



**Long Copse Lane
Biodiversity Enhancement Management Plan
(BEMP)
Land and Partners Ltd
01 March 2022**



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1 Introduction

1.1 BACKGROUND

- 1.1.1 This report presents a Biodiversity Enhancement Management Plan submitted as part of an outline planning application for residential development on 14.6ha of land north of Long Copse Lane, Emsworth, Hampshire (hereinafter referred to as the 'site'). The site is centred on Ordnance Survey grid reference SU 747 079. The drafting of the BEMP was undertaken by Davidson-Watts Ecology Ltd on behalf of Land and Partners Ltd.
- 1.1.2 The site consists predominantly of grazed horse paddocks separated by hedgerows and fencing with training paddocks, small woodland copses and two residential properties with associated buildings.
- 1.1.3 The site is located north of the town of Emsworth, directly adjacent to suburban areas. The north and west of the site is bordered by Southleigh Forest, which comprises of ancient semi-natural woodland, planted ancient woodland, secondary broadleaved woodland and plantation woodland. The land to the east of the site is pastoral and similar in nature to the site. The wooded landscaped grounds of Hollybank House and a small pasture field lie to the west of the site. The Longacre house lies between the site and Long Copse Lane, wrapped on three sides by the application site'
- 1.1.4 The site forms the main land parcel of a housing allocation (Policy H8) in the Submission version of the emerging Havant Borough Local Plan. The site was also formerly identified as falling within a suitable housing site for early release in the Havant Borough Council Local Plan Housing Statement (Site UE76). A comprehensive masterplan for the whole allocation (16.9ha) has been prepared as required by Policy H8 and of the 260 dwellings anticipated within the masterplan area, around 210 are expected to come forward within the planning application site. The illustrative masterplan is shown in Figure 3.

1.2 PURPOSE OF THE BEMP

- 1.2.1 This Biodiversity Enhancement Management Plan (BEMP) has been produced in support of the outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved (Planning Reference APP/21/00893).
- 1.2.2 As this BEMP is in support of an outline planning application, further detail will be submitted and approved as part of the detailed design of the development prior to commencement.
- 1.2.3 The BEMP details the measures proposed to mitigate the effects of the Proposed Development on biodiversity receptors (i.e. habitats and species), and details the measures to be undertaken to enhance the biodiversity value of the Site.
- 1.2.4 The Proposed Development has been designed, as far as is practicable, to avoid or reduce effects on landscape and biodiversity features through development design and impact avoidance. These include measures to avoid impacts on protected species to ensure compliance with legislation.

1.3 AIMS OF THE BEMP

1.3.1 The BEMP report aims to:

- a) Describe and evaluate the biodiversity features to be managed, including the location and details of biodiversity enhancements.
- b) Outline the objectives of management for the site and associated management Zones.
- c) Describe the management prescriptions or actions to meet those objectives
- e) Set out those responsible for implementation of the plan

2 Legislation and Policy

2.1 OVERVIEW

- 2.1.1 Relevant legislation and planning policy applicable to the ecology features of the Proposed Development is listed in this section. Further details for the prevailing legislation can be found in the Ecological Impact Assessment (EclA) (Davidson-Watts Ecology Ltd, 2021)

2.2 LEGISLATION

- 2.2.1 2.2.1 The following legislation has been considered in preparing this BEMP and will be considered in the preparation of the final BEMP:
 - Conservation of Habitats and Species Regulations 2019 (as amended) (the Habitats Regulations);
 - Wildlife and Countryside Act (WCA) 1981 (as amended);
 - Countryside & Rights of Way Act 2000 (as amended);
 - Natural Environment and Rural Communities (NERC) Act 2006 (as amended); and
 - Animal Welfare Act 2006.

2.3 PLANNING POLICY

- 2.3.1 The National Planning Policy Framework (NPPF) (2021) Chapter 15 outlines out how the planning system should contribute to and enhance the natural and local environment by protecting sites of biodiversity, recognising wide benefits from natural capital, minimising impacts on and providing net gains for biodiversity. If a proposed development would result in significant harm to the natural environment, Site of Special Scientific Interest or irreplaceable habitats which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused (Paragraph 180a and b). Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design,

especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate (Paragraph 180c).

