</b> Sycamore, Elder, Holly and Ash.
<b>Age Structure:</b> The main species are all even aged with a couple of mature specimens - Lime,

Sycamore and Redwood. The rest of the trees are early mature. There are several large fallen Horse Chestnuts and some which have split. Many of the self-sown trees which have established are very etiolated and twisted. They are poor specimens which are never going to make decent trees. These need to be removed so that the better quality trees which remain can develop into longer lasting, better specimens. There are no obvious places for replanting in this zone therefore the focus needs to be on maintaining the existing trees in good condition. Whilst large dead wood is beneficial for wildlife, where it is in proximity to activities and footpaths, it needs to be removed regularly for safety reasons. Many trees have ivy on them and the comment in Zone 1 applies equally here as well. There are activities within this area. As three trees will need to be felled following root damage caused by the excavations for the toilet block, these trees will be replaced with similar species.

**Timber quality and yield:** This area is not suitable to sustain any meaningful timber harvest, therefore the objective of managing for amenity and wildlife is the best option.

**Wildlife potential:** All trees have wildlife benefits, with older trees providing a better range of habitats. An ecological survey has been carried out which has reported upon species present. Most of the current tree species are beneficial to birds and insects. The bigger, older trees with wounds and cavities are also good habitats for bats and other small mammals.

**Zone 3 – Activity and maintenance yard area.**

**Main species composition:** Ash, Yew, Sycamore and Lime.

**Other species composition:** Crab Apple, ornamental Cherry, Box, Evergreen Oak, Lawson Cypress, Laurel and Elder.

**Regeneration species:** Ash, Sycamore and Elder.

**Age Structure:** There is a lovely large group of yews in this area. There are a lot of Ash trees but these are diseased and etiolated. There is a beech hedge and a lot of laurel understorey in places. This zone is partly wooded and partly formal garden and has activities within it. With the exception of the yews, most of the trees are of a similar age. The Ash will need to be monitored in line with the Forestry Commission guidelines and felled once they become unsafe. The Laurel needs to be removed as it is impacting upon the other trees and shrubs. Once again, there are few places where planting would be appropriate so maintaining the health and safety of the existing trees should be the target. Most of the larger trees are of a similar age range so younger trees need to be cleared around and encouraged to develop.

**Timber quality and yield:** This area is not suitable to sustain any meaningful timber harvest, therefore the objective of managing for amenity and wildlife is the best option.

**Wildlife potential.** An ecological survey has been carried out which has reported upon species present. Most of the current tree species are beneficial to birds and insects. Large, old trees with cavities and decayed wounds are good habitats for bats and other small mammals.

**Zone 4 – Nightline Forest area.**

**Main species composition:** Beech, Ash, Lime and Yew.

**Other species composition:** Redwood, Elder.

**Regeneration species:** Elder.

**Age Structure:** This zone has a lot of field area and a copse together with some individual trees. There is a lovely old veteran weeping copper which has suffered previously from storm damage. This has left a lot of large branch stubs and large open wounds. There are five beech trees planted in a line, unfortunately, due to excessive flooding, they have all died and will need to be replaced, but with perhaps a more appropriate species such as Swamp Cypress (*Taxodium distichum*). This will cope with waterlogged conditions and will compliment, the Redwoods in the vicinity and is in keeping with the ornamental theme of the overall woodland. This zone can accommodate some additional planting without conflicting with the activity usage. With the exception of the veteran copper beech, the other trees are all in the same age bracket therefore some new planting will help with improving the age diversity.

**Timber quality and yield:** This area is not suitable to sustain any meaningful timber harvest, therefore the objective of managing for amenity and wildlife is the best option.

