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Client: ACRE
Project: 9 Newlands Avenue
Report: Landscape and Ecological Management Plan

QUALITY ASSURANCE

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd (Greengage) was commissioned by ACRE to produce a Landscape and Ecological Management Plan (LEMP) for 9 Newlands Avenue in Radlett, Hertfordshire, hereafter referred to as 'the site'.

The granted planning consent (planning ref: 23/0570/FUL) for the site includes "the phased development comprising the demolition of the existing 2 storey house and associated outbuildings. Erection of 3 x two storey detached dwellings with basement level and integral garage and associated amenity space. Associated landscaping works to include parking, gatehouse, and re-sited access from Newlands Avenue (amended plans received)."

This LEMP document has been produced to address Condition 26 of the planning consent for the proposed development at the site.

Condition 26 states:

NO DEVELOPMENT (excluding demolition at Phase 0) SHALL TAKE PLACE BEFORE a site wide landscape and ecological management plan (LEMP) has been submitted to, and approved in writing by, the local planning authority. The LEMP may be updated from time to time as the approved development is to be implemented in phases. The LEMP shall contain full details of the required mitigation set out at Section 5.2 of the approved Preliminary Ecological Appraisal (Greengage, dated July 2022) with the exception of details relating to roosting bats. All management and monitoring activities shall be secured for a minimum of five years.

Reason: To ensure that the development does not result in unacceptable ecological impacts and that the required mitigation and its management is secured for the required period of time. To comply with Policy CS12 of the Hertsmere Core Strategy (2013) and Policies SADM10 and SADM12 of the Site Allocations and Development Management Policies Plan (2016).

Greengage undertook a Preliminary Ecological Appraisal (PEA) in June 2022 which identified potential for a number of ecological receptors on site and mitigation recommendations were made to avoid impacting these.

Further emergence surveys were recommended to determine presence/likely absence of roosting bats. Greengage undertook a suite of bat emergence surveys in August and September 2022 and an updated survey in June 2023. The surveys identified a single common pipistrelle *Pipistrellus pipistrellus* roost observed on one occasion in 2022 within the main residential building on site (B1).

Proposals will result in the demolition of the buildings and therefore destruction of the roost. All bats are protected by UK legislation, and therefore a licence from Natural England will be required to ensure the development is legally compliant. As per the condition wording, the mitigation strategy in relation to roosting bats has been omitted from the LEMP, as the specific details for this item will be agreed and approved separately with/by Natural England, as the appropriate consulting body.

The purpose of this report is to detail the mitigation strategies for potential ecological receptors on site and provide a management plan to ensure the longevity of the habitats on site to meet the objectives of the planning condition and complement local and regional biodiversity targets.

A number of opportunities to enhance the site were identified through the detailed design evolution to complement the landscaping (Appendix A). Enhancements for the site include creation of wildflower meadow, a wildlife pond, wildlife friendly planting, tree and hedgerow planting, integrated bird and bat boxes in buildings, hanging bird and bat boxes in trees, dormice boxes in hedgerows and invertebrate features as well as on-going wildlife sensitive management.

A habitat management plan has been produced to ensure the continued success of the ecological enhancements providing biodiversity value in the medium to longer term. Monitoring of the recommended management of the site for biodiversity will occur frequently as will ecological surveys for bats, birds and insects, so that remedial actions can be performed accordingly.

N.B. This LEMP has been produced based on the soft landscaping produced by Holland Green (See Appendix A). Should soft landscape planting details for the scheme change going forward, Greengage should be provided with the updated document(s) and this LEMP reviewed/revised accordingly.

2.0 INTRODUCTION

Greengage Environmental Limited (Greengage) was commissioned by ACRE to produce a Landscape and Ecological Management Plan (LEMP), to cover a period of five years, detailing specifications for ecological avoidance, mitigation and enhancement features for 9 Newlands Avenue in Radlett, Hertfordshire, hereafter referred to as 'the site', in order to discharge the ecology related condition (Condition 26) attached to the consented development (planning ref: 23/0570/FUL).

2.1 AIMS AND OBJECTIVES

This LEMP document aims to collate the site-wide ecological mitigation strategies and future management regime at the site.