2.3.2 E14 | The Local Ecological Network

2.3.3 All development in Havant Borough is expected to protect, conserve and enhance the Borough's Local

2.3.4 Ecological Network. Planning permission will only be granted where:

- a. The development results in biodiversity net gain;
- b. The development avoids the fragmentation of the Local Ecological Network including across administrative boundaries;
- c. The applicant has identified and assessed the level of ecological value of the site through adequate and proportionate information and any matters arising have been addressed through an avoidance or mitigation plan; and
- d. Any necessary mitigation plan includes provision for ongoing management and maintenance. In addition to the above, priority habitats in the Borough are afforded protection by specific nature conservation designations. Development proposals which could affect a designated site will need to consider the impact and respond appropriately.

2.3.5 Para 5.158 - In line with national policy, the Council expects development proposals to achieve a net gain in biodiversity on the site and where appropriate the surrounding area.

2.3.6 5.159 The Council encourages pre-application discussions to address any issues at an early stage and to determine potential mitigation measures.

2.3.7 5.160 Almost any development can achieve biodiversity net gain. Even small developments can include the use of design features to integrate biodiversity attributes into the building itself. At least every new dwelling, or commercial developments that involve the construction of a new building can include boxes or bricks for bats and birds, and other features can additionally be incorporated within larger developments. Further guidance on how to do this and the kinds of products that are available is in the Biodiversity Strategy.

2.3.8 5.161 DEFRA's Biodiversity Metric is one method of calculating net gain. The metric is reliant on up-to date ecological information and may require specialist ecological knowledge to complete. The Council encourages pre-application discussions to determine potential methods for calculating biodiversity net gain.

2.4 OTHER GUIDANCE

2.4.1 Other guidance that provides relevant context includes:

- UK Post - 2010 Biodiversity Framework;
- Biodiversity 2020 – A strategy for England's wildlife and ecosystem services; and
- Local Biodiversity Action Plan (LBAP) for Hampshire.

2.5 BIODIVERSITY OFFSETTING METRIC

- 2.5.1 Local and national guidance on biodiversity offsetting has been used to calculate the biodiversity losses and gains as a result of the Proposed Development as described in this Plan. Metric V2.0 has been used as the Ecological Impact Assessment was developed prior to the roll out of V3.0.

3 Existing Biodiversity Features and Development Impact

3.1 OVERVIEW

- 3.1.1 The following ecological features have been identified on site. This information is taken from the Ecological Impact Assessment (Davidson-Watts Ecology Ltd 2021) which was undertaken in support of the application for outline planning permission.
- 3.1.2 The majority of the site is dominated by species poor improved and semi-improved grassland, this habitat and buildings form the majority of the directly affected development area. These habitats also have the least biodiversity value.
- 3.1.3 The following habitats have been identified with high biodiversity value and will either be retained, or impacts minimised in line with the mitigation hierarchy. Their descriptions are provided below.
- five hedgerows,
 - two ponds
 - two small broadleaved woodland copse to the south of the site, as well as Hollybank Woods adjacent to the site boundary to the north.

Ponds

- 3.1.4 Two ponds have been confirmed within the site boundary. A small pond is located within Colman's Copse, which is shallow with no associated aquatic vegetation and is approximately 80% shaded. There is also a garden pond at the Old Dairy Farm which is a manmade pond with a butyl liner. This pond is surrounded by amenity grassland and located close to a boundary hedgerow. There are minimal marginal and emergent plants with 20% shade from the adjacent hedgerow.

Hedgerows

- 3.1.5 There are five sections of hedgerow across/on the site which are all intact and form the paddock boundaries. All are species poor (dominated by hawthorn *Crataegus monogyna*) with tall ruderal vegetation at the base where access is not available for horses to graze. The central hedgerow features low numbers scattered trees including oak and features no signs indicative of management.

Broadleaved Woodland and Trees

- 3.1.6 Two small broadleaved woodland copses are present within the site boundary. The copse to the east of Hollybank access road is dominated by silver birch *Betula pendula* and oak *Quercus robur*.
- 3.1.7 The copse in the south-west corner, known as Colman's copse is approximately 60m by 70m and is dominated by mature oak and semi-mature white poplar *Populus alba* with occasional semi-mature hawthorn, blackthorn *Prunus spinosa*, ash *Fraxinus excelsior* and horse chestnut *Aesculus hippocastanum*. Larger trees within the copse feature low to moderate ivy cover and there are several fallen trees. Dense growth of bramble and holly bush surround the northern and eastern woodland copse edge
- 3.1.8 Hollybank Woods is offsite to the north and west of the site. Parts of the woods (although none immediately adjacent to the Site) are designated as a SINC. Parts of the woods (including an area of woodland immediately north of the Site) are semi-natural ancient woodland.
- 3.1.9 The southern boundary to Long Copse Lane is predominantly a scrub and tree line (oak, ash, sycamore *Acer pseudoplatanus*, goat willow *Salix caprea* and bramble *Rubus fruticosus*).
- 3.1.10 To the north of Hollybank Farm is a small cluster of semi-mature and mature trees located to the rear of the garden area, which includes mature oak and ash trees.

