



Ingestre Park Golf Club

Landscape Ecological Management Plan

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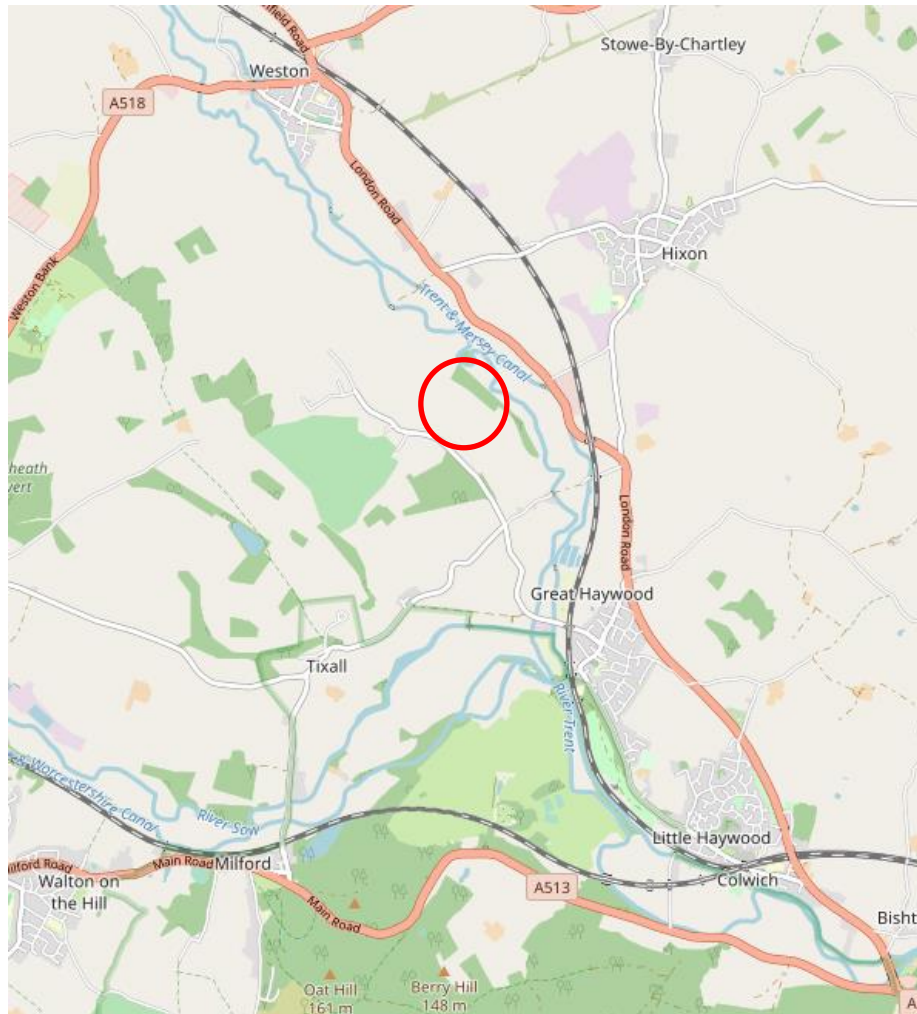
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1. Introduction

1.1 Background

- 1.1.1 The Landscape and Ecological Management Plan (LEMP) has been produced by Ecus Limited (Ecus) on behalf of Ingestre Park Golf Club in support of a proposed golf course reconfiguration on land at Ingestre, Stafford (Ordnance Survey (OS) Grid Reference SJ 98349 24806), hereafter referred to as 'the Site' and as annotated on Figure 1.1.

Figure 1.1 Location Plan



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- 1.1.2 The High Speed Rail (West Midlands - Crewe) Bill (the Bill) provides for the HS2 route to pass through Ingestre Park Golf Club along a section of Trent North embankment, 1.1km in total length, and would continue in the Brancote South cutting, 1.6km in total length. Construction of the scheme, in this location, would require a total of approximately 24.5ha (approximately 47%) of the course at Ingestre Park Golf Club to be either lost or severed from the club house. This would result in the facility being unable to function in its current arrangement.

- 1.1.3 Since the submission of the Bill, additional land has been identified for the reconfiguration of Ingestre Park Golf Club to replace the land lost and severed by the HS2 route, which will allow the golf club to continue as a community asset in its present location. Ingestre Park Golf Club club house, located to the north of the HS2 route, and the land owned by Ingestre Park Golf Club on the northern side of the HS2 route, will be retained for the reconfigured golf course layout.
- 1.1.4 An additional three parcels of agricultural land for the reconfiguration of the golf course, one of 1.1ha, one of 6.6ha and one of 35.6ha (totalling approximately 44.3ha) which can be considered together with a section of road verge where the boundaries meet, as 'the Site' for the purposes of this LEMP.
- 1.1.5 The additional land, which will form the subject of the Planning Direction, is adjacent to the existing course and extends to the north of the Ingestre Park Road. The proposed golf course configuration on the additional land comprises:
- the construction of 12 new holes of golf;
 - a crossing of Ingestre Park Road;
 - two lakes (one of which is used for irrigation storage);
 - perimeter fencing;
 - land drainage;
 - extensive landscape planting / habitat creation; and
 - the erection of one small ancillary pumphouse.
- 1.1.6 The LEMP details the necessary information for the long term management of features of ecological, landscape and historical value. It does this through setting out general principles and quality standards required of the long term landscape management operations. It also contains details of the long term implementation of the LEMP.
- 1.1.7 This LEMP should be read in conjunction with the latest versions of the following drawings and reports:
- G982 201 Planting Details
 - G982 NC 550-2 Tree Plan
 - G982 NC 750-4 Tree Plan
 - G982 NC 750-5 Tree Plan
 - G982 NC 750-6 Tree Plan
 - G982 NC 550-1 Planting Plan
 - G982 NC 750-1 Planting Plan
 - G982 NC 750-2 Planting Plan
 - G982 NC 750-3 Planting Plan
- 1.1.8 The LEMP is intended for a five year period of detailed management and 20 years of indicative management thereafter (presented as 5 year blocks)

and should be reviewed and amended as necessary thereafter.

2. The Existing Site and Overview of the Design

2.1 The Existing Site

Site Description

- 2.1.1 The Site comprises three parcels of agricultural land, on either side of the Ingestre Park Road. The majority of the additional land is relatively flat low quality agricultural land which makes it suitable for the construction of a golf course.
- 2.1.2 Part of the southern area of additional land (totalling approximately 7.7ha) is within the Ingestre Conservation Area.
- 2.1.3 The existing golf course (on the retained land) comprises managed amenity grass, large tree belts and areas of unmanaged scrub and understory planting. The planting which has been carried out over a period of years has created a “parkland” golf course from which the Ingestre Park Golf Club operates.
- 2.1.4 There is a public right of way along the Ingestre Park Road which is designated as a Byway Open to All Traffic. Ingestre Park Road is situated in between the retained land and the additional land and thus crossings will be needed for golfers and maintenance staff and machines. There are no other Public Rights of Way (PRoW) crossing the retained course or additional land.

Designations

- 2.1.5 Within the vicinity of the Site there is one Special Area of Conservation (SAC) which is of international value, Pasturefields Salt Marsh SAC, covering an area of approximately 7.7ha, which is designated for its inland salt meadow (which is an Annex 1 priority habitat). The Pasturefields Salt Marsh SAC is cited as the best example of an inland salt meadow in the United Kingdom, and is characterised by red fescue, with saltmarsh rush, sea plantain, common saltmarsh-grass, lesser sea-spurrey and sea arrowgrass. Pasturefields Salt Marsh SAC is located north-west of Great Haywood, approximately 450m north-east of the Site.
- 2.1.6 The Site is located within a Natural England Impact Risk Zone for Pasturefields Salt Marsh Site of Special Scientific Interest (SSSI), which is of national value. Pasturefields Salt Marsh SSSI, covering the same area as Pasturefields Salt Marsh SAC (7.7ha), is designated for its inland salt meadow and notable breeding populations of snipe, redshank and lapwing. Pasturefields Salt Marsh SSSI is located north-west of Great Haywood, approximately 450m north-east of the Site.
- 2.1.7 There is one Local Wildlife Site (LWS) of relevance, which is of county value. Lionlodge Covert LWS, covering an area of approximately 16.9ha, is designated for its semi-natural broadleaved woodland and inland salt meadow. Lionlodge Covert LWS is located west of Great Haywood.
- 2.1.8 There is one Ancient Woodland Inventory (AWI) site of relevance, which is of county value. Flushing Covert AWI site, covering an area of

approximately 1.2ha, is located approximately 150m south of the Site.