<b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. The majority of the trees in this zone, especially the veteran copper beech, are beneficial to birds, bats and insects.
<b>Zone 5 – Archery Field</b>
<b>Main species composition:</b> Horse Chestnut and Pines.
<b>Other species composition:</b> Cherries, Ash, Beech.
<b>Regeneration species:</b> None.
<b>Age Structure:</b> This zone consists of two field areas (archery zone) and has trees around the field boundaries to the north of the site. There is a large, old pollarded veteran Beech which has been turned into a monolith. In addition, there is a large, old Ash tree which has succumbed to Ash Dieback. This has a large over-extended branch which needs to be removed for safety reasons. The rest of the tree can be pollarded and left as a monolith to provide a good habitat for wildlife. There is plenty of space to plant some parkland trees such as <i>Quercus robur</i> , <i>Quercus cerris</i> , <i>Quercus coccinea</i> and <i>Quercus frainetto</i> ). This would be in keeping with the landscape character of the original house. If planted correctly, the trees would not impact negatively on the leisure use of the field.
<b>Timber quality and yield:</b> This area is not suitable to sustain any meaningful timber harvest, therefore the objective of managing for amenity and wildlife is the best option.
<b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. The two large dead trees are very beneficial to wildlife, including birds, bats, insects and fungi.
<b>Zone 6 – Buggy build area.</b>
<b>Main species composition:</b> Poplar, Ash.
<b>Other species composition:</b> Cherry, Wild Plum, Walnut, Viburnum.
<b>Regeneration species:</b> None.
<b>Age Structure:</b> This area is the Buggy Field. It is constituted of mainly a large area of grass with some large trees (poplars) dotted around the perimeter. It has the least number of trees in it of all the zones. As the field is used for activities, it is not appropriate for too much planting. However, there is the opportunity to carry out some further planting along the fence line in order to provide more of a screen from the public access areas nearby. Suggested species include <i>Populus tremula</i> and <i>Alnus incana</i> 'Aurea'.
<b>Timber quality and yield:</b> This area is not suitable to sustain any meaningful timber harvest, therefore the objective of managing for amenity and wildlife is the best option.
<b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. The open field area provides good hunting grounds for owls and bats.
<b>Zone 7 – Gatehouse and Lodge area.</b>
<b>Main species composition:</b> Ash; Beech; Yews; Lime.
<b>Other species composition:</b> Horse Chestnut; Pine; Box; Holly; Cherry; Elder.
<b>Regeneration species:</b> Ash; Beech; Holly; Box.
<b>Age Structure:</b> The area consists of some very large, veteran trees together with lots of self-sown, etiolated and spindly beech. Several of the veteran trees are close to the entrance road (including a very nice Turkey Oak). Where the canopy is very dense there is little ground flora other than ivy. In areas where there are gaps in the canopy, there is a large dead pine near the fence which is providing a good wildlife habitat and perch for birds of prey. Due to the overcrowding, many of the self-sown trees are of poor quality with lots of defects. This area of woodland would benefit from some judicious thinning in order to allow the better quality trees to flourish. The Yews are more established away from the entrance road whilst the Ash is more prevalent closer to it and towards the gate. The Ash will need to be monitored for Ash Dieback.
<b>Timber yield and quality:</b> There will be the opportunity to produce some timber from the thinning exercise, but due to the poor quality, it is only likely to be suitable for firewood. It may be worth entering into discussions with local firewood merchants about options for removing the thinnings at

<p>little or no cost. There are two options: one – you pay for the trees to be felled and cut up and then sell the firewood or, second, you enter into an arrangement with a firewood merchant who feels the trees free of charge, but keeps all the firewood. Due to the age and species of trees present, the objective of managing for amenity and wildlife is the best option.</p>
<p><b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. The dense woodland is best suited to provide nesting sites for birds and habitats for invertebrates.</p>
<p><b>Zone 8 – Main entrance and buildings area.</b></p>
<p><b>Main species composition:</b> Evergreen oak; Ash; Yew; Lime.</p>
<p><b>Other species composition:</b> Cherry; Rowan; Ornamental thorn; Box; Atlantic Cedar; Lawson Cypress; Fastigate oak; Acer; Elder; Weeping beech; Box.</p>
<p><b>Regeneration species:</b> Box; Elder; Ash.</p>
<p><b>Age Structure:</b> There are some large, old specimens mainly consisting of ornamental species. The area on the lawn and around the buildings is mainly a collection of ornamental individual trees of mixed ages. There are several dead trees and stumps, many covered in ivy. The open nature of the lawn lends itself to specimen planting, however, care must be taken not to overplant otherwise it will spoil the open nature of this part of the site. Suggested specimens for planting here include <i>Catalpa bignonioides</i>, <i>Parrotia persica</i> and <i>Paulownia tomentosa</i>.</p>
<p><b>Timber yield and quality:</b> There is little possibility of producing any worthwhile timber from this section. Due to the age and species of tree present, the objective of managing for amenity and wildlife is the best option.</p>
<p><b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. This open area provides few opportunities for wildlife other than sources of food (berries and caterpillars) but does provide perching opportunities for feeding.</p>
<p><b>Zone 9 – Canal edge forest.</b></p>
<p><b>Main species composition:</b> Beech, Yew, Lime</p>
<p><b>Other species composition:</b> Box, Western Red Cedar, Pines, Ash, Evergreen Oaks, Cherry, Lawson Cypress, Sycamore.</p>
<p><b>Regeneration species:</b> Beech, Yew, Box</p>
<p><b>Age Structure:</b> This band of trees primarily forms a screen next to the canal. It comprises predominantly of mature beech trees and yews next to the canal. The beech are mainly all large and old within the final third of their lives. Many have dropped large branches, which has resulted in large exposed wounds on the trunks. The woodland floor is very dense and as a consequence there is very little regeneration and certainly no room for underplanting. The further away from the canal, the more the species mix increases with Ash and Evergreen Oak being more frequent. There are some very large, old Ash trees nearer the rear of the accommodation blocks. These also have a limited life-span and will need to be monitored for Ash Dieback. When these trees need to be removed, I suggest that they are replaced with broad leaved Limes (<i>Tilia platyphyllos</i>).</p>
<p><b>Timber yield and quality:</b> With the exception of the Beech and the large Ash, there is little timber yield or quality to be had from this section of woodland. As and when trees fall or need to be felled for safety reasons, the only practical use for the timber will be for firewood. The quality of the timber will not have any other value. The objective of managing for amenity and wildlife is the best option.</p>
<p><b>Wildlife potential:</b> An ecological survey has been carried out which has reported upon species present. The dense woodland provides ideal nesting opportunities for a selection of wildlife. The proximity of the canal and a selection of large cavities would encourage bats to use the trees as either permanent or temporary roosts. A bird of prey was spotted during my visit sitting in the top of one of the pines.</p>