3.2 HABITATS ADJACENT TO THE DEVELOPMENT FOOTPRINT

- 3.2.1 The site is located adjacent to a large forest area consisting of planted ancient woodland, ancient semi-natural woodland and secondary broadleaved woodland to the north and west (Southleigh Forest and Hollybank Wood). Parts of these forest areas are designated as local wildlife sites.
- 3.2.2 A forest stream/drain out of Southleigh Forest that flows west to east occurs on the northern boundary of the site and continues away from the site at the site's northeast corner before flowing south-east to the River Ems. This drain/stream is well vegetated by trees and woodland and provides an important ecological link to the wider riverine habitats of the River Ems corridor.

3.3 SPECIES

- 3.3.1 The primary ecological importance of the site is the presence of a breeding population of Bechstein's bats, that predominantly use Southleigh Forest on the northern boundary of the site for roosting and foraging. A maternity roost was for this species was found in Coleman's Copse in 2009.
- 3.3.2 The northern and eastern boundary of the site provides an important connection to other roosting, foraging, and commuting habitats that this population uses to the east and south of the site.
- 3.3.3 The presence of another 10 bat species on the site is also important, this includes barbastelle and also likely to include Alcaho bat, although the majority of species that dominate the site are relatively common and abundant in Hampshire and the UK (i.e. *Pipistrellus* spp).

- 3.3.4 Soprano pipistrelle bats were confirmed as day roosting in one of the buildings and has legal implications prior to site development.
- 3.3.5 The other species present that require consideration at the local level include dormice, that use the woodland boundaries of the site, and three red list bird species (starling, song thrush and house sparrow) and one amber list bird species (Dunnock) that are breeding on the site.
- 3.3.6 Reptile populations and other nesting birds generally are assessed to be important at the site level, although direct impacts on these taxa have legal implications prior to development under the Wildlife and Countryside Act 1981 (as amended).

3.4 DEVELOPMENT IMPACT

- 3.4.1 The proposed development masterplan has embedded mitigation within the design to avoid direct ecological impacts where possible and manage indirect effects. This includes the retention all significant areas of broadleaved woodland, the retention of approximately 40% of existing onsite hedgerows, and the retention of treelines on the boundaries.
- 3.4.2 The primary habitat impacts will be on the species poor grasslands that occur over the majority the site from the construction of the residential development.
- 3.4.3 The main residual impacts identified are direct impacts to bats, breeding birds, dormice and reptiles from construction, and potential indirect impacts to these species (in particular Bechstein's and other rare bat species), using the adjacent forest areas post construction.
- 3.4.4 The primary mechanism to ensure the protection and conservation status of Bechstein's and other bat species, dormice, reptile and bird species, are the provision of large buffers between the development (average 35m) and adjacent forest habitats have been designed to provide dark corridors, sustainable drainage systems and public space, as well as increasing wildlife habitat and the management of disturbance. Furthermore, additional off-site woodland creation is being undertaken within the home ranges of the local Bechstein's bat population as further enhancement.

4 Management Plan

4.1 STRUCTURE OF THE BEMP

- 4.1.1 The BEMP is the primary document that pulls together the combined mitigation obligations to deliver the biodiversity. This section is a standalone document that can be referred to onsite and updated as required.
- 4.1.2 The BEMP remains high level and details the primary mitigation and enhancement measures necessary to address the ecological impacts of the proposed development. The BEMP will be developed further to take account of any planning obligations, masterplan changes, consultee feedback arising from the planning application process. Further detailed plans, including landscape

4.2 MANAGEMENT ZONES

- 4.2.1 The site has been divided in to four broad management zones which are described in section 5 below, and are as follows (see Figure 1):
- Zone A – (3.537 ha) primary retained habitat, mitigation, and biodiversity enhancement zone.
 - Zone B – (2.235 ha) secondary retained habitat, mitigation, and biodiversity enhancement zone
 - Zone C – (8.653 ha) the primary development area
 - Zone D – Off site biodiversity enhancement/habitat creation area
- 4.2.2 Each management zone will have its own specific objectives and prescriptions or actions to contribute to the delivery of the BEMP aims and related planning obligations and where appropriate any species licensing requirements.