- 2.1.9 The below provides a summary of the habitats present on the Site (pre-development) and their associated potential to support protected species.

Habitats

- 2.1.10 Habitats types recorded through survey of the additional land consist of open arable and pasture fields, species-poor hedgerows, poor semi-improved grassland, mixed parkland/scattered trees, running water, standing water, ruderal herb and fern.

Species

Amphibians

- 2.1.11 The existing club has a known meta-population of great crested newts (GCN), however the GCN status in the new land parcels is currently unknown. The habitat creation measures highlighted in the document will significantly enhance the site for GCN, such as the creation of new ponds, areas of rough grassland and woodland.
- 2.1.12 To minimise the potential for harm to GCN during site maintenance works, low intensity management is recommended which will allow natural rough grassland to develop and provide suitable habitat. Appropriate seed mixes to achieve a low intensity management regime are proposed in this plan.

Badger

- 2.1.13 There is a known presence of badgers in the wider area, and on-going maintenance will need to be mindful of the possible presence of new badger setts. In the instance a badger sett is discovered on site during maintenance works, works should not be permitted within a 30m buffer surrounding the sett unless the advice of an ecologist has been sought.

Bats

- 2.1.14 A large number of trees with potential roost features have been identified just outside of the western site boundary, and furthermore the existing Ingestre Park Golf Club is known to support a Myotis bat species maternity roost, three soprano pipistrelle day roosts and a common pipistrelle day roost within trees.
- 2.1.15 The provision of new roosting features in the form of bat boxes will serve to enhance the on-site habitats for bats. It is recommended that low-maintenance, self-cleaning boxes are used.
- 2.1.16 Before any works are carried out to trees on site such as felling or pruning, the advice of an ecologist should be sought to confirm whether there are any potential roosting features within the tree and advise accordingly.

Birds

- 2.1.17 Works in proximity to existing trees and hedgerow should take account of wildlife legislation, most notably the potential presence of nesting birds. Any works should be timed to avoid the nesting bird season, which encompasses March to end of August. If this is not possible, trees/hedgerow to be impacted should first be subject to a nesting bird

survey.

Reptiles

- 2.1.18 Although surveys to date on the site have not found presence of reptiles, there is a known presence of reptiles in the wider area surrounding the site, and ongoing maintenance works should be mindful of this. In the event a reptile is found during works, it should be left to move away on its own volition. If a hibernation reptile is found, it should not be moved and the advice of an ecologist should be sought.

Hedgehog

- 2.1.19 There is a possible presence of hedgehog at the site and maintenance works should be mindful of this. Any brash or rubble piles that require dismantling should be done so by hand. In the event that a hedgehog is found it can be moved to a place of safety via a gloved hand.

Heritage

- 2.1.20 The Ingestre Conservation Area comprises the historic core of the Ingestre Hall estate, the surviving elements of the Capability Brown landscape park to the north, the village of Ingestre, and the surviving elements of the nineteenth century parkland to the south.
- 2.1.21 The loss of the legibility of the parklands surrounding the Ingestre Hall estate has reduced the contribution that the setting makes to the historic significance of the Ingestre Conservation Area. The Conservation Area Appraisal (Stafford Borough Council, 2015) identifies few key views out of, or into the Conservation Area. Instead, views are located within the surviving parkland and where the key buildings can be seen in relation to each other. The Conservation Area Appraisal does identify a key vista across the landscape to the east, currently occupied by agricultural fields, which places the Conservation Area within its wider agricultural context.
- 2.1.22 The construction of the golf course within the Site will result in an appreciable change to the landscape character of the Site. This is due to the change in use from agricultural land to recreational use. The design of the golf course requires the open landscape to be broken up in order to function. This aspect of the design will therefore remove the open character of the Site which makes a contribution to the setting of the Ingestre Conservation Area.
- 2.1.23 The key vista, identified within the Conservation Area Appraisal, will be affected by the enclosure of the land. Despite this, the design of the golf course has attempted to minimise this impact by designing a parkland character which will retain interrupted views across the landscape.
- 2.1.24 Photo montages of the anticipated landscape demonstrate that the planting scheme has been designed to be set back from the road to allow these glimpsed views. It is anticipated that the change in landscape character, and change in the key vista from the Conservation Area will result in an appreciable change in the setting of the Ingestre Conservation Area. It is considered that this anticipated impact is in line with the moderate adverse effect to the Conservation Area as reported within the HS2 Phase 2a Environmental Statement.

2.2 Landscape Proposals

- 2.2.1 It is the intention to replace the existing agricultural use with a reconfigured routing for the golf course, matching the existing design philosophy. Without the ability to create an instantaneous woodland/parkland landscape, it will be necessary to introduce some gentle mounding to provide some enclosure for individual holes and avoid the feeling of “golf in a field”.

2.3 Landscape Design Objectives

- 2.3.1 The design of the landscape aims to:

- Contribute to the successful integration of the golf course reconfiguration within the existing historic landscape.
- To provide a high quality landscape structure that enhances the appearance and character of the site and its environs.
- Maintain trees and hedgerows of ‘significance’.
- Deliver ‘considerable woodland and habitat creation’ that is sympathetic to the biodiversity of the site and its connection to wildlife corridors that it abuts.
- Carefully site trees and planting to maintain key views into and out of Ingestre Conservation Area.
- Considers water management and drainage implications both within the site and beyond its boundaries.
- Ensure new landscape elements can be easily maintained, are robust and a sustainable maintenance regime can be adopted across the Site.

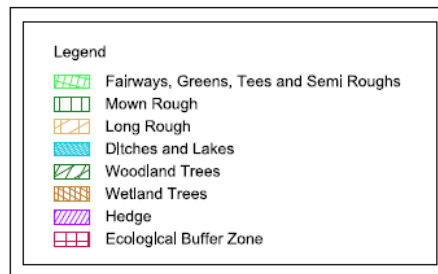
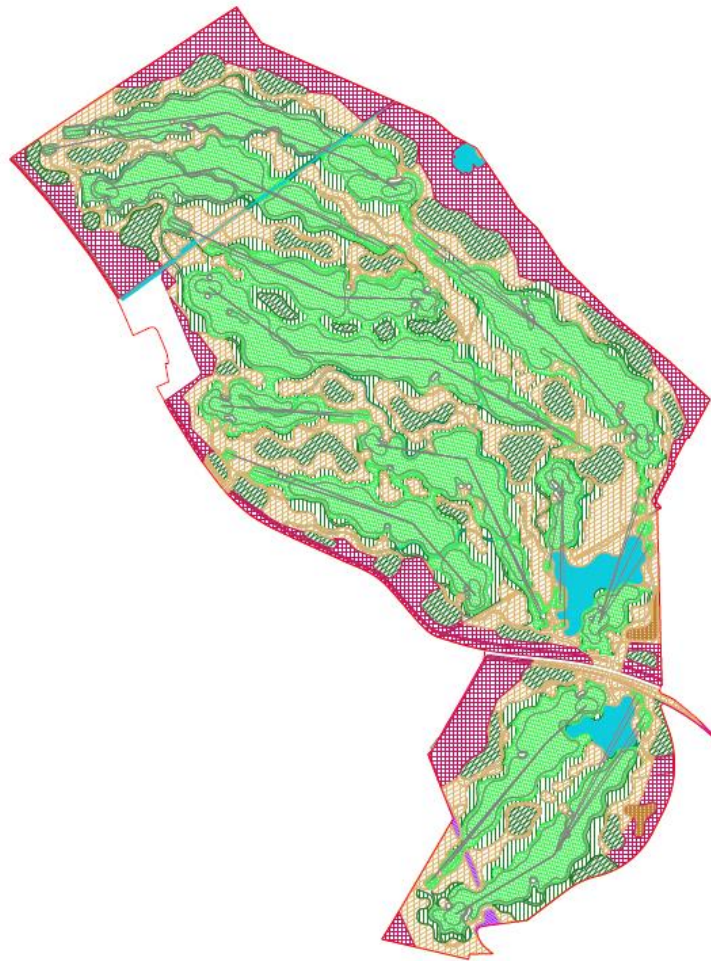
2.4 Overview of the golf course design