The suburban location of the site, within the Hertsmere District, and potential surrounding biodiversity as described in the Preliminary Ecological Appraisal (PEA) (ref: 552089ItFeb23FV05_PEA) produced by Greengage (Greengage PEA, 2023) to inform the planning application, identified a number of potential ecological receptors and provided mitigation measures to ensure these were not impacted by the development.

This document has been produced to address Condition 26 attached to the planning consent.

Condition 26 states:

NO DEVELOPMENT (excluding demolition at Phase 0) SHALL TAKE PLACE BEFORE a site wide landscape and ecological management plan (LEMP) has been submitted to, and approved in writing by, the local planning authority. The LEMP may be updated from time to time as the approved development is to be implemented in phases. The LEMP shall contain full details of the required mitigation set out at Section 5.2 of the approved Preliminary Ecological Appraisal (Greengage, dated July 2022) with the exception of details relating to roosting bats. All management and monitoring activities shall be secured for a minimum of five years.

Reason: To ensure that the development does not result in unacceptable ecological impacts and that the required mitigation and its management is secured for the required period of time. To comply with Policy CS12 of the Hertsmere Core Strategy (2013) and Policies SADM10 and SADM12 of the Site Allocations and Development Management Policies Plan (2016).

The purpose of this report is to detail the mitigation strategies for potential ecological receptors on site and provide a management plan to ensure the longevity of the habitats on site to meet the objectives of the planning condition and complement local and regional Biodiversity Action Plans (BAPs).

In accordance with the above aims, the purpose of this specification is to provide the contractors with clear instructions for the incorporation of habitats and enhancement features that will optimise the biodiversity value.

In addition, this specification includes a management plan for the successful establishment and long term management and monitoring of the habitats and enhancement features.

2.2 PROPOSED SCHEME

The consented development seeks "*the phased development comprising the demolition of the existing 2 storey house and associated outbuildings. Erection of 3 x two storey detached dwellings with basement level and integral garage and associated amenity space. Associated landscaping works to include parking, gatehouse, and re-sited access from Newlands Avenue (amended plans received).*"

The soft landscape design for the development is shown in Figure A.1, produced by Holland Green™ on the 31st March 2021, provided as Appendix A.

2.3 SITE LOCATION AND DESCRIPTION

The site extends to approximately 1.39 hectares (ha) and is centred on Ordnance Survey National Grid Reference (OS NGR): TL 15828 00006, OS Co-ordinates 515828, 200006.

The site comprises a residential house (B1), associated garages and outbuildings, a large area of modified grassland as well as introduced shrub, ruderal/ephemeral and other neutral grassland. The site is bounded by tree lined hedgerows, fences and more introduced shrub.

The site is located on the western outskirts of the village of Radlett. To the north, east and south lies residential housing and to the west lies one residential house and associated garden, with greenspace, arable fields and a pocket of woodland beyond.

3.0 ECOLOGICAL BACKGROUND

3.1 BASELINE CONDITIONS

Desktop Study

The information provided in the biological data search from Hertfordshire Environmental Records Centre (HERC) as part of the Greengage PEA, 2023 identified records of a number of protected and BAP priority species within a 2km search radius of the site. Among others, these include the following species of relevance to the site:

- Bat species such as Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*), noctule (*Nyctalus noctula*) common pipistrelle (*Pipistrellus pipistrellus*) Nathusius's pipistrelle (*Pipistrellus nathusii*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared (*Plecotus auritus*);
- Badger (*Meles meles*);
- Reptiles including common lizard (*Zootoca vivipara*), grass snake (*Natrix helvetica*) and slow-worm (*Anguis fragilis*);
- Hazel dormouse (*Muscardinus avellanarius*);
- Birds including barn owl (*Tyto alba*), house sparrow (*Passer domesticus*), song thrush (*Turdus philomelos*), swift (*Apus apus*), tree sparrow (*Passer montanus*) and house sparrow (*Passer domesticus*);
- Stag beetle (*Lucanus cervus*);
- West European hedgehog (*Erinaceus europaeus*);
- Great crested newt (*Triturus cristatus*).

Preliminary Ecological Appraisal

The Greengage PEA, 2023 identified a residential house (B1), associated garages and outbuildings, a large area of modified grassland as well as introduced shrub, ruderal/ephemeral and other neutral grassland. The site is bounded by tree lined hedgerows, fences and more introduced shrub.