Zone	Tree species	Number to be planted
Zone 2	Sorbus aucuparia	3
Zone 4	Taxodium distichum	5
	Metasequoia glyptostroboides	5
Zone 5	Quercus robur	2
	Quercus coccinea	2
	Quercus frainetto	2
	Quercus cerris	2
Zone 6	Populus tremula	5
	Alnus incana 'Aurea'	5
Zone 8	Catalpa bignonioides	1
	Paulownia tomentosa	1
	Parrotia persica	1
<b>Total no. of compensatory trees to be planted</b>		<b>34</b>

#### 4. Statutory Information

The following section identifies features present within the woodland or adjacent to the woodland where its presence will inform management. This section needs to be read in conjunction with the ecological report.

Biodiversity – Designations	Within woodland	Adjacent to woodland
Site of Special Scientific interest (SSSI)	No	Yes – 12.6km linear distance from Ashridge Commons and Woods SSSI within the Chiltern Beech woods Special Area of Conservation.
Special Area of Conservation	No	Yes – see above.
Designated Ancient Forest	No	No
Tree Preservation Order	Yes	No
Conservation Area	Yes	No
Special Protection Area	No	No
Ramsar Site	No	No
National Nature Reserve	No	No
Local Nature Reserve	No	No
Local Green Space	Yes – part	Yes – partially in designated Local Green Space.
Archaeological Notification Area	Yes	Yes – part of a Non- Designated Heritage Asset.

<b>Biodiversity – European Protected Species</b>	<b>Within woodland</b>	<b>Notes</b>
Bats	Yes	
Dormouse	Possibly	Likely habitat but not confirmed
Great Crested Newt	No	Unfavourable habitat
Otter	No	Unsuitable habitat
Sand Lizard	No	Unsuitable habitat
Smooth Snake	No	Unsuitable habitat
Natterjack Toad	No	Unsuitable habitat

<b>Biodiversity – Priority Species</b>	<b>Within woodland</b>	<b>Notes</b>
Birds	No	
Mammals – Red squirrel, Pine marten, Water vole	No	
Reptiles – grass snake, adder, common lizard	Possibly	
Plants	Yes	
Fungi / Lichen	Yes	
Invertebrates – butterflies, moths, beetles, etc.	Yes	
Amphibians	Yes	

<b>Historic Environment</b>	<b>Within woodland</b>	<b>Notes</b>
Scheduled Monuments	No	
Unscheduled Monuments	No	
Registered Parks and Gardens	Yes	Remains of Aston Clinton Park
Boundary and Veteran Trees	Yes	Several veteran trees in the woodland
Listed Buildings	No	

<b>Landscape</b>	<b>Within woodland</b>	<b>Notes</b>
National Park	No	
Area of Outstanding Natural Beauty	No	Close to the Chiltern Hills.

<b>People</b>	<b>Within woodland</b>	<b>Notes</b>
CROW Access	No	
Public Rights of Way	No	
Other Access Provision	No	Public access to the swimming pool for club members.
Public Involvement	No	
Visitor Information	Yes	
Public Recreation Facilities	No	
Provision of Learning Opportunities	Yes	Educational areas and trails for children

<b>Water</b>	<b>Within woodland</b>	<b>Notes</b>
Watercourses	Yes	
Lakes	No	
Ponds	No	

### Habitat types

The following table lists the habitat types within the woodland that will inform future management decisions. This information is a record of habitat as a baseline to the future management where we will hope to achieve and maintain a diverse structure of habitat, species and age of trees, appropriate to the context of the woodland.