- 2.4.1 A traditional golf course relies on having 18 holes of golf and is usually planned as two loops of nine holes of specific lengths. The Ingestre Park Golf Club need to reconfigure the golf course to replicate their existing loops of nine holes starting and finishing at the clubhouse.
- 2.4.2 There is a requirement for the replacement golf holes to be of the same overall length with the same areas of turfgrass, the same area of bunkers, the same sized greens and tees as those which will be lost to the HS2 Scheme.
- 2.4.3 Historic England published a book entitled Golf in Historic Landscapes. Whilst this is no longer available it contained many guiding principles based on respect for the historic landscape which were applicable to the reconfiguration site and have been followed as closely as reasonably possible in the proposed design.
- 2.4.4 In order to minimise the effect on the landscape and to comply with the soil movement restrictions within the HS2 Phase 2a Additional Provisions 2 Environmental Statement, large areas within the site have been retained at the existing grade levels. Existing low value vegetation will be removed and the areas planted under the habitat diversification and turfgrass

minimisation strategies. No earthworks are planned to take place in these zones. The design has set out to maintain existing mature trees and hedgerows and any other features of ecological or historic value.

- 2.4.5 The length of the course, style of play and visual appeal are designed to be similar to the existing course to ensure the golf course plays as one seamless experience once the trees have grown on.
- 2.4.6 The only changes in topography will be gently rolling mounding to provide some degree of enclosure to individual golf holes without creating an alien landscape. Gently rolling grading, hundreds of heavy nursery stock trees and large areas of whip planting will create a sense of enclosure to individual golf holes throughout the proposed new routing.
- 2.4.7 A diverse range of new habitats will be created with mown turfgrass, long rough with wildflower mix in specified areas, significant native species tree planting, wetland, drainage ditches, waterbodies and lakes all providing habitat diversity which is currently not available.
- 2.4.8 The new holes have also been carefully designed with full attention given to the historic nature of the adjacent Ingestre Conservation Area. The views into and out of the conservation area have been considered with long views across the land retained whilst keeping the woodland nature of the existing course.

Figure 2.1 – Landscape Management Zones Plan



Not to Scale

2.5 Habitat Creation

- 2.5.1 Outside of the playing area of the golf course ecological habitat will be created. These are set out below.

Long Rough Grass

- 2.5.2 Forming the area of the Site beyond the playable rough of the golf course, the long grass areas will be left largely unmanaged for golf purposes. The aim of these areas is to allow the development of a natural, rough grass land which will provide habitat opportunities for amphibians, invertebrates and small mammals and hunting and foraging opportunities for bats, barn owls and other predators.

Ecological Buffer Zones

- 2.5.3 Located mostly around the boundaries of the Site, the ecological buffer zones will be managed through limited intervention to follow habitat succession and develop into a natural secondary climax vegetation state. At year one the majority of the areas will be seeded with a species rich wildflower seed specific for heavy soils, while 5% of the area will be left as bare ground to provide a different ecological niche.
- 2.5.4 Within the buffer zone, additional habitat enhancements will be implemented to ensure the aim of 'significant habitat creation' is met.
- 2.5.5 Specifically these will include:
- The construction of a bat house mounted on a pole near the pond on the north eastern boundary.
 - Erection of barn owl boxes at suitable locations within the Site.
 - Provision of bird and bat boxes on existing trees and new structures (specific details of which are contained in the CEMP).
 - Creation of newt hibernacula around the pond on the north eastern boundary and other suitable locations.
 - The strategic placing of large boles of trees to create suitable deadwood habitat. Large sections of trunk along with habitat piles of cordwood from a range of species will be used.
- 2.5.6 The development of the ecological buffer zone will be monitored as part of the ongoing management. Certain interventions may be needed either to enhance the developing habitats or to prevent colonisation of a single habitat type to the detriment of others. Regular five year reviews are an important aspect of the management plan.

Woodland Creation

- 2.5.7 The golf course reconfiguration will deliver large areas of woodland planting. Species mixes will be carefully chosen to ensure a climate resilient woodland which looks to address the habitat niche left by the loss of ash in the landscape. A mix of broad leaved and conifer species will be used, both to reflect the woodland characteristic of the area, but also in recognition of the enhanced capacity of mixed woodland to sequester carbon dioxide. Woodland plantings will be planted with a typical UK woodland scrub mix to help deliver a well-structured woodland of maximum

biodiversity interest.

- 2.5.8 Woodland creation will be tailored to the ground conditions prevalent in the different parts of the Site, and wetter areas will be planted with moisture loving species such as willow and alder to create a diversity of woodland habitats on Site.

Landscape tree planting

- 2.5.9 As part of the project aim is to create areas of the reconfigured course with a parkland feel, the design will include a large number of trees planted as individual 'landscape' trees. With a species list will be drawn up to reflect those trees found on the retained course, which are in many cases part of the 18th century planting scheme. The mix will also offer excellent climate resilience and due to the longevity of the trees, carbon sequestration and storage.
- 2.5.10 A number of mature, high quality trees on the retained part of the course are to be moved using a tree spade to suitable locations within the new part of the course. This has multiple benefits including a rapid development of a mature landscape and a considerably lower carbon footprint than sourcing semi mature trees from a tree nursery.

Lakes and ponds

- 2.5.11 Two lakes will be created as part of the reconfiguration of the golf course. These will be multi-functional providing sustainable drainage, water for irrigation and habitat for wildlife. The ponds will be created with substantial aquatic and marginal planting to create a range of habitats and foraging opportunities. To make sure the new waterbodies are suitable for GCN planting will include species such as water forget-me-nots, water mint, watercress, water speedwell. The ponds will remain free of fish to prevent predation on any GCN community.
- 2.5.12 The use of pre planted and pre seeded coir matting and rolls will lead to rapid and reliable development of the wet land habitat while minimising bank erosion and sediment leaching.

Ditches

- 2.5.13 A number of ditches will be created on the Site. Forming part of the sustainable drainage system, these ditches will also offer significant habitat and foraging opportunities. Managed in a sensitive manner to promote maximum ecological and bio diversity gain, the ditches will be planted and seeded with a range of native aquatic and marginal species.

Hedgerows

- 2.5.14 One hedge on the Site has been identified as being of significance to the Ingestre Conservation area. This hedgerow will be transplanted to a new location to maintain connectivity and habitat.
- 2.5.15 Elsewhere on the site 908m of new native hedgerow will be created. This will help create wildlife corridors, habitat and foraging opportunities for wildlife whilst also creating an important landscape feature.