4.3 ROLES AND RESPONSIBILITIES

Site operator (SO)

- 4.3.1 The site operator/owner will be responsible for implementing the measures described within this report, including appointment of suitably experienced ecologists and for reporting the results of management and monitoring measures to the Local Planning Authority.

Ecological Clerk of Works (ECOW)

- 4.3.2 An ecological clerk of works will be appointed by the site operator to oversee the mitigation and monitoring set out in this document.

Licence Supervision (LS)

- 4.3.3 Mitigation works undertaken as part of a European Protected Species Mitigation Licences will be supervised by the Named Ecologist on the licence or their accredited agents, this could be the ECOW where qualified.

4.4 HABITAT MITIGATION AND COMPENSATION OVERVIEW

- 4.4.1 The adjacent forest habitats of Southleigh Forest and Hollybank wood, along with the eastern and southern boundaries, will be protected by a buffer from the main development area of between 20 and 40m in Zone A. This will provide an important buffer to protect the forest habitats from dust, noise and lighting as a result of construction activities and provide approximately 3.3ha of multiuse (recreation, biodiversity etc) space during the operational phase, including specific biodiversity areas of 0.32 ha that will be non-accessible, primarily on the northern buffer. The buffer zones in Zone A will build on the woodland edge habitat that currently exists, providing for further predominantly woodland planting with a grassland/scrub mosaic (for public use) and siting of treelines and hedgerows to screen the buffers from artificial lighting from the main development area.
- 4.4.2 Also within Zone A and parts of Zone B will be the creation of seven wetland and pond habitats within the buffer zones and as part of the sustainable urban drainage system (SUDs).
- 4.4.3 The anticipated loss of 259m of hedgerow in the centre of the proposed development site will be compensated by the establishment of at least 275m of hedgerow within Zone A and Zone B using a species rich native tree/hedgerow mix (six tree species per 30m).
- 4.4.4 The 13 felled trees will be compensated with further trees and shrubs being established in Zones A to C with biodiversity focussed tree planting within Zone A and Zone B.
- 4.4.5 The establishment of these habitats will provide for a high biodiversity component in Zones A and B and will provide an overall on-site biodiversity net gain of 3.2 ha. The habitats will support the range of birds, reptiles, bats specifically (including the rare Bechstein's bat).
- 4.4.6 Further habitat gain will be achieved through the provision of 9.5 ha's of woodland planting agreed with the Stansted Estate for address nutrient off setting requirements and Bechstein's bat connectivity opportunities.

4.5 SPECIES MITIGATION AND COMPENSATION

Bats

- 4.5.1 A key biodiversity mitigation objective of proposed development is the protection and enhancement of habitat for Bechstein's bat. Bechstein's bats use the northern and eastern boundaries as commuting and foraging habitat. They have also been recorded roosting in Colman's copse. Therefore, the buffer zones in these areas have been designed primarily to provide dark vegetated flight corridors for Bechstein's bats to ensure their existing commuting and foraging habitat are not indirectly affected by the proposed developed e.g. lighting.
- 4.5.2 The principles of the Trowbridge Bat Mitigation Strategy (John's Associates 2020) which were developed specifically to address Bechstein's bat and other Annex 2 bats species, have been used as a guide in the design of the buffers in Zone A on the northern, eastern and western boundaries of the site. The designed buffers provide for an average of 30-35m width and the management/control of artificial light levels to less than 1 lux at the development side of the buffer, reducing to 0.2 lux in the bat habitat corridors.

- 4.5.3 As well as Bechstein's bat which is one of the most sensitive species to indirect impacts, the proposed buffer and lighting management mitigation will provide for the remaining bat assemblage including barbastelle and alcaholic bat and dormouse populations which are also affected by these impacts.
- 4.5.4 The soprano pipistrelle bats that day roost in the Hollybank Farmhouse will require specific mitigation under a Natural England licence, prior to the demolition of this building. The loss of the roost will be mitigated through the erection of bat boxes within the nearby western buffer habitats on retained trees, and also bat access points in the roof of a new dwelling in a similar location to the current roost with direct access to Hollybank wood.

Dormice

- 4.5.5 The dormice distribution from the surveys were found in areas of woodland bordering the site in Zone A. As part of the biodiversity management of the buffer habitats provided for within the masterplan, the establishment of further woodland and scrub/hedgerow habitats will increase the available habitat for this species in the areas they currently occur.

Birds

- 4.5.6 The habitats outlined in habitat mitigation section will aim to provide an increase in suitable foraging habitats and scrub for nesting habitat for many of the breeding bird species found on the site. Additionally, the gardens of the new dwellings will offer further habitat for nesting and foraging birds currently recorded on site.
- 4.5.7 Specific mitigation for starlings and house sparrows will also include species-specific nest boxes in the eaves of new buildings (i.e. garages/houses) close to existing territories and adjacent to buffer zones.