<b>Woodland Habitat Types</b>	<b>Within woodland</b>	<b>Notes</b>
Ancient Semi-natural Woodland	No	
Planted ancient woodland site (PAWS)	No	
Semi-natural features in PAWS	No	
Lowland Beech and Yew woodland	Yes	
Lowland mixed deciduous woodland	Yes	Mixed broadleaf canopy present within the area
Upland mixed Ash woods	No	
Upland Oak wood	No	
Wet woodland	No	
Wood pasture and parkland	Yes	Pasture and parkland surrounds the woodland

<b>Non Woodland Habitat types</b>	<b>Within woodland</b>	<b>Notes</b>
Blanket Bog	No	
Fenland	No	
Lowland calcareous grassland	No	
Lowland dry acid grassland	No	
Lowland heath land	No	
Lowland meadows	Yes	
Lowland raised bog	No	
Rush pasture	No	
Reed bed	No	
Wood pasture	No	
Upland hay meadows	No	
Upland heath land	No	
Unimproved grassland	No	
Peat lands	No	
Wetland habitats	No	

### Structure

This section provides a snapshot of the current woodland structure across the entire area. Ensuring that the woodland has a varied structure in terms of age, species, origin and open space provides a range of benefits for both the biodiversity of the woodland and its resilience.

Woodland type	Percentage of Management plan area	Age Structure	Notes
Broadleaf and conifer	80%	Even	Mature canopy with many suppressed trees
Coppice	10%	Even	Coppice is all over-stood or weak due to lack of management
Open Ground	10%	N/A	Some open pasture and some open areas caused by previous windthrow

## 5. Woodland Protection

Woodlands in England face a range of threats; this section considers the potential threats and constraints facing the woodland.

### Plant Health

Threat (e.g. Ash Dieback, Phytophthora, etc.)	High
Likelihood of presence (high/medium/low)	High
Impact if present (high/medium/low)	High – ash forms approximately 18% of the woodland species
Response (including protection measures)	Regular inspections. Proactive intervention. Species diversification where necessary.

Threat	Ash Dieback
Likelihood of presence	High
Impact	High –there are several hundred ash in the woodland
Response	Continue to monitor for signs of disease. Pollard or fell trees that pose a high risk in high use areas. Encourage species diversification where necessary. See specific section on Ash Dieback. It is worth noting that a small percentage of the Ash trees are suffering from bacterial canker. Some of the symptoms are not too dissimilar to Ash Dieback.

Whilst there is evidence of more minor pests and diseases e.g. Holly leaf miner, none of these are likely to have a huge impact on the woodland.

### Deer

Likelihood of presence	Medium
Impact	High – will prevent natural regeneration unless areas are protected with particular damage to new planting.
Response	Use individual tree guards (1.5m – 2m) for newly planted trees.

### Grey Squirrels

Likelihood of presence	High
Impact	Medium
Response	Very difficult to avoid without instigating poison control measures and this may not be well received by visitors.

### Livestock and other mammals

Threat	Rabbits
Likelihood of presence	Medium
Impact	Medium – especially on new plantings and natural regeneration.
Response	Control / cull population. Protect vulnerable regrowth where required with piles of brash around them.

### Environmental

Threat (Pollution, Fire, Flood, Wind, Invasive species, vandalism, etc.)	Wind
Likelihood of presence	Medium
Impact	Medium / High depending on wind speed and wind direction.
Response	Limit creation of wind tunnels through careful arboricultural management and planting.

Threat (Pollution, Fire, Flood, Wind, Invasive species, vandalism, etc.)	Invasive species
Likelihood of presence	Low
Impact	Low – if present would prevent natural regeneration and reduce habitat potential at ground level
Response	Not currently an issue.

### Climate change resilience

Threat (Uniform structure, Provenance, Lack of	Provenance
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diversity, etc.)	
Likelihood of presence	Medium
Impact	Medium –most of the natural regeneration will have come from local stock.
Response	Either re-stock with improved stock using trees supplied by local nurseries or develop self-seeded stock from within the woodland.

Threat (Uniform structure, Provenance, Lack of diversity, etc.)	Poor structure
Likelihood of presence	High
Impact	Medium –there is a big age range between the older trees and the younger trees.
Response	Active arboricultural management to improve age and species diversity.

An additional constraint on managing the woodland is access. There are informal footpaths within the woodland but these are mainly suitable for access by foot. As it is not intended to remove timber from the site this should not be a major problem.

## 6. Management Strategy

This section is a statement of intent, setting out how we intend to achieve the stated management objectives. It also considers how any important features identified in previous sections will be managed.

Dying and dead wood provides one of the greatest ecological resources in a woodland. It supports a host of species including: beetles, flies, solitary bees and wasps, insectivorous birds, bats, fungi, mosses, lichens and liverworts. Some of these species have limited powers of dispersal and rely entirely upon the locality.

In areas where trees exist alongside people or property, there is generally a need to manage them so as to avoid any unacceptable risk of personal injury or other damage. For this reason dead or decaying branches are often removed. From a conservation standpoint, such a situation represents a serious gap in biodiversity because deadwood habitats are vital for a range of plants, fungi, animals and micro-organisms.

In most woodlands which have public access, removing large deadwood within falling distance of paths and seating areas is advisable. However, where safety is not an issue, then deadwood and dying trees can be allowed to age and decay naturally without placing anyone at appreciable risk.