2.6 Planting Proposals and Specification

- 2.6.1 The following section provides a summary of the proposed planting and seeding proposals within the ecological zones. Refer to the full plant schedule for details of proposed planting within plots. Reference should be made to the drawings listed in section 1.1.7 of this report.
- 2.6.2 As noted in the outline specification, all plant material is to be supplied in accordance with HTA National Plant Specification. All planting to use native species with local provenance wherever possible and from a local supplier and using reasonable endeavours to source such seed stock from the United Kingdom.
- 2.6.3 The planting scheme for the Site consists of the following plant types which are present within the non-playing areas of the golf course:
- Tree planting.
 - Native hedge mix.
 - Rough grassland.
 - Ecological buffer.
 - Aquatic plants.
 - Marginal aquatic plants

Tree Planting

- 2.6.4 All nursery stock and tree planting to be carried out in compliance with BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations.

Whip (woodland) planting

- 2.6.5 Plant bare root stock (40-60) planted in soil notch with fertiliser, tubex shelter and cane. 500 mm jute mat, pegged down surrounding each tree.
- 2.6.6 In order to form an irregular woodland trees should be planted randomly, not uniform and also in groups of a given species and size. For example, oaks in groups of 30, faster growing birches in groups of 10 with smaller species randomly distributed in groups of 5 - 20. Only species matched in growth rate should be mixed.
- 2.6.7 Plant spacing should be 2.5 m on average to promote fast establishment and in clusters of 50m separated by gaps of 7 - 10m, which will eventually close over.
- 2.6.8 The woodland areas will be sown with Barenburg 'wildflowers-shaded hedgerows and woodland edge mix'. Sow at an 80:20 grass wildflower mixture which features species that will tolerate a degree of shade and are typically found growing along hedgerows, on the edges of woodland and in woodland clearings. This will be mown (using pedestrian mower or strimmer) approximately twice yearly for the first 5 years.

The woodlands proposed within the new course consist of the following tree mix. This is divided into dry and wet woodland.

Table 2.1 Dry woodland whip planting

Plant Code	Botanical Name	Common Name	Height	Quantity
ACEcam/WH	Acer campestre	Field Maple	40-60cm	415 No.
ALNcor/WH	Alnus cordata	Italian alder	40-60cm	330 No.
ALNglu/WH	Alnus glutinosa	Black Alder	40-60cm	567 No.
ALNinc/WH	Alnus incana	Grey Alder	40-60cm	98 No.
BETnig/WH	Betula nigra	River birch	40-60cm	98 No.
BETpen/WH	Betula pendula	Common Silver Birch	40-60cm	415 No.
CARbet/WH	Carpinus betulus	Common Hornbeam	40-60cm	330 No.
CASsat/WH	Castanea saliva	Sweet Chestnut	40-60cm	98 No.
CORave/WH	Corylus avellana	Hazel	40-60cm	729 No.
CORsan/WH	Cornus sanguinea	Common Dogwood	40-60cm	175 No.
CRAmom/WH	Crataegus monogyna	Common Hawthorn	40-60cm	806 No.
EUOeur/WH	Euonymus europaeus	Common Spindle	40-60cm	330 No.
FAGsyl/WH	Fagus sylvatica	Common Beech	40-60cm	491 No.
JUGreg/WH	Juglans regia	Common Walnut	40-60cm	175 No.
PRUavi/WH	Prunus avium	Wild Cherry	40-60cm	567 No.
PRUspi/WH	Prunus spinosa	Blackthorn	40-60cm	647 No.
QUEpet/WH	Quercus petraea	Sessile Oak	40-60cm	98 No.
QUERob/WH	Quercus robur	English oak	40-60cm	415 No.
ROScan/WH	Rosa canina	Dog Rose	40-60cm	98 No.
SORauc/WH	Sorbus aucuparia	European mountain ash	40-60cm	330 No.
TAXdis/WH	Taxodium distichum	Bald Cypress	40-60cm	98 No.
TILcor/WH	Tilia cordata	Littleleaf linden	40-60cm	257 No.
TILeuc/WH	Tilia x euchlora	Caucasian Lime	40-60cm	98 No.
TILeur/WH	Tilia x europaea	Pallida Lime	40-60cm	175 No.
TILpla/WH	Tilia platyphyllos	Large leaved lime	40-60cm	175 No.
VIBopu/WH	Viburnum opulus	Guelder rose	40-60cm	330 No.
				Total :8345 No.

Table 2.2 Wet woodland whip planting

Plant Code	Botanical Name	Common Name	Height	Quantity
ALNcor/WH	Alnus cordata	Italian alder	40-60cm	28 No.
ALNglu/WH	Alnus glutinosa	Black Alder	40-60cm	36 No.
BETnig/WH	Betula nigra	River birch	40-60cm	55 No.
POPter/WH	Populus tremula 'Erecta'	Aspen 'Erecta'	40-60cm	52 No.
POPtre/WH	Populus tremula	Aspen	40-60cm	41 No.
SALab/WH	Salix alba	White willow	40-60cm	30 No.
SALsch/WH	Salix sepulcralis 'Chrysocoma'	Golden Weeping Willow	40-60cm	20 No.
TAXdis/WH	Taxodium distichum	Bald Cypress	40-60cm	14 No.

Total :276
No.

Table 2.3 Barenburg 'wildflowers-shaded hedgerows and woodland edge mix'

% of Mix	Species
(80:20)	Wildflowers
1	Agromony
1.8	Garlic mustard
1.4	Common knapweed
0.6	Foxglove
1	Hedge bedstraw
0.6	Wood avens
1	Oxeye daisy
0.2	Cowslip
0.8	Self heal
1.4	Red campion
0.8	Hedge woundwort
1.8	Upright hedge parsley
1	Tufted vetch
0.4	Ramsons
0.8	Betony
1.2	Meadowsweet
2	Yellow rattle
0.8	Bluebell
0.4	Hairy St Johns Wort
0.4	Ragged robin
0.6	Wood sage
	Grasses
24	Slender creeping red fescue
24	Hard fescue
12.8	Crested dogstail
8	Smooth stalked meadow grass
4	Small leaf timothy
4	Browntop bent
1.6	Sweet vernal
1.6	Meadow foxtail
Sowing rate 80:20 mix – 5g/m2	

2.6.9 The following management measures should be implemented after planting:

- Trees to be watered as appropriate throughout the first two growing seasons.
- Establishment check after 1 full growing season. Removal of dead material.
- Establishment check after 2 full growing seasons. Beat up plantings with replacements as appropriate.
- Around year 5, depending on development, remove tubes and recycle as appropriate.

Standard/Landscape tree planting

2.6.10 Trees are to be pit planted with access to a minimum of 7 cubic metres of topsoil (small trees 5-10 m ultimate height), 12 cubic metres for medium sized trees (10-20 m ultimate height) and 30 cubic metres for large trees (over 20 m ultimate height).

2.6.11 When planting a small amount of compost and fertiliser to be mixed with the native soil. A watering pipe to be included in planting pit. Tree supported by a double stake and flexible ties.

2.6.12 Each tree mulched with a minimum of 500 mm either side of the tree base. Mulch to either consist of jute mulch mat of horticultural mulch, topped up on a yearly basis for 5 years.

2.6.13 The specimen/landscape trees proposed within the new course consist of the following tree mix. At the beginning of every winter season, stakes and ties are checked. Trees formatively pruned as appropriate to promote good growth and form.