Details received from a site walkover and desk top study confirmed that the site has the following:

- UK Biodiversity Action Plan (BAP) Priority Habitat 'Hedgerows' on site associated with the most northern boundary and partially along the southern boundary.
- Low to High potential for roosting bats within buildings on site;
- Low and High potential for roosting bats in trees on site;
- Moderate foraging habitat for bats mainly associated with some of the treelined hedgerows;
- Moderate potential for foraging badgers;
- Low potential to support reptiles limited to a small patch of grassland/ruderal vegetation;

- Low potential to support dormice within the treelined hedgerows;
- High potential to support nesting birds and moderate potential for Wildlife and Countryside Act 1981 (as amended) Schedule 1 species, barn owl, on site;
- Low potential to support invertebrates;
- High potential to support hedgehog; and
- Confirmed presence of Wildlife and Countryside Act 1981 (as amended) Schedule 9 invasive species, *Rhododendron* sp.

A total of seven bat emergence surveys, undertaken across August and September 2022, confirmed the presence of one common pipistrelle (*Pipistrellus pipistrellus*) bat roost observed during one survey. The roost was identified as an occasional summer day roost used by individual/small numbers of common bat species located under loose roof tiles on the southern aspect of the main residential building (B1).

No further surveys were recommended for the remaining ecological receptors as impacts are considered possible to be avoided through the implementation of mitigation measures detailed within this report.

An update bat survey was undertaken in June 2023 to ensure we have survey data from the most recent activity season, which did not observe any further emergences.

3.2 BIODIVERSITY ACTION PLANS (BAP)

In accordance with the aims and objectives of this LEMP, a review of the relevant BAPs and local conservation targets was undertaken. This review, along with the results of the Greengage PEA, 2023 and bat surveys, is then able to form the context for ecological enhancement at the site.

UK BAPs have been developed which set priorities for nationally important habitats and species. To support the BAPs, Habitat/Species Statements (otherwise known as Habitat Action Plans (HAPs)/Species Action Plans (SAPs)) were produced that provide an overview of the status of the species and set out the broad policies that can be developed to conserve them. A list of priority species of conservation importance was also developed.

The UK BAP was succeeded in 2012 by the UK-Post 2012 Biodiversity Framework which informed the creation of the Biodiversity 2020 strategy; England's contribution towards the UK's commitments under the United Nations Convention of Biological Diversity.

Despite this, the UK BAP priority species lists and conservation objectives still remain valid through integration with local BAPs (which remain valid), and in the form of the Habitats and Species of Principal Importance list (as required under Section 41 of the Natural Environment and Rural Communities (NERC) Act).

Local Biodiversity Action Plans (LBAPs) ensure that national action plans (the UK BAP/Biodiversity 2020) are translated into effective action at the local level, and establish targets and actions for locally characteristic species and habitats.

The site is subject to the Hertfordshire LBAP which defines key habitats and taxa/species of regional and local conservation interest. Receptors of relevance to this strategy and objectives which should accordingly be considered within the scheme design are summarised in Table 3.1 below.

Table 3.1 Hertfordshire LBAP Key Habitats and Species of Relevance to this Site

Priority habitats/species	Local objectives of relevant BAPs and policy	Objectives for this scheme
Dormouse	<ul style="list-style-type: none"> To update our knowledge of dormice distribution in Hertfordshire To gain a better understanding of habitat usage by dormice in the county To maintain and enhance the current county population To raise awareness of the conservation needs of the dormice to key target audiences, such as woodland owners/managers, mammal enthusiasts and the general public 	<ul style="list-style-type: none"> Retention of species-rich hedgerows and trees including retention of species of value to dormice including hazel, oak, hawthorn, yew, sycamore and hornbeam Provide a sensitive lighting scheme to avoid lighting disturbance to treelines and hedgerows Planting additional species of potential value to dormice such as yew, crab apple Provide nest boxes for additional nesting opportunities for dormice
Natterer's bat (Myotis nattereri)	<ul style="list-style-type: none"> To clarify post 2000 status and establish base line population information on the Natterer's Bat in Hertfordshire To protect, enhance and create roost sites and suitable connecting and feeding habitats To raise awareness among key audiences, specifically landowners, planners, architects and churches 	<ul style="list-style-type: none"> Provide foraging resources by encouraging invertebrate prey to habitats on site Provide roosting opportunities in the form of bat boxes within the built form and trees on site Ensure external lighting doesn't result in adverse impacts, upon bats especially A monitoring programme to be put in place and data to be submitted to HERC
Birds including tree sparrow and song thrush;	<ul style="list-style-type: none"> To enhance foraging habitat and nesting opportunities To protect and reverse the decline of the tree sparrow in the county Halt further decline of song thrush in Hertfordshire, maintaining population at 1996/97 levels as a minimum 	<ul style="list-style-type: none"> Provide additional shelter and foraging resources in the form of tree and shrub planting Avoid management of hedgerows between March and August to protect nesting song thrushes – January or February are the ideal months