The richest deadwood habitats and cavities are usually associated with old trees, since they usually contain decaying wood in larger volumes and in a greater variety of states than young ones. Also, their bark is a better habitat for a range of wildlife.

The desire to retain old trees can sometimes lead to difficulties if it takes no account of the need for safety and for providing conditions for the healthy development of future generations of trees. A balance must be struck between maintaining tree health and the control of pests and diseases, because some measures may be unnecessary, counter-productive, or harmful to wildlife.

<b>Management Objective</b>	<b>Management Intention</b>
<p>Maintain and improve the current over stood hazel coppice in order to produce better quality stools and provide a better food source for wildlife.</p>	<p>Coppice is usually cut during the dormant season, but it is important to avoid the nesting season (March – August). As virtually all the coppice is either of poor quality or over-stood, it all needs to be coppiced. As the stools are spread thinly around one end of the woodland, it isn't really feasible to re-coppice them in coupes due to the irregular spacings. As the wood is of poor quality, it has no real value or use and therefore once cut, it should be left in situ either in a couple of piles or loosely spread over the stools to reduce browsing of new shoots by deer and rabbits. Where there are no stools or re-growth is poor, re-stock with young hazel. All hazel over 10cm in girth will be coppiced and then re-coppiced every 10 years or when it again reaches 10cm.</p>
<p>Use income generated from visitor activities to facilitate restoration of the unmanaged trees.</p>	<p>As visitors to the site will have access to the woodland, it is crucial that there is a safe environment. Therefore, in trees next to the footpaths and within falling distance of activities, all large deadwood will be removed and placed in habitat piles either at the base of the tree or as close as possible. With the boundary trees, where the large deadwood is unlikely to impact upon users it will be left in the tree to provide a valuable wildlife habitat. Where the health and structure of trees can be improved through judicious arboricultural techniques, this will be done i.e. crown cleaning, reduction of over-extended branches, re-coppicing and thinning to allow better trees to develop.</p>
<p>Increase resilience to disease and climate change by diversifying age structure and species within the woodland.</p>	<p>The current structure is mainly based on ash, lime, beech and yew standards with other less frequent species. However, there is little diversity in the age structure. In some places, there is a reasonable amount of natural regeneration, both of ash, yew and box. This needs to be encouraged and managed. Due to the crown spread of the larger trees, planting in gaps will not be as effective and it will be difficult to ensure their survival. There is evidence of young yew seedlings. In order for them to establish, they need to be kept clear from other plant growth which may smother them. Where</p>

	<p>there are areas of self-seeded ash trees, it is noticeable that a small percentage of them become infected with Ash Dieback whilst others remain unaffected. These unaffected seedlings need to be nurtured in situ and the infected ones amongst them be removed and burnt. Of the healthy seedlings, the better quality ones should be encouraged to develop at the expense of the weaker seedlings. In order to increase species diversity, some additional trees can be introduced. These should include indigenous species such as Rowan (<i>Sorbus aucuparia</i>), Hawthorn (<i>Crataegus monogyna</i>), Bird Cherry (<i>Prunus padus</i>) and Field Maple (<i>Acer campestre</i>). These will introduce more berries for the bird life and nectar for insects. Whilst developing a thicker lower storey could be created through the planting of a range of native shrubs, there is a danger that it could end up changing the current nature of the woodland and smother regeneration. Therefore, at present, there is no need for any planting other than in areas already highlighted.</p>
Maintain and enhance wildlife habitats.	<p>Increasing light to some overgrown areas will encourage natural regeneration and help to provide sun-traps for butterflies and other insects. Dead wood piles for habitats will be created where tree work is carried out. Once the hazel coppice is re-established, it can be managed rotationally in order to provide varied habitat. Improving air flow through the woodland by managing the trees will help to reduce the likelihood of certain diseases taking hold.</p>
Reduce invasive species in the understory to improve the habitat.	<p>With the exception of bramble in some parts of the woodland, there is little in the way of invasive species. But, in open areas, there is a danger that brambles may become prolific, therefore, as part of the coppicing and selective thinning, a programme of eradication will be introduced to coincide with these works.</p>
Manage the deer and rabbit population to facilitate natural regeneration.	<p>At present, deer and rabbits do not seem to be a major problem so where new planting takes place, the appropriate sized tree guards will be used.</p>

### Silvicultural Systems

The following lists the silvicultural systems that will be employed within this management plan.

**Harvesting:** There will be no harvesting taking place as it is not appropriate to the stated aims and



objectives.

**Selective felling:** Where required, this system will be used as it is the most appropriate because it avoids large scale clear-felling and will allow a more gradual approach to tree removal and restocking. This will also help to facilitate diversifying the age structure within the compartments.