2.6.14 Trees to be watered as appropriate throughout the first two growing seasons.

Table 2.4 Specimen/landscape tree planting

Plant Code	Botanical Name	Common Name	Height	Girth	Quantity
ACEcam/ST	Acer campestre	Field Maple	3.0-4.0m	12-14cm	24 No.
ALNglu/ST	Alnus glutinosa	Alder	3.0-4.0m	12-14cm	33 No.
ALNinc/ST	Alnus incana	Grey Alder	3.0-4.0m	12-14cm	15 No.
ARAara/ST	Araucaria araucana	Chilean Pine	3.0-4.0m	12-14cm	3 No.
BETpen/ST	Betula pendula	Common Silver Birch	3.0-4.0m	12-14cm	27 No.
CASsat/ST	Castanea saliva	Sweet Chestnut	3.0-4.0m	12-14cm	8 No.
CEDatl/ST	Cedrus atlantica	Atlas Cedar	3.0-4.0m	12-14cm	5 No.
CEDdeo/ST	Cedrus deodara	Himalayan Cedar	3.0-4.0m	12-14cm	6 No.
CEDleb/ST	Cedrus libani	Lebanese Cedar	3.0-4.0m	12-14cm	3 No.
CORave/ST	Corylus avellana	Hazel	3.0-4.0m	12-14cm	18 No.
CRAmon/ST	Crataegus monogyna	Common Hawthorn	3.0-4.0m	12-14cm	44 No.

FAGsyl/ST	Fagus sylvatica	Common Beech	3.0-4.0m	12-14cm	33 No.
JUGreg/ST	Juglans regia	Common Walnut	3.0-4.0m	12-14cm	4 No.
PINsyl/ST	Pinus sylvestris	Scots pine	3.0-4.0m	12-14cm	27 No.
PINwal/ST	Pinus wallichiana	Bhutan Pine	3.0-4.0m	12-14cm	8 No.
PRUavi/ST	Prunus avium	Wild Cherry	3.0-4.0m	12-14cm	29 No.
PRUspi/ST	Prunus spinosa	Blackthorn	3.0-4.0m	12-14cm	21 No.
QUEpet/ST	Quercus petraea	Sessile Oak	3.0-4.0m	12-14cm	12 No.
QUERob/ST	Quercus robur	English oak	3.0-4.0m	12-14cm	43 No.
SALalb/ST	Salix alba	White willow	3.0-4.0m	12-14cm	6 No.
SALbab/ST	Salix babylonica	Babylon weeping willow	3.0-4.0m	12-14cm	10 No.
SEQsem/ST	Sequoiadendron sempervirens	Coast redwood	3.0-4.0m	12-14cm	14 No.
SORauc/ST	Sorbus aucuparia	European mountain ash	3.0-4.0m	12-14cm	9 No.
TILeuc/ST	Tilia x euchlora	Caucasian Lime	3.0-4.0m	12-14cm	9 No.
TILeur/ST	Tilia x europaea	Pallida Lime	3.0-4.0m	12-14cm	4 No.
TILpla/ST	Tilia platyphyllos	Large leaved lime	3.0-4.0m	12-14cm	12 No.
					Total :427 No.

Trees moved from 'old' course

2.6.15 As part of mitigation measures a number of trees are going to be moved from the 'old' course to a suitable location in the new course. This operation will be carried out by a specialist contractor working to a specific methodology.

2.6.16 The moved trees will require guying for stability.

2.6.17 They will require regular watering throughout the first 3 growing seasons. The trees root area shall be mulched, up to the drip line of the canopy. This mulch should be retained for the first 5 years after moving.

Hedges

2.6.18 Planted as bare root stock (40-60) in a soil notch with fertiliser, cane and spiral guard.

2.6.19 Hedge line to be mulched with horticultural mulch, topped up as appropriate for the first 5 years.

2.6.20 The hedges proposed within the new course consist of the following native mix.

Table 2.5 Native Hedge Mix 5

% of Mix	Species
15	<i>Corylus avellana</i>
40	<i>Crataegus monogyna</i>

5	<i>Euonymus europaeus</i>
10	<i>Ilex aquifolium</i>
20	<i>Prunus spinosa</i>
5	<i>Rosa canina</i>
5	<i>Viburnum opulus</i>

Trees moved from ‘old’ course

- 2.6.21 As part of mitigation measures hedgerow is to be moved to allow the creation of suitable highways visibility splays. This operation will be carried out by a specialist contractor working to a specific methodology.
- 2.6.22 This hedgerow to be removed contains trees protected by a TPO. The root protection areas of the trees within the hedgerow shall be calculated and marked out on the ground. No root cutting must occur within retained TPO trees RPA’s. Any sections of hedge that are within the RPA will have to be cleared using hand tools and chipped. Chipped material can be used as mulch onsite.
- 2.6.23 The hedgerow will require regular watering throughout the first 3 growing seasons. The hedgerow root area shall be mulched, up to the drip line of the canopy. This mulch should be retained for the first 5 years after moving.

Lake planting/Aquatic vegetation

- 2.6.24 To promote rapid development of GCN habitat and minimise erosion of bank side’s pre planted coir mats and rolls such as those provided by Terraqua (<https://terraqua.co.uk/bio-engineering/coir-rolls/>) or similar approved, will be used. This will be planted as per the supplier’s instructions in the first appropriate planting season.

Rough Grass

- 2.6.25 The rough grass seeding contains a mix of species that will provide a low maintenance and hard wearing grass cover to areas of the proposed development at the edge of the rough form which golfers may still play a ball.
- 2.6.26 A suitable seed mixture for general areas is HR.1 Golf Roughs Grass Seed Mix or similar approved. This is a hard wearing mixture for rapid establishment, Fescue grass seed mix for Golf Roughs. Designed to make rough areas easy to manage, it provides a natural looking area and allows balls to be visible when players are looking in the rough. This mix consists of:

Table 2.6 Golf Roughs Grass Mix

% of Mix	Species
30	DUMAS Hard Fescue
40	MAXIMA Strong Creeping Red Fescue
15	JOANNA Chewings Fescue
15	EUROMARIE Slender Creeping Red Fescue

Sowing rate – 35-70 grams per m2

2.6.27 The provenance of the seed shall be from a Northern European source. Seed shall be as produced for the current growing season, Blue Label certified varieties to meet EC Purity and Germination Regulations and Department for Environment, Food and Rural Affairs Higher Voluntary Standard. The Contractor shall submit Official Seed Testing certificate of germination as requested, and retain supply documentation/ certification for inspection by the Project Manager as directed.

Ecological Buffer

2.6.28 The seed mixture proposed for general ecological buffer areas are Barenbrug 'Wildflowers - Clay / Heavy Soils'. Designed to be used on soils which are clay based, prone to waterlogging during the winter and sometimes drying out during the summer months. Sown as a 80:20 mix of grass to wildflowers. The mixture consists of the following:

Table 2.7 Barenbrug 'Wildflowers - Clay / Heavy Soils'

% of Mix	Species
(80:20)	Wildflowers
0.6	Yarrow
2.4	Common knapweed
1.6	Lady's bedstraw
0.8	Oxeye daisy
0.3	Birdsfoot trefoil
0.4	Ragged robin
0.2	Ribwort plantain
1.6	Cowslip
2.4	Self heal
2	Meadow buttercup
0.4	Yellow rattle
1	Hedge bedstraw
0.8	Agrimony
0.6	Meadow vetchling
0.8	Meadowsweet
1.2	Common sorrel
0.8	Betony
0.8	Tufted vetch
0.3	Meadow cranesbill
1.6	White campion
	Grasses
22.5	Slender creeping red fescue
22.5	Hard fescue
12	Crested dogstail

% of Mix	Species
7.5	Smooth stalked meadow grass
5	Rough stalked meadow grass
3.75	Small leaf timothy
3.75	Browntop bent
1.5	Sweet vernal
1.5	Meadow foxtail
Sowing rate 80:20 mix – 5g/m ²	

- 2.6.29 Ecological buffer zones will generally be managed through limited intervention. Those areas close to the Hall and road will be mown once a year, after flowers have set seed, to maintain views of the hall and the conservation area setting. Areas away from the hall and road will generally be unmown, to promote succession.
- 2.6.30 Unmown areas will be reviewed by the project ecologist on a five yearly review and mowing may be necessary to promote or enhance developing habitats.
- 2.6.31 All areas within the ecological buffer zones will be checked yearly for invasive and undesirable species, which will be controlled accordingly.