Priority habitats/species	Local objectives of relevant BAPs and policy	Objectives for this scheme
		<ul style="list-style-type: none"> • Provide foraging resources by encouraging invertebrate prey to habitats on site • Provide nesting opportunities in the form of bird boxes in trees on site • On-going wildlife sensitive management avoiding use of pesticides • A species list of birds observed during the monitoring period and all records including any birds noted on site to be submitted to HERC
Stag beetle	<ul style="list-style-type: none"> • Seek to protect, conserve and enhance habitats and ensure favourable management for stag beetle • To maintain the stag beetle populations through increasing public awareness of their importance and in particular of its reliance on dead wood 	<ul style="list-style-type: none"> • Provide habitats which increase habitat value for stag beetles in the form of loggeries within the shaded communal landscaping

This LEMP will detail specific ecological interventions to contribute to delivery of the above objectives.

The habitat creation and enhancements will also benefit a number of other species not highlighted within the table as they are not LBAP species, however are still of relevance to the site.

3.3 COMPETENCIES

Laura Thomas, who prepared this report, has an undergraduate degree in Biology (BSc Hons) and a Master's degree in Evolutionary and Behavioural Ecology, holds a Natural England Bat Survey Level 1 Class Licence and is a Graduate member of CIEEM. Laura has over 6 years' experience in the commercial sector.

Daniel Perlaki, who reviewed this report, has an undergraduate degree in Ecology (BSc Hons), a Master's degree in Conservation Science and Policy and is a Graduate member of CIEEM. Dan has over 5 years' experience in ecology survey and consultancy.

Helen Hinchliffe, Principal Consultant, who has authorised this report, has an undergraduate degree in Physical Geography (BSc Hons), is a full member of CIEEM and has over 16 years experience as a professional ecological consultant.

This report was written by Laura Thomas and reviewed and verified by Daniel Perlaki and Helen Hinchliffe who confirm in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

4.0 MITIGATION

4.1 HEDGEROWS

The species-rich hedgerows along the most northern boundary will be retained. Prior to any site preparation or construction works taking place, all relevant protective measures will be in place around all retained trees and hedgerows within the construction vicinity of the site. Full detailed measures are provided in the Arboricultural Impact Assessment and Arboricultural Method Statement (Doc Ref: AIA & AMS. 9 Newlands Avenue. 12.07.22), produced by Patrick Stileman Ltd.

General best practice includes installation of temporary mesh fencing around the Root Protection Areas (RPA) of retained trees and hedgerows, with signage indicating 'tree protection areas'. These areas will be checked prior to the commencement of work by an Arboricultural Clerk of Works (ACoW) and throughout the course of development.

Material that could contaminate the soil such as concrete mixing, diesel oil and vehicle washing will not be discharged within 10 metres (m) of the tree stems. Furthermore, no fires will be lit or liquids disposed of within 10m of an area designated as being fenced off or otherwise protected in the scheme.

Care and vigilance will be taken to avoid crown and stem damage when working with machinery near the retained trees. Plant machinery with booms, jibs and counterweights/ tall or wide loads will be controlled by banksman to maintain adequate clearance from tree crowns.

4.2 FORAGING BADGER

During construction, any excavations left open overnight will have planks or ramps placed within them to allow any animals falling into the excavations to climb out. Barriers around the construction site should have gaps under fences to allow hedgehog, badger and foxes through these areas without becoming trapped. Any pipes over 100 millimetre (mm) in diameter will be capped off at night to prevent animals entering.

4.3 BATS

Roosting

As per Condition 26 wording, mitigation with regards to roosting bats has not been included within this LEMP but will follow the proposed mitigation strategy set out within the separate bat licence, which will be agreed with and approved by Natural England. The client will adhere to the details of the bat licence to ensure legal compliance of the development.