**Coppicing:** An 8 – 10 year rotation will be maintained where appropriate.

**Thinning:** Where required, continue to thin all remaining semi-mature trees, concentrating on the removal of poor specimens to enable better quality trees to thrive and develop. Unless for safety reasons, no veteran trees will be removed. Thinning will be undertaken where appropriate to the management of the woodland. Any thinning must be done before coppicing has taken place so as to prevent damage to developing coppice stools during felling. All works will be carried out before bird nesting season commences and will not recommence until after nesting season closes.

#### **Establishment, restocking and regeneration**

**Selective felling areas:** Wherever possible, natural regeneration will be used to restock. Where natural regeneration is low or difficult, whips of Oak, Beech and Lime will be planted. All new planting will require some form of maintenance and protection.

**Coppice areas:** Use coppice re-growth where it occurs, supplementing with planting where stocking density is low or stool mortality is high.

### **7. Monitoring**

It is always good practice to monitor progress of the plan to ensure that objectives are being met. As the woodland is reasonably self-contained and is being managed by the manager there is little need for formal, regular surveys. However, it would be beneficial to monitor progress on an annual basis and note the progress achieved within the previous 12 months. It also provides an opportunity to re-assess whether certain objectives are working and achievable.

## APPENDIX 1

### Ash Dieback Guidance

There are several documents now available which can be used as points of reference. These include:

1. Ash Dieback Guidance for Tree Owners, Managers, Contractors and Consultants published by the Arboricultural Association.
2. Ash Dieback: an Action Plan Toolkit published by the Tree Council.
3. Operations Note 046: Managing Ash in woodlands in light of Ash Dieback published by the Forestry Commission. This should be read in conjunction with Safety Guidance for Managers – Felling Dead Ash guidance.

### Background

Ash dieback is caused by a fungus called *Mymenoscyphus fraxineus*. Part of the fungus life cycle was formerly known as *Chalara fraxinea*, hence it often being called by different names. It is thought to have originated in eastern Asia and was first recorded in Europe in the 1990's and has since spread across the continent. It was first officially recorded in the UK in 2012 but evidence suggests that it has been here since 2004. The disease can now be found in most parts of the UK, current estimates put it at over 68% of Ash trees being infected in England. It is particularly destructive of our native, common Ash (*Fraxinus excelsior*). Trees become infected in the summer by airborne spores arising from fallen leaves. Moist conditions encourage the production of fruiting bodies.

Infection leads to dead branches throughout the crown. Not all Ash trees will die as a direct result of the infection. Some may become weakened and therefore more susceptible to other pests and diseases and others will survive infection. There is currently no evidence of full resistance to the disease but research in Europe indicates that up to 10% of the Ash population may be moderately resistant to the disease with up to 2%- 5% being genetically tolerant of the disease. Individual Ash trees respond to the disease in different ways depending not only on their genetic make-up, but also on their age, location, management practices on site, soil type and levels of secondary pathogens present, such as Honey Fungus.

It is important to note that poor condition of the canopy might not be as a result of Ash Dieback. Other problems such as drought stress, water logging, root damage, soil compaction and other pests and diseases can cause Ash trees to decline. Several fungi such as *Inontus hispidus* and *Perenniporia fraxinea*, all have the potential to reduce the structural integrity of Ash trees. In the early days of the disease, the Forestry Commission were trying to build a picture of how far the disease had spread so were asking people to report incidents. To begin with, most of these were false alarms, but then

over several years, the disease had spread widely across the country, and the Forestry Commission no longer wants people to report its occurrence.

### **Impact of the disease**

The natural tolerance in some trees provides an opportunity to maintain Ash in the UK because tolerance may be inherited. The advice from the Forestry Commission is not to fell Ash trees unless there are strong safety reasons to do so. Trees growing in open areas and hedges are much less affected than those in a woodland environment. Tree density has also been found to be important for disease development, with Ash at low density far less affected by Ash Dieback. According to the Forestry Commission and DEFRA, the impact of the disease outside of woodlands is less predictable and whilst many will decline, many will persist indefinitely. As a general rule, trees growing in well-managed sites in open spaces tend to show fewer symptoms. It is thought that the same might apply to trees growing in streets and hedgerows.

Evidence shows that the disease will progress quickly in young and coppiced Ash trees, trees suffering from other stresses and in Ash woodlands. In humid sites, the fungus causes lesions at the base of trees and these will then allow colonisation by secondary pathogens such as Honey Fungus (*Armillaria* spp.) which makes the trees structurally unstable. The prevalence of these lesions decreases the closer the trees grow to the road.

Research has shown that wood produced by severely infected trees diminishes in strength and over a number of years, the effect may be that branch structures and possibly the trunk, become mechanically weaker with increased risk of uncharacteristic breakages under loading, when felling or when trunks and branches hit the ground. This aspect will need to be considered as part of the risk assessment when climbing or felling infected Ash trees. There is currently no evidence that wood produced before infection is weakened by the disease.