Reptiles

- 4.5.8 The majority of reptiles are located in the proposed buffer areas in Zone A, and these taxa will be provided for with the grassland, scrub and woodland habitats created in this area. The wetland habitats will be particularly beneficial for grass snakes.
- 4.5.9 However as protected species, reptile occurrence in the hedgerows, tall ruderal and log piles/dung heap habitats being removed for the development cannot be ruled out (i.e. around the built habitats of Zone B and Zone A). As part of the construction schedule of works, a habitat manipulation approach to reducing the available habitat for reptiles in the areas affected and increasing suitable habitat in the adjacent buffers will be adopted. Habitats will be retained where possible in these Zones and created in line with Figure 1.
- 4.5.10 Any vegetation removal works will be undertaken under ecological supervision and log piles and other suitable habitats dismantled. Where any animals are found they will be moved to the nearest suitable buffer habitat.

4.6 ENHANCEMENT

- 4.6.1 The following approaches have been used to support the development of BNG for this development proposal.
1. On site biodiversity net gain using Natural England's Biodiversity Metric 2.0

2. Off-site biodiversity net gain using Natural England's Biodiversity Metric 2.0
3. Onsite species-specific enhancements.

4.6.2 Onsite and offsite habitat enhancements are summarised provided in the tables below.

On-site	Baseline		Post development on site		Onsite Change		Overall Change	
Habitat group	Existing area	Existing value	Plot Area Proposed area	Proposed value	Area change	Onsite Unit change	Area change	Unit change
Cropland	0.0	0.0	0.0	0.0	0.0	0.0	-9.6	-19.2
Grassland	9.0	18.3	-6.4	-2.6	-15.5	-20.9	-15.5	-20.9
Heathland and shrub	0.5	4.2	0.1	1.2	-0.4	-3.0	-0.4	-3.0
Rivers and lakes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Urban	1.0	1.0	9.7	20.7	8.7	19.7	8.7	19.7
Wetland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Woodland and forest	0.0	0.0	0.3	0.9	0.3	0.9	9.9	24.3

Off-site	Baseline		Post development Off-site		Off-site Change	
Habitat group	Existing area	Off-site Existing value	Plot Area Proposed area	Off site Proposed value	Area change	Offsite Unit change
Cropland	9.6	19.2	0.0	0.0	-9.6	-19.2
Grassland	0.0	0.0	0.0	0.0	0.0	0.0
Heathland and shrub	0.0	0.0	0.0	0.0	0.0	0.0
Rivers and lakes	0.0	0.0	0.0	0.0	0.0	0.0
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0
Urban	0.0	0.0	0.0	0.0	0.0	0.0
Wetland	0.0	0.0	0.0	0.0	0.0	0.0
Woodland and forest	0.0	0.0	9.6	23.4	9.6	23.4

4.6.3 The headline results for BNG are provided below:

On-site baseline	Habitat units	23.63
	Hedgerow units	2.32
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	43.65
	Hedgerow units	2.58
	River units	0.00
Off-site baseline	Habitat units	19.20
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	23.37
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	Habitat units	24.20
	Hedgerow units	0.26
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	Habitat units	102.41%
	Hedgerow units	11.27%
	River units	0.00%

5 Management, enhancement and monitoring plan (January 2022)

5.1 INTRODUCTION

- 5.1.1 This part of the BEMP is designed to be a detachable working document, that can be edited, revised and updated throughout the lifetime of the development activities and subsequent operational phase.
- 5.1.2 Its format is Zone based, outlining the specific ecological interest, management objectives, management prescription/actions to be undertaken, and by who, and the expected ecological outcome where relevant. To ensure a consistent review cycle, monitoring of each prescription to assess the effectiveness against the objective and expected ecological outcome is also included in the table.
- 5.1.3 The relevant Mitigation Zones are shown in Figure 1. As this BEMP has been developed as part of the outline planning application process and therefore will be subject to change where any planning obligations, consultee responses and further planning applications (e.g. reserved matters) are progressed. More detailed planting and landscaping plans will be developed to detail specific mitigation and enhancement. However, at this stage the BEMP should be read in conjunction with the following documents:
- Masterplan SK1 Rev S
 - Landscape plan
 - Lighting Technical Note (Jan 2022) - WSP
 - CEMP
- 5.1.4 Overall responsibility for the implementation of the management plan rests with the Site Operator/Owner (SO). However, to ensure the appropriate skills and technical or legal requirements are met, for certain prescriptions, either an Ecological Clerk of Works (ECOW), or Licensed Supervisor (LS) have been named as having responsibility where appropriate.