Ecological buffer zone enhancements

Barn owl nesting box specification

- 2.6.32 Barn owl nest boxes will be fixed to existing trees. If no suitable tree exists, then the box will be pole mounted, but located close to a hedge of sheltering existing tall shrubs
- 2.6.33 Where possible, they should face onto grassland and be reasonably conspicuous with an open flight path to them. They should not face into the prevailing wind.
- 2.6.34 Although barn owl nests are usually well spaced out, placing boxes in pairs, from twenty to a few hundred metres apart, will provide a pair with roosting as well as nesting sites. The male and female roost separately, and some pairs use different boxes in those good years when they can have two broods.
- 2.6.35 Since many barn owls are killed by road traffic, it is best not to put up owl boxes close to motorways and main roads.
- 2.6.36 Barn owls are specially protected by law, and so it is illegal to disturb them close to their nest. Occupied nests - even your box - should only be visited by someone who holds a licence.
- 2.6.37 The Phase One HS2 Barn Owl Mitigation Plan should be used as key sources of information in relation to undertaking mitigation and compensation measures for barn owl, including the design and positioning of nest boxes. Detailed box specifications can also be found at the barn owl conservation trust website <https://tinyurl.com/y5rb6yx6>.

Hibernacula specification

- 2.6.38 The Great crested newt conservation handbook offers the following advice on the creation of GCN hibernacula.

Logs (further detail given in the deadwood section)

- 2.6.39 Fallen dead wood under which newts can shelter and feed may be supplemented with cut logs. These can be placed directly on the ground or in a shallow excavation with spoil and turf in between and on top of the logs. Where possible, log piles should be positioned in shady places where sunlight will not dry them out too much.

Stones and rocks

- 2.6.40 Stone, rock, clean brick rubble (without cement residues) and old or misfired bricks can be used in a similar way to logs to provide shelter and feeding areas. Building successful rock and log piles can be time consuming and requires careful attention to the timing of delivery and spreading of materials. As with log piles, stone can be placed in shallow excavations made by taking spoil to spread amongst and over the logs or stones. On clay or slow-draining soils, great care must be taken to ensure drainage is adequate and the refuge is not in a flood zone, as the lower part could become waterlogged in heavy rain. The position for rubble heaps can be anywhere within 200 metres of a pond, but in general, the closer they are to the ponds, the better. Refuges that blend into the environment are best. Encouraging moss and grass to grow on wood/stone piles by adding soil to the top and inside of heaps may increase the humidity and stability of the environment.

Bat Box Specification

- 2.6.41 A Pole Mounted Maternity Bat Box, as supplied by nhbs (or similar approved) is to be installed near the pond at the north. Currently the area contains no mature suitable trees on to which a significant bat box can be attached.
- 2.6.42 A pole mounted box is ideal for siting in locations where there are no suitable trees and walls to attach a roost to. They also allow you to position your box or boxes where they can get the maximum amount of sunlight.
- 2.6.43 The maternity bat box is a large three crevice box which is designed for maternity colonies of crevice dwelling bats such as common and soprano pipistrelles. Boxes are made from exterior grade FSC plywood which is treated with a black non-toxic woodstain. Internal ceramic plates help to retain heat and also separate the internal chamber into three narrow crevices. A bat ladder at the base of the box extends upwards through the opening, providing easy access, even for young bats.
- 2.6.44 The pole mounted maternity box includes either one or two maternity bat boxes along with either a 4m, 5m and 6m pole. The 4 metre pole is manufactured in aluminium tube and powder coated in grey, whilst for greater strength, the 5 and 6 metre poles are made from structural steel tube, galvanised and powder coated in black. These large wooden boxes attach to the pole using fixing rails. If using the two box option, the boxes are attached back to back which provides bats with a choice of environments and thermal conditions. The pole should be sunk around 1m into the ground for stability. However, as ground conditions vary, it is advised that a builder or structural engineer is consulted before installing

this box.

- 2.6.45 Additional tree mounted bat boxes will be installed on appropriate retained mature trees to provide roosting opportunities for the existing bat assemblage

Deadwood Habitat piles

- 2.6.46 A number of deadwood habitat areas shall be created. These shall be created by sourcing large boles and trunks of trees removed as part of the HS2 project. Where possible these timber sections should be from differing species, be in the region of 700 to 1000 mm in diameter or larger, and as long a length as possible. They should be placed in discreet areas of the ecological buffer zone. If possible, the sections should be partially in shade and partially in light. If this cannot be achieved then they can be placed close to trees which will provide this as they develop.
- 2.6.47 Close to the larger sections of timber, habitat piles created from cordwood from felled trees should also be created. Ideally made of branch wood between 300 mm upwards, ideally arranged in a 'cord' (4 m x 4 m x 4m). Some can be created close to ponds to act as newt hibernacula, but others should be created in a range of locations to offer maximum habitat opportunities.

3. Landscape and Ecology Management Objectives and Actions

3.1 Management Objectives

- 3.1.1 Key ecological management objectives are described below as follows:

- Key habitat areas will be retained and enhanced, such as existing trees, tree lines and hedgerows. This will ensure wildlife corridors are retained, such as bat commuting routes and small mammal corridors, and will also help to prevent harm to any individual species during construction.
- Given the known GCN metapopulation to the south of the Site, a key aim is to enhance the site for GCN. This will be achieved by the creation of new ponds, enhancement of the existing pond, and planting of rough grassland/species-rich wildflower grassland and woodland.
- The incorporation of features to enhance the value of the site for bats, given the known foraging and commuting routes through the site and roosting opportunities nearby (including a Myotis bat species maternity roost, three soprano pipistrelle day roosts and a common pipistrelle day roost within trees).

- 3.1.2 Key heritage management objectives are described below as follows:

- Designing a parkland character which will retain interrupted views across the (conservation area) landscape.
- Minimise the impact on listed building setting through good design and management of developing landscape.

- 3.1.3 Key woodland and arboricultural management objectives are described

below as follows:

- Creation of 'considerable woodland' areas which will contain a climate and pest resilient mixture of species, including replacement for ash. The right tree, the right place, right reason principle.
- Using tree species found in the historical planting of Ingestre Hall to perpetuate the historical landscape and habitat opportunity.
- Using natural methodologies, such as mulch and jute matting, during establishment to reduce chemical inputs into the system.

3.2 Description and Evaluation of Features to be Managed

Rough Grassland

- 3.2.1 Rough grassland will be seeded once the ground works are complete. Germination will be checked after a month and the Contractor will return to fix areas which haven't germinated. Hand weeding / spot weeding will be undertaken throughout year 1. First cut will be approximately 1 year after seeding (and outside reptile and mammal hibernation period). Once established, the rough grassland will be flail mowed twice a year with scarification to thin out thick grasses once or twice a year.

New Tree Planting

- 3.2.2 Newly planted trees will be inspected throughout each year within maintenance including weed control around the base, formative pruning and maintaining the depth of mulch and soil conditions.

Whip Planting

- 3.2.3 Whip will be planted in the winter planting season (Oct – end of Feb). Trees will be notched into topsoil with a handful of compost. Tubex tubes with stake will be installed on each tree. 500 mm jute mats will be installed and pegged down around each whip. An establishment check will be carried out after the first and second growing season. Dead trees will be removed and replanted after the second season (bashed up). After the approximately ten years, woodland areas may need to be thinned and any nurse species such as Scots pine reducing in number. Woodland management will then continue thereafter, with crown lifting and removal of weak trees to favour the better specimens as appropriate. If possible, thinned trees can be moved elsewhere on the site where they would make a positive contribution to the site.

Standard Trees

- 3.2.4 Tree pit excavated, rootball planted in tree pit with compost and watering pipe and mulch mat and mulch. At the beginning of every winter season, stakes and ties are to be checked and adjusted as appropriate. Trees formatively prune as appropriate to promote good growth and form. After 4 years, stakes and ties removed. Throughout the management period there will be a continual process of formative pruning. Once trees have reached 150mm diameter at breast height (DBH) a formal process of tree inspection, for the discharge of a tree owner's duty of care.