Ash Dieback may impact in the following ways:

- Health and Safety impacts
- Economic impacts
- Reputational damage
- Environmental impacts

### **Managing the impact**

The tolerance of some Ash trees, whether genetic or due to site conditions, should not be overlooked. Forest Research state that *'with the exceptions of felling for public safety or timber production, we advise a general presumption against felling living Ash trees, whether infected or not'*. In June 2019, DEFRA stated that *'natural regeneration will encourage the process of natural selection for tolerance, so healthy trees should be monitored for as long as possible to encourage regeneration from tolerant mother trees'*.

There is a need to take a balanced and proportionate approach. If affected trees are situated in high footfall areas this can create health and safety risks. Trees in such areas need to be managed carefully for risks to public safety and appropriate action taken. Not all infected trees will need to be felled and pruning should not be ruled out as a management option, especially where trees show a tolerance to the disease. Whilst removing leaf litter may be an effective way to reduce the levels of the fungus in urban environments, it is not going to be a cost-effective or practical method. There are financial and practical implications relating to the management of the disease that will need to be addressed if increased monitoring and intervention is accepted as a way forward.

Replacement tree planting will have cost implications and should take into account site constraints and the need to diversify the species. Selecting appropriate trees will be crucial in maximising the landscapes resilience to pests, diseases and climate change.

There is no cure for Ash Dieback, but good biosecurity practice should always be followed wherever tree work is being carried out. By doing so, it will help to reduce the risk of introducing and spreading tree pests and diseases. There are currently no restrictions on the movement of Ash timber, branches or leaves, but a plant health order made in 2012 prohibits all imports of Ash seeds, plants and trees into GB and all inland movements within GB of the same material.

Proactive management of trees and risks is more cost effective than reactive management but will nevertheless involve increased costs. The need to identify Ash trees and assess their condition will be the first priority.

### **Constraints**

Actions 2 – 9 require staff and financial resources. In order to achieve these within a reasonable timescale additional funding will be required. Until the scale of the problem has been fully analysed, the overall scale of costs will be unknown.