5.2 ZONE A (3.537 HA)

Biodiversity Interest

- 5.2.1 Zone A currently consists of retained woodlands including Colemans copse, individual trees, tree lines on the eastern boundary, woodland edge on the northern boundary. The majority of the proposed buffer is dominated by species poor grassland habitats with patches of tall ruderal vegetation.
- 5.2.2 Species currently using Zone A include reptiles and dormice (in the woodland edge) and bats (specifically Bechstein's bats) which are using the northern and eastern boundaries of the site and Coleman's copse for foraging, roosting and commuting. Reptiles and a range of bird species are also utilising the existing habitats of woodland edge, scrub, tall ruderal and grassland habitats in Zone A.

Objectives

- 5.2.3 Retention and protection of Coleman's copse, individual trees, the adjacent ancient woodland edge habitats to the west and north, and retention of the intact/continuous tree line to the east of the site.
- 5.2.4 Creation of 3.2ha of mixed-use biodiverse habitats including broadleaved woodland, scrub, wildflower grasslands for dormice, bats, reptiles and birds and where appropriate recreation. Including 0.32 ha of wildlife reserve area.
- 5.2.5 Ensure the continued use and enhancement of commuting and foraging bats along the northern and eastern boundaries, especially for Bechstein's bat.
- 5.2.6 Ensure the protection and enhancement of Coleman's copse for roosting and commuting Bechstein's bats.
- 5.2.7 Contribute to the prevention of unmanaged of public access to ancient woodlands to the north and west of the site.

ZONE A Prescriptions

Relevant objective	Action	Responsibility	Timing	Expected ecological outcome (EEO)	Performance indicator
5.2.3 5.2.4 5.2.5 5.2.6	Creation and delineation of 20-40m wide buffer in Zone A between woodland edge and development area, including the delivery of the bat dark corridors as part of the management of artificial lighting effects on nocturnal wildlife (see Lighting technical note WSP 2022).	SO	Prior to construction. Establishment 5 years – grassland, scattered scrub 10 years – dense scrub 25 years – immature woodland	Buffers in Zone A will provide the primary biodiverse habitats to meet the key mitigation objectives of Zone A. Sem-natural grasslands Scrub/tall ruderal Woodland Buffers in Zone A will ensure the artificial light levels within the buffer zone remain sufficiently dark to allow bats to continue to utilise the area	Establishment of biodiversity buffer areas in line with obligations and confirmed by ECOW following establishment. Lighting monitoring confirms the lux levels of 0.2 lux within the bat corridor and no more than 1 lux at the buffer boundary following construction. Biodiversity monitoring of buffer habitats.
5.2.4 5.2.5	Habitat creation and planting plans to be developed with detailed landscaping plan.	SO/ECOW	Prior to reserved	Confirmation of areas and specifications of habitat creation.	Planting plans approved by LPA at reserved matters.

5.2.6	Including maintenance requirements.		matters application		
5.2.4 5.2.5 5.2.6	Habitat creation to deliver native woodland species mix to reflect, complement and extend the adjacent semi-natural broadleaved woodland including: 1. Woodland areas – oak/ash hazel/hawthorn/holly 2. Scrub – hawthorn/holly and bramble 3. Grassland – Wild flower mix	SO/ECOW	Following reserved matters approval	Buffers in Zone A will provide the primary biodiverse habitats to meet the key mitigation objectives of Zone A. Sem-natural grasslands Scrub/tall ruderal Woodland Providing habitat for , invertebrates, reptiles, birds, dormice and bat foraging and commuting.	Habitat creation delivered in line with approved planting and landscape plans. Biodiversity monitoring of habitats and species (Dormice, reptiles, birds and bats) showing presence/utilisation of habitats.
5.2.4 5.2.5	Establishment of four wetland areas as component of the SUDs plan. The SUDs will comprise of native wetland plants.	SO/ECOW	Following reserved matters approval	Delivery of biodiversity net gain for wetlands/ponds, amphibians, reptiles and invertebrate communities. Wetlands/ponds will provide drinking and	Habitat creation/SUDs delivered in line with approved planting and drainage plans. Biodiversity monitoring of habitats

				foraging habitats for bats and birds.	
5.2.7	Dense scrub (e.g. hawthorn, holly, bramble) to be established on the northern boundary as part of planting plans to deter unmanaged public access to Southleigh Forest.		Planting prior to construction. Effective 5-10 years	Prevention of indirect disturbance of biodiversity to Southleigh Forest from unmanaged public access.	Habitat and public access monitoring showing habitat barriers remain in place and no evidence of public access to Southleigh Forest from the northern boundary.