Existing Trees

- 3.2.5 Existing trees will be inspected to record pests and diseases, deadwood and structural condition. Tree management operations or removal will be undertaken as required (observing Tree Preservation Orders and Conservation Areas as well as wildlife legislation).

Native Mixed Hedge

Transplanted Hedges

- 3.2.6 November each year, reinforcement planting with similar species. Council responsible for maintenance of hedges either side of highway. Where within ownership, check every October until hedge is fully re-established and reinforced with new whips, removing all dead growth. Irrigation to transplanted hedge weekly throughout the growing season in accordance with specialist transplant contractor recommendation.

Native mix hedges

- 3.2.7 Planted in November. Check after first growing season for establishment. Replace dead whips. There will be an establishment prune in the first year followed by an annual prune on alternate sides to promote berries / fruit. After 4 years, hedge allowed to grow on naturally. The council might maintain hedges on the roadside.

Lakes and Ponds

- 3.2.8 Lakes excavated and lined with EPDM 1.2mm liner on geotextile. Planting shelves at 500mm below high water level. Aquatics and marginals planted on or above planting shelf including the use of coir pre planted rolls. Species selected for GCN habitat. Annual inspection and thinning / transplanted to replace damaged or dead plants.

Ditches

- 3.2.9 Ditches seeded with long rough grass mix and planted with perennials. First cut of long grass 12 weeks after seeding. Strimmer cut will be made in one direction with the majority of the vegetation topped off at 150mm above grade as appropriate in the growing season. Annual vegetation check, cutting back prior to winter to ensure ditches flow. This will be done on alternative ditch sides over 500 m stretches to maintain habitat.
- 3.2.10 Existing ditches will be managed in a similar fashion, without additional planting. Areas of invasive Himalayan balsam to be managed by hand pulling of plants just before flowering.

Ecological buffers

- 3.2.11 Creation of hibernacula, bat house and bare ground in year one. Remaining areas seeded with a species rich wildflower grass suitable for heavy soils. Thereafter limited intervention. Removal and control of invasive species. Management to be reassessed every 5 years by project ecologist and management requirements to be reviewed.

Bat and Bird Boxes

- 3.2.12 A range of box models will be used to provide varied roosting and nesting conditions for a variety of different bat and bird species that are likely to utilise the Site post development. Bat boxes are to be attached to retained trees to provide additional roosting provision. Suggested bat boxes include the 2F Schwegler general purpose bat box and a larger box such as the Schwegler 2FN bat box. The boxes will be placed on different aspects to provide a range of microclimatic conditions, although south facing aspects are optimal and northern aspects least suitable.
- 3.2.13 Bird boxes are to be attached to retained trees across the site to provide long term nesting provision. Woodcrete boxes, which are hardwearing and long lasting will be used such as the Schwegler 1B General Purpose Nest Box.
- 3.2.14 The locations and type of bat and bird boxes to be used must be specified by the site ecologist, who will also supervise the installation.

3.3 General Landscape Maintenance Objectives for the Establishment Period to Ten Years

3.3.1 General maintenance objectives for the Site are as follows:

- To provide a high quality landscape structure that enhances the appearance and character of the site and its environs.
- To be responsive to climate change and adapt maintenance activities accordingly and to achieve an environmentally and economically sustainable management level for the site that is sensitive to future changes.
- To create an attractive and sustainable environment which contributes to the well-being of the users.
- To ensure the longevity of new areas of landscape planting and seeding through regular and effective management and maintenance.
- Maintenance during the establishment phase for new planting, to include watering, replacement planting of dead or dying plants, adjustment of stakes and ties.
- To maintain successful green links through the site and connectivity with the surrounding landscape context.
- To maintain paths in an accessible, safe and attractive condition.
- To create a well-managed appearance for the development, prevent planting encroachment onto paths and maintain good visual surveillance across the development.
- To use preventative measures to minimise maintenance input generally across the development i.e. use of bark mulch to control weeds and reduce the need for watering.
- To maintain existing tree habitat structures for the benefit of invertebrates, birds and small mammals.
- To maintain existing trees in a healthy and safe condition, monitoring their structural condition and integrity; Trees should continue to be monitored on an annual basis and following any storm events or strong winds. Any health and safety works should be prioritised within public open space or adjacent paths.
- To provide additional habitat structure and foraging/sheltering opportunities for invertebrates, birds and small mammals through new planting.
- To maximise the provision and establishment of native species and species of local provenance that are appropriate to the immediate surrounds and local area, and
- To provide new roosting/nesting opportunities for bat and bird species and create new sheltering and hibernation opportunities for amphibians, reptiles, invertebrates and small mammals.

3.4 Long-term Maintenance Objectives

3.4.1 Detailed maintenance objectives are listed in Table 2 maintenance schedule in Chapter 6. These objectives will continue in the long-term as

the objectives remain consistent. In general the objectives relating to the soft landscape are to allow for potential periodic thinning of plant beds should beds become excessively overcrowded, to remove dead or damaged plants and undertake further replacement planting where necessary and reinstate any grassed areas subject to erosion or damage.

- 3.4.2 Trees overhanging the site should continue to be monitored on an annual basis and following any storm events or strong winds. Any health and safety works should be prioritised within public space or adjacent paths.

4. Maintenance Management and Implementation

4.1 Maintenance Management

4.1.1 During maintenance and in accordance with best practice, the following will be undertaken by the contractor:

- If active bird's nests are discovered during the works or it is believed that protected species are present within the site, work must cease immediately and an appropriately licensed ecologist be engaged to assess the situation.
- Ideally, work to trees and hedgerows will be undertaken outside of the bird nesting season (March to August inclusive). Where this is not possible, a nesting bird check should first be undertaken to ensure there are no active nests present. In the event a nest is found, works will not be permitted in that area and a buffer surrounding the nest, until in the opinion of the site ecologist the young have fledged.

4.2 Implementation of the Maintenance Works

4.2.1 Planting should be maintained by the landscape contractor for a minimum of 12 months following planting, with any defective planting replaced by the end of the first year.

4.2.2 Maintenance of the landscape areas shall be undertaken by a competent Landscape Contractor, registered with the British Association of Landscape Industries (BALI).

4.2.3 All soft landscape areas to be maintained to BS7370-4:1993 Grounds Maintenance.

4.2.4 Maintenance visits shall be undertaken at minimum monthly intervals (i.e. 12 visits per annum). An increased number of visits may be required at certain times of the year, for instance fortnightly Mar-Sep to cut the grass.

4.2.5 The landscape maintenance of the site is to be carried out to a high standard at all times and in accordance with the schedule and specifications within this management plan.

4.2.6 The contractor shall ensure that the site is left tidy and safe following all maintenance works. All arisings should be removed from site in accordance with the maintenance schedule.

4.2.7 The contractor shall programme their visits to coincide with appropriate weather conditions for carrying out maintenance operations including the use of chemicals and the mowing of grass. Grass mowing in excessively wet conditions is prohibited.

4.2.8 A record of all maintenance visits should be completed by the maintenance contractor and these should be submitted to the Client for review every six months.

4.2.9 The maintenance contractor shall ensure that any chemical application is undertaken by trained personnel only with the appropriate NPTC certificates and in accordance with the manufacturer's recommendations.

The 'Code of Practice for the Safe Use of Pesticides for Non-agricultural Purposes' will be observed where applicable. The use of any chemicals shall be included within the maintenance visit records as described above.

- 4.2.10 The Contractor should notify the Client immediately to any significant pest or disease problem affecting plant stock and a suitable strategy for treatment should be discussed and agreed with the Client.