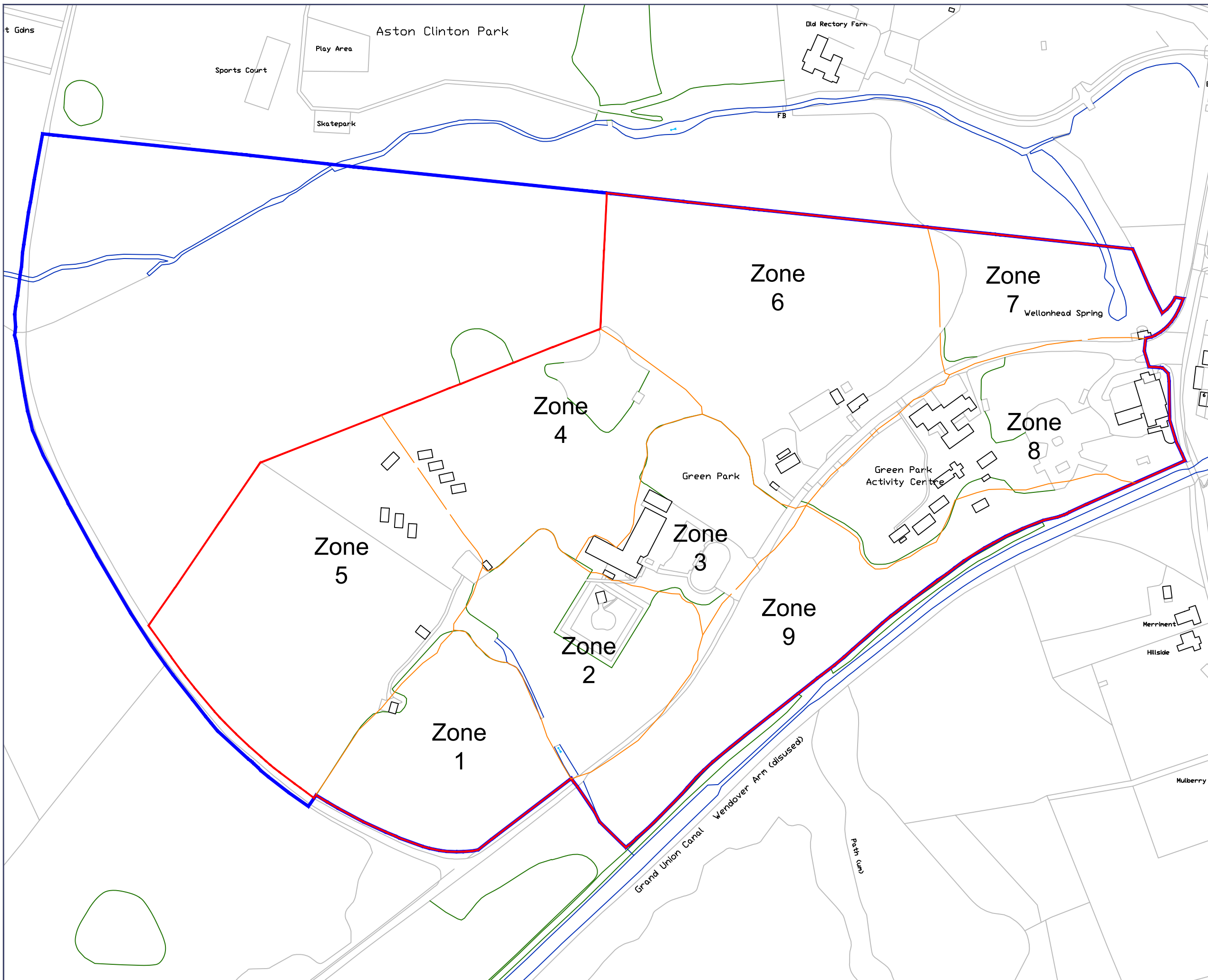
## APPENDIX 2

### Management Strategy – Action Plan

Task	Outcome	Planned completion date
<p><b>Coppicing</b> – usually carried out when the sap is going back down into the roots (Sept). However, where the stools are of poor quality, these can be felled at any time and will be locations for replanting with hazel whips in early winter (Nov / Dec)</p>	<p>These can easily be identified by walking through the woodland and cutting them down wherever found</p>	
<p><b>Increasing resilience:</b></p> <p><b>Selective thinning</b> – this will be carried out where there is a specific need to open up areas and will include any species except yews. If done correctly this will improve the stability of remaining trees as well as encouraging natural regeneration</p> <p><b>Thinning</b> – this will be the removal of self-sown, spindly, poor quality trees which are restricting the development of better quality trees. This will also improve the stability of remaining trees</p> <p><b>Restocking</b> – replanting will take place in areas identified as requiring restocking with similar or different species. Where possible, using local provenance will be beneficial i.e. collecting and growing seed and taking cuttings from trees within the woodland or buying young trees / shrubs from local nurseries which have propagated from local stock. Restocking will help to diversify the age range of trees</p>	<p>These trees can be identified by walking through the woodland but this exercise needs to be carried out in conjunction with thinning so that large open areas are not accidentally created which might cause windthrow. This is also best done when the trees are in full leaf so that poorer specimens can easily be identified.</p> <p>Bare-root stock can only be planted during the dormant season (Nov – Feb) whereas pot grown trees can technically be planted all year round. However, if planted during the summer months then they will need to be kept watered if they are to survive. Collecting ash seed from healthy trees and taking cuttings from lime trees are good ways of ensuring local provenance. Lime is best propagated by</p>	<p>This process can be completed over a 5-10 year period. There is currently no rush to remove any trees unless deemed dangerous. Instead, the woodland will be monitored to see how Ash Dieback develops and what its overall effect on the woodland will be. This process cannot and does not, need to be rushed and will require regular monitoring of the woodland.</p> <p>Please refer to section 6 above.</p>

	<p>layering or by taking cuttings in June – July and putting them into a mist unit.</p> <p>Ash seeds should be collected in Sept-Oct and sown immediately in outdoor seed beds where they will germinate the following Spring.</p> <p>Yews can be propagated from seed but they germinate much slower than those which seed themselves under the mother plant, therefore, carefully lifting and growing on seedlings is a better proposition. Long stem cuttings of the current season’s growth can also be taken in Sept – Oct and grown on in a cold frame. All the propagation can be carried out by the garden staff</p>	
<p><b>Enhance wildlife habitats</b> – leaving logs piles and heaps of brash will benefit a wide range of wildlife as well as giving protecting to planted stock</p>	<p>This can be done by existing staff as part of the routine work outlined above</p>	
<p><b>Control of invasive species</b> – this is done by regularly checking where certain species are taking hold and removing them before they become a major problem and smother plants which are trying to establish</p>	<p>This task can easily be done by your team when they are working in the woodland</p>	
<p><b>Ensuring public safety in the woodland</b> – continue with the annual tree inspections and ensure that on a monthly basis and following stormy weather, trees are checked for broken, hanging branches or for signs of root heave</p>	<p>The annual BS 5837:2012 inspections will continue to be carried out by an appropriately qualified arboriculturalist. All other monthly checks can be carried out by your existing staff. As large deadwood does not develop quickly, once spotted and removed, it should not be an issue again on the same tree for over a year or more</p>	

## APPENDIX 3



- Application Boundary (19.04ha)
- Area under Applicant Control
- Area Zone

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Client  
**Kingswood**

Project  
**Green Park Inspiring Learning**

Drawing Title  
**Arboricultural Zoning Plan**

Scale	1:2500 @A3	Status	--
Date	February 2024	Drawn	JD
		Checked	SK

Dwg no  
**2885-02-01**

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