5.3 ZONE B (2.235 HA)

Ecological Interest

- 5.3.1 Zone B prior to development consists of the secondary biodiversity management area Broadleaved woodland, scattered trees and scrub, and species poor hedgerows border horse grazed paddocks.

Objectives

- 5.3.2 Retention and protection of existing woodland and trees and the retention and protection of approximately 40% of existing hedgerow through the construction phase.
- 5.3.3 Establishment of an east-west wildlife corridor and linking of retained woodland through additional habitat creation within the development area.
- 5.3.4 Management of Zone B for woodland, scrub, grassland habitats and connectivity for mobile species (bats, birds and hedgehogs).
- 5.3.5 Establishment of wildlife enhanced wetlands as part of SUDs plan.

ZONE B Prescriptions

Relevant objective	Action	Responsibility	Timing	Expected ecological outcome (EEO)	Performance indicator
5.3.2	Protection measures for retained hedgerows, woodland and trees during construction (see CEMP).	SO/ECOW	Prior to construction	Retention of habitats within the development area	Biodiversity monitoring prior to construction confirms protection measures in place.

5.3.3 5.3.4 5.3.5	Habitat creation and planting and maintenance plans to be developed with detailed landscaping plan. Including maintenance requirements.	SO/ECOW	Prior to reserved matters application	Confirmation of areas and specifications of habitat creation.	Planting plans approved by LPA at reserved matters.
5.3.3	Habitat creation to deliver native woodland species mix to semi-natural broadleaved woodland including: 4. Woodland areas – oak/ash hazel/hawthorn/holly 5. Scrub – hawthorn/holly and bramble Grassland – Wild flower mix	SO/ECOW	Following reserved matters approval	Provision of the biodiverse habitats to meet the key mitigation objectives of Zone A. Sem-natural grasslands Scrub/tall ruderal Woodland Providing habitat for, invertebrates, birds, hedgehog and bat foraging and commuting.	Habitat creation delivered in line with approved planting and landscape plans. Biodiversity monitoring of habitats and species showing presence/utilisation of habitats.
5.3.5	Establishment of three wetland areas as component of the SUDs plan. The SUDs will comprise of native wetland plants.	SO/ECOW	Following reserved matters approval	Delivery of biodiversity net gain for wetlands/ponds, amphibians, reptiles and invertebrate communities. Wetlands/ponds will provide drinking and foraging habitats for bats and birds.	Habitat creation/SUDs delivered in line with approved planting and drainage plans. Biodiversity monitoring of habitats

5.4 ZONE C (8.653 HA)

Biodiversity Interest

- 5.4.1 Dominated by species poor improved and semi-improved grassland and buildings containing known bat roosts. Areas of hedgerow and tall ruderal vegetation occur.

Biodiversity Objectives

- 5.4.2 Prevention of killing/injury and unnecessary disturbance of day roosting soprano pipistrelle bats using existing buildings.
- 5.4.3 Prevention of killing and injury to reptiles and disturbance to nesting birds through timing, habitat manipulation and translocation in areas of affected suitable habitat.
- 5.4.4 Biodiversity enhancement of public open space.
- 5.4.5 Provision of bird nesting and bat roosting opportunities in the built environment.

ZONE C Prescriptions

Objective	Action	Responsibility	Timing	Expected ecological outcome	
5.4.3	Site protection measures and barriers to identify retained habitats and trees (along with Zone B)	SO/ECOW	Prior to construction	Protection and retention of existing hedgerows and trees during construction activities	ECOW to confirm effective protection measures in place prior to works. Retained trees and hedge monitored monthly to ensure protection measures

					are effective throughout construction phase
5.4.3	Pre-development protected species surveys and where appropriate reptile translocation	ECOW	Prior to construction as part of CEMP. Timed for autumn.	Avoidance of direct harm to protected reptiles and nesting birds. Meet statutory requirements.	
5.4.2	Bat licence application and associated pre licence surveys for pipistrelle roost in existing building	ECOW	Surveys in most recent bat survey season. Licence application to be submitted 3 months prior to works, and generally timed for Autumn	Avoidance of harm to roosting bats and meeting favourable conservation status of pipistrelle bats. Meet statutory requirements.	
5.4.4 5.4.5	Habitat creation and planting plans to be developed with detailed landscaping plan.	SO/ECOW	Prior to reserved	Confirmation of areas and specifications of habitat creation.	Planting plans approved by LPA at reserved matters.