5. Management Responsibilities, Restrictions and Limitations

5.1 Introduction

- 5.1.1 The general maintenance of the golf course will be handed over from the construction contractor to the golf course on a hole by hole basis as construction is complete. Ingestre Golf course and the consultant agronomist will be responsible for the successful establishment of the soft landscaping.
- 5.1.2 Depending on project timings tree and woodland planting will occur before grass establishment to allow planting in the correct season. Should the tree planting season be missed, it will be completed in the next available planting season.

5.2 Restrictions and Limitations for Maintenance Operations

- 5.2.1 Should any trees or vegetation require extensive thinning or removal in the future, works should be undertaken outside bird breeding season, which is March to August inclusive, where feasible. If works cannot be scheduled outside these months, a suitably experienced ecologist should undertake a nesting bird check no more than 48 hours prior to the proposed works.
- 5.2.2 Root Protection Zones should be adhered to during all works on site.
- 5.2.3 A felling licence maybe required from the Forestry Commission if more than 5m³ of timber is to be felled in a calendar quarter. It is recommended a suitably qualified forestry or arboricultural professional is consulted before any significant tree felling is carried out.

5.3 Plant Replacements

- 5.3.1 Any plants that fail to establish within a period of five years are to be replaced in the next planting season with others of similar size and species.
- 5.3.2 Any trees, shrubs or other planting that die, become damaged or are removed within a period of 5 years following the first occupation of the development are to be replaced in the next planting season with other plants of similar size and species as the failed specimens including the replanting of any standard trees and above which die unless otherwise agreed in writing by the Local Planning Authority". Standard trees are defined as those matching BS3936.
- 5.3.3 After five years it is recommended that a site inspection occurs to record site conditions and to determine whether replacement planting or over-seeding is required to maintain a high quality landscape scheme that is consistent with the original objectives.
- 5.3.4 After the initial five year period, the maintenance schedule should be checked and updated to reflect the situation for future years as required.

5.4 Ongoing Monitoring and Remedial Measures

- 5.4.1 This management plan will be continually monitored and reviewed annually

with any resulting changes incorporated into the subsequent years' programme. The review will be in consultation with the local planning authority and other interested parties and will provide an updated management plan for on-going management. The updated management plan shall be submitted to and agreed by the local planning authority.

5.5 Protected Species and Habitats

Birds

- 5.5.1 Should any trees or vegetation require extensive thinning or removal in the future, works should be undertaken September to February, outside the bird breeding season, where feasible. If works cannot be scheduled outside these months, a suitably experienced ecologist should undertake a nesting bird check no more than 48 hours prior to the proposed works.

Bats

- 5.5.2 Where any mature trees require felling/significant pruning in the future, an ecologist should be contacted to discuss whether survey and/or aerial tree climb inspection is applicable ahead of the works.
- 5.5.3 Installed bat boxes should be checked to ensure that they remain in place and to identify any damage which might occur and which might require boxes to be replaced.

Amphibians and Reptiles

- 5.5.4 Amphibians and reptiles are typically active from March to October so care is to be taken when cutting grass during these months. Short, heavily managed grassland will be short sward (exposed) therefore of very low risk, however medium to tall sward have a higher risk of amphibians and reptiles being present and therefore the grassed areas (edges in particular) should be walked slowly prior to cutting to encourage any amphibians and reptiles to move away of their volition (if present). Medium to tall sward grass should not be cut to ground level immediately and cutting should be undertaken in a directional manner, working from the middle of a space outwards to enable time for the amphibians and/or reptiles to escape.

Invertebrates

- 5.5.5 Wildflower grasslands and flowering plants provide a valuable nectar and food source for invertebrates. Once established, wildflower grassland should be left to seed before a cut is taken (i.e. a late summer cut). Pruning of shrubs and herbaceous species should be undertaken once flowering has finished.

Trees and woodlands

Trees covered by Tree Preservation Order (TPO)

- 5.5.6 Tree Preservation Orders currently exist to cover individual trees, tree groups (Group TPO), woodland (Woodland TPO) and areas of trees (Area TPO). Individual and Group TPOs specify the exact position, number and species of the protected trees, whereas Woodland TPOs and Area TPOs protect all trees within an area of land shown on the TPO map as follows: Woodland - All trees young and old, including the woodland floor regeneration; Area - only those trees that were present at the time the TPO

was confirmed (trees younger than the date of the TPO are not covered). If in doubt over the protection of specific trees, the local Tree Officer/Arboricultural Officer should be contacted for clarification prior to site layout proposals being finalised.

- 5.5.7 The Tree Preservation Order prohibits the topping, lopping, damaging, wilful destruction and uprooting of the trees covered by the TPO without prior consent of the Local Authority. This includes pruning works and any work proposed in close proximity that may have an impact on both above and/or below parts of these trees.
- 5.5.8 Consent needs to be sought from the Local Planning Authority if tree removal work or tree management work affect protected trees within the site or those which overhang the site boundary. Tree works must not be carried out without permission.

Trees located within a Conservation Area

- 5.5.9 Trees located within a Conservation Area are protected similarly to trees covered by Tree Preservation Orders. In order to be able to carry out any work to those trees, the Local Authority should be notified of the intention to carry out the work. The authority has then six weeks to respond. Objections to the works will lead to a Tree Preservation Order being placed on tree groups or individual trees. No response indicates no objections to the work.
- 5.5.10 Work will also be permitted if it is included in an Arboricultural Method Statement and Tree Protection Plan approved by the Local Planning Authority where development proposals for a site have been granted Planning Permission.

Felling Licence

- 5.5.11 The felling of trees is regulated in England by the Forestry Act 1967 (the Act). The Forestry Commission is the government regulator that enforces the provisions of the Act.
- 5.5.12 The felling of growing trees in England is restricted under section 9 of the Act. It requires that felling is either authorised by a felling licence issued by the FC or the felling activity is excepted from the need for a licence.
- 5.5.13 There are many exceptions to the need for a licence, based on the type of the tree, the location of the tree, the size of the tree, the nature and scope of the felling activity and the person responsible for the felling. These are primarily set out in section 9 of the Act as well as the Forestry (Exceptions from Restriction of Felling) Regulations 1979.
- 5.5.14 The most relevant exemption is;

'Section 9 - Requirement of licence for felling (1) A felling licence granted by the appropriate forestry authority shall be required for the felling of growing trees, except in a case where by or under the following provisions of this Part of this Act this subsection is expressed not to apply...

(d) is immediately required for the purpose of carrying out development authorised by planning permission granted or deemed to be granted under the

Town and Country Planning Act 1990 or the enactments replaced by that Act, or under the Town and Country Planning (Scotland) Act 1997.

- 5.5.15 Advice from a suitably qualified arboriculturalist should be sought before any felling takes place onsite.
- 5.5.16 The granting of permission to remove trees covered by a TPO by the Local Planning Authority does not remove the need to obtain a felling licence from FC if more than 5 m³ of timber are to be felled in a calendar quarter and none of the exemptions apply.

6. Maintenance Schedule and Specification

6.1 Introduction

- 6.1.1 The schedule outlines the recommended maintenance operations, the appropriate times of year they should be undertaken and the recommended frequency each year in order to achieve the overall landscape and ecological objectives. The schedule details operations that are recommended for the establishment phase up to five years following implementation and also those operations required in the mid to long-term.
- 6.1.2 The landscape and ecological management plan is to be carried out in order to ensure the successful aftercare of the landscaping and habitat creation.
- 6.1.3 The schedule is provided in the accompanying excel spreadsheet titled 15931 Ingestre Park Golf Club LEMP Maintenance Schedule.

6.2 Standards and References

- 6.2.1 All maintenance operations should be undertaken in accordance with the following best practice guidance:
- BS3998:2010 Tree Works Recommendations;
 - BS7370-4: 1993 Grounds maintenance. Recommendations for maintenance of soft landscape (other than amenity turf);
 - BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations; and
 - Any other current UK and EU standards.