Foraging and Commuting

Bats were recorded foraging and commuting across the site at moderate levels over the survey period. The key habitats on site with the most value for foraging and commuting bats, namely hedgerows, are being retained and enhanced as part of the development proposals. Furthermore, although the other

neutral grassland will be removed to facilitate the development, proposed landscaping will adequately replace these losses so as to maintain a suitable resource for foraging and commuting bats.

Foraging and commuting bats could also be impacted to changes in artificial lighting on site. Greengage have been made aware that there is a separate condition within the planning consent which refers to the lighting strategy. Condition 8 and states the following:

'Prior to installation of external lighting in any Phase, the developer shall submit to, for approval in writing by the Local Planning Authority, details relating to the external lighting scheme (including vertical lux diagrams which show potential light trespass into windows of nearby residential properties) for that Phase. Each scheme must meet the requirements within the Institution of Lighting Professionals guidance notes for the reduction of obtrusive lighting.'

The proposed lighting scheme shall be designed following appropriate guidance described in the Institute of Lighting Engineers and Bat Conservation Trust joint guidance document for the reaction of obtrusive light.

No light sources such as security lights should be positioned near artificial roost entrances and neither should any light sources be directed towards any roost entrances. Additionally, no light should fall on hedgerows and tree lines and any areas of wildlife friendly lighting planting in the rear gardens'.

Greengage have been in discussions with the lighting consultant during their design stage and put forward the following bat sensitive lighting parameters that will be implemented on site.

Bat sensitive lighting strategy

During construction

Construction works will be undertaken during daylight hours. If works are likely to go into the autumn and winter months and artificial task lighting is identified to be required these should be directional and not cause unnecessary light spill and the lighting will be switched off and taken off-site when not in use.

During operation

Greengage have reviewed the available lighting strategy for the communal realm. The highest level of public realm lighting will be 1lux which is equivalent to light under a clear full moon¹.

The type of lighting is yet to be decided however the use of bollards will be avoided and the light fixtures will be directional lighting to reduce light spill onto areas of existing areas of greenspace.

Figure 4.1 9 Newlands Avenue Lighting Plan



The design of lighting will be in line with guidance provided by the Institute of Lighting Professionals (ILP) and BCT Specifically:

- Will avoid use of metal halide and fluorescent light sources;
- Warmth of luminaires. Any external areas will incorporate light at a <2700K where possible, with peak wavelengths higher than 550nm;
- Use of screens/hoods to make any external lighting as directional as possible, avoiding light spill on any natural features;
- Where possible, external lights will be as low to the ground as possible;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered. Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Lighting controls. Appropriate controls to minimise the duration lights are illuminated will be instated through motion sensor lighting. Lighting associated with the sports pitch on site should be prohibited during the active bat (and dormice) season (March-September) and set to a curfew of 8pm during the winter months;
- Dark corridors will be created with no light levels over the hedgerow and tree lines edges in accordance with Condition 8.

By providing compensatory foraging habitat through landscaping proposals, and minimising the impacts of external lighting, impacts upon foraging and commuting bats will be sufficiently minimised.

4.4 REPTILES

A Precautionary Method of Works (PMW) will be implemented, which involves a phased clearance of the other neutral grassland area which will take place on a warm day between March and early October, when reptiles are most active, under a watching brief for reptiles by an Ecological Clerk of Works (ECoW). Clearance will take place using hand-held machinery and tools (e.g. strimmers) and be done in two phases. The first phase will cut the vegetation down to 10 centimetres (cm) in the direction of habitat either due for retention or the site peripheries. Following 24 hours, the second phase cut should take vegetation down to ground level.

As a precaution, any log piles will be dismantled by hand and the log pile can be moved to the communal peripheries of the site along the access driveways. In the unlikely event that any reptiles are discovered, works should be temporarily halted and the ECoW will advise on further actions required.

4.5 DORMICE

Protection of Retained Features

Records from HERC identified one record for hazel dormouse within 2km of the site, this record dates back to 1967. However suitable habitat exists in the form of the northern hedgerow on site which comprises hazel, hawthorn and oak. This hedgerow will be retained as part of the proposed development and protected during site clearance and construction as it will be captured within the above-mentioned RPAs i.e. protection measures for trees, shrubs and hedgerows detailed within the AIA and AMS and associated Tree Constraint Plans (Doc Ref: AIA & AMS. 9 Newlands Avenue. 12.07.22).