	Including maintenance requirements.		matters application		
5.4.4 5.4.5	Habitat creation to deliver native tree species, shrubs and semi-natural grassland for open spaces.	SO/ECOW	Following reserved matters approval	Provision of the biodiverse habitats to meet the key mitigation objectives of Zone C Semi-natural grasslands Native trees Providing habitat for, invertebrates, birds, hedgehog and bat foraging and commuting.	Habitat creation delivered in line with approved planting and landscape plans. Biodiversity monitoring of habitats and species showing presence/utilisation of habitats.
5.4.5	Installation of built environment mitigation to include 25 residences with bird (swallow cups, house sparrow boxes) nesting features and 20 residences with integral bat boxes/tubes or ridge access points. Location to be nearest biodiversity buffer habitats.	SO/ECOW	During house building phase	Provision of roosting and nesting enhancement and compensation	25 bird nesting and 25 bat roost features incorporated into residences. Confirmed through monitoring programme.
5.4.4 5.4.5	Installation of hedgehog access (hedgehog highways) in garden fences 13cm x 13cm	SO/ECOW	During house building phase	Hedgehog permeability through the development	ECOW sign off access point prior to house sale.

5.5 COMPARTMENT (AREA) D

Ecological Interest

5.5.1 Area D currently consists of arable/agricultural land adjacent to ancient woodland (see Figure x)

Objectives

5.5.2 Creation of offsite 1.6 bat specific mitigation broadleaved woodland habitat for Bechstein's bat connectivity between Stansted and Southleigh Forests.

5.5.3 Creation of 8 ha off site nutrient mitigation consistent of broadleaved woodland habitat.

ZONE D Prescriptions

Objective	Action	Responsibility	Timing	Expected ecological outcome	Monitoring
5.5.2	Creation and delineation of 1.5ha of woodland in line with concept (Figure 2)	SO/Landowner	Following outline planning permission Establishment 5 years – 10 years – dense scrub 25 years – immature woodland	Linkage of two major forest areas supporting ecological connectivity of Bechstein's bat and other bat species. Net gain in broadleaved woodland and associated botanical, invertebrate, and vertebrate species.	Establishment in with obligations and confirmed by ECOW following planting Biodiversity monitoring of created habitats.

5.5.3	Creation and delineation of 8 ha of woodland in line with concept (Figure 2) for nutrient off setting	SO/Landowner	Establishment 5 years – 10 years – dense scrub 25 years – immature woodland	Delivery of the nutrient offsetting requirements to support conservation of coastal European sites. Net gain of broadleaved woodland habitat and associated botanical, invertebrate, and vertebrate species, including increasing overall foraging and long term roosting habitat for Bechstein's bat within colony home ranges.	Monitoring
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5.6 MONITORING

5.6.1 The BEMP provides for a biodiversity monitoring programme with the following key objectives:

- Biodiversity monitoring the performance of habitat creation on site and within the buffers in line with BEMP objectives.
- Monitoring the performance of the construction programme in protecting retained habitats.
- Monitoring the use of species-specific mitigation such as the presence of breeding red list bird species, reptiles, dormice and bat species (specifically) Bechstein's bat.
- Monitoring of artificial light within the ecological buffers on the northern, eastern and south west boundaries.
- Monitoring the performance of offsite created habitats for Bechstein's bat and nutrient off setting.
- The monitoring programme to be undertaken over a period of approximately 20 years to ensure woodland creation is likely to be successful. However, many species/habitats specific monitoring will be between 1-10 years.
- Data obtained during monitoring will be used to adjust/modify mitigation where required to meet BEMP objectives.
- Pre-construction baselining for certain species will be required to build on existing datasets to ensure comparable analysis can be undertaken. From which it will be possible to draw objective conclusions as to the effectiveness of the biodiversity mitigation, compensation.

6 References

CIEEM (2019) Biodiversity Net Gain – Principles and Guidance for UK construction and developments.

HMSO The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

HMSO The Countryside and Rights of Way Act 2000.

HMSO Wildlife and Countryside Act 1981.

Lawton, J (2010). Making Space for Nature: A review of England's Wildlife Sites and Ecological Network. Report submitted to the Secretary of State, the Department for Environment, Food and Rural Affairs. London.

Figure 1 BEMP Zones



Figure 2 Offsite habitat creation for Bechstein's Bat and nutrient off setting