Lighting

Implementation of the wildlife sensitive lighting as described in the foraging bat section above will also mitigate impacts on dormice.

4.6 BIRDS

Impacts upon common nesting birds can be avoided through clearance of vegetation outside of the nesting bird season (typically recognised as March to August inclusive). However, where this is not possible, e.g. due to timing constraints associated with reptile presence, an inspection of the vegetation within 48 hours prior to clearance should be undertaken by the ECoW to identify any active bird nests.

In the event that an active nest is identified, an exclusion zone will be implemented around the nest and works will not be permitted to proceed in this area until the ECoW has confirmed that any chicks have fledged and/or the nest is no longer in use.

4.7 INVASIVE SPECIES

Proposals will include the removal of Rhododendron within the site boundary to be disposed off-site at a authorised or suitable green waste disposal site. This should be undertaken by a qualified contractor with

experience in working with Wildlife and Countryside Act Schedule 9 Invasive Non-Native Species (INNS).

4.8 HEDGEHOGS

The site has habitat of foraging and hibernation value for hedgehogs.

Site clearance of any suitable habitat such as introduced shrub will be undertaken carefully and the presence of hedgehog will be considered during such clearance under a watching brief by the ECoW.

Any potential hibernacula/refugia features suitable for hedgehogs encountered will not be disturbed or dismantled until spring/summer months i.e. outside of the hibernation period and they will be dismantled by hand to ensure no hedgehogs are present before machinery is used in that location. Any hedgehogs encountered should be translocated safely away from site activities to suitable habitat.

5.0 ECOLOGICAL ENHANCEMENTS

5.1 OVERVIEW

The proposed development provides the potential to enhance the biodiversity value of the site. This will primarily be achieved by the introduction of features within the landscaping proposals and actions within the long-term management regime for the site, targeting specific ecological receptors.

The creation of specific habitats and attraction of notable and protected ecological receptors will complement the targets of national and local policy and BAPs.

Specifically, the proposals will seek to enhance the on-site habitat for the following species:

- Foraging and roosting bats (UK and local BAP priority species);
- Birds (including swift and house sparrow); and
- Invertebrates (including targeted Lepidoptera species through the inclusion of larval and nectar plants, and solitary bees and wasps through provision of burrowing habitat).

The following enhancements are to be included in communal areas along the access drive and site perimeters:

- 125m² of wildflower meadow;
- 112m² of wildlife pond and marginal planting creation;
- 862m² wildlife friendly landscaping in the form of perennial, bulb and climber planting;
- 104no. trees planting;
- Shrub planting;
- 195m of new hedgerow planting and enhancement of 150m of existing hedgerow;
- Bird boxes;
- Invertebrate houses and bee bricks to be included within the soft landscaping near the communal pond;
- Stag beetle loggery.

Detail on these features and specifications are provided in the chapter below. Suitable locations for ecological enhancement features are provided in Appendix B.

Enhancement features for bats are not incorporated as these will be addressed within the strategy within the bat licence which will be approved by Natural England.

Horticultural best practice will also be implemented for the retained and new planting.

5.2 WILDFLOWER MEADOW

125m² of wildflower meadow turf will be laid to create species-rich grassland which will provide good nectar sources for pollinators. Species included within the wildflower turf are those listed within Table 5.1.

Table 5.1 Species incorporated within the wildflower meadow turf

Common name	Scientific name
Yarrow	<i>Achillea millefolium</i>
Common kidneyvetch	<i>Anthyllis vulneraria</i>
Nettle-leaved bellflower	<i>Campanula trachelium</i>
Black knapweed	<i>Centaurea nigra</i>
Wild carrot	<i>Daucus carota</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow crane's-bill	<i>Geranium pratense</i>
Water avens	<i>Geum rivale</i>
Dame's Rocket	<i>Hesperis matronalis</i>
Perforate St John's-wort	<i>Hypericum perforatum</i>
Cats-ear	<i>Hypochaeris radicata</i>
Field scabious	<i>Knautia arvensis</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Rough hawkbit	<i>Leontodon hispidus</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Common toadflax	<i>Linaria vulgaris</i>
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Ragged robin	<i>Lychnis flos-cuculi</i>
Musk mallow	<i>Malva moschata</i>
Sweet chervil	<i>Myrrhis odorata</i>
Sainfoin	<i>Onobrychis vicifolia</i>
Wild oregano	<i>Origanum vulgare</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Cowslip	<i>Primula veris</i>
Self-heal	<i>Prunella vulgaris</i>
Meadow buttercup	<i>Ranunculus acris</i>
Yellow rattle	<i>Rhinanthus minor</i>

Common name	Scientific name
Common sorrel	Rumex acetosa
Salad burnet	Sanguisorba minor
Autumn hawkbit	Scorzoneroides autumnalis
Red campion	Silene dioica
White campion	Silene latifolia
Betony	Stachys officinalis
Wood sage	Teucrium scorodonia
Red clover	Trifolium pratense
Common vetch	Vicia sativa
Grasses	
Crested dog's-tail	Cynosurus cristatus
Sheep's fescue	Festuca ovina
Yellow oat-grass	Trisetum flavescen

5.3 WILDLIFE POND AND MARGINAL PLANTING

A pond will be created which will have vegetated marginal habitat creating shallow margins which is beneficial for wildlife. The pond and marginal planting area will be 112m² and planted at a density of 5 plants per m². The pond margins will be sloped to allow animals like hedgehogs and badgers to escape, should they fall in. It will be planted with a diverse selection of native aquatic species to create a new riparian habitat that will benefit a range of taxa through an ecosystem cascade effect, including invertebrates, reptiles and amphibians, birds, bats and mammals.

Suitable ephemeral and shallow water i.e. wetland/emergent plant species to be included on site are provided in Table 5.2.

Table 5.2 Ephemeral wetland/emergent species mix.

Common name	Species name
Purple Loosestrife	Lythrum salicaria
Ragged robin	Lychnis flos-cuculi
Flowering rush	Butomus umbellatus
Reed canary grass	Phalaris Arundinacea

5.4 WILDLIFE FRIENDLY LANDSCAPING

There will be 542m² of wildlife friendly planting in communal areas and 230m² and 90m² within the private gardens, this will comprise a mixture of perennial and bulb planting as well as vertical greening.

Native plant species or species that are of value to pollinators (e.g. those listed on the Royal Horticultural Society (RHS) Plants for Pollinators²) will be incorporated into landscape design at the site.

In particular, species which are ‘climate resilient’ requiring little maintenance with a high level of drought tolerance should be favoured. Some species included within the scheme and which also appear on the RHS list are provided in Table 5.3.

Table 5.3 Wildlife friendly landscaping

Common name	Scientific name
Perennial planting	
Yarrow	<i>Achillea</i> 'Credo'
Wood spurge	<i>Euphorbia amyg. h. var. robbiae</i>
White gaura	<i>Gaura lindheimeri</i>
Avens	<i>Geum</i> 'Mai Tai'
Geranium sp.	<i>Geranium</i> 'Rozanne'
Dwarf catmint	<i>Nepeta fassenii</i>
Lamb's ear	<i>Stachys</i> 'Hummelo'
Purple top	<i>Verbena bonariensis</i>
Bulbs	
Crocus sp.	<i>Crocus</i> sp.
Daffodils	<i>Narcissus</i> sp.
Allium sp.	<i>Allium</i> 'Purple Sensation'
Snake's head fritillary	<i>Fritillaria meleagris</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Climbers	
Alpine clematis	<i>Clematis alpina</i>
Banksian rose	<i>Rosa banksiae</i> var. <i>banksiae</i>
Star jasmine	<i>Trachelospermum jasminoide</i>

The above soft landscaping will make a small contribution to biodiversity at the site through provision of nectar and pollen resources for pollinators, nesting habitat and a food resource for birds and foraging habitat for bats that may be present in the area, among other taxa.

5.5 TREE AND SHRUB PLANTING

The proposed tree, shrub and hedgerow across the site will feature a diverse mix of native species or those of known value for wildlife including, but not limited, to those listed in Table 5.4.

Table 5.4 Tree, shrub and hedgerow planting species

Common name	Scientific name
Trees	
Field maple	<i>Acer campestre</i>
Holly	<i>Ilex aquifolium</i>
Crab apple	<i>Malus sylvestris</i>
Callery pear	<i>Pyrus calleriana</i>
Flowering cherry	<i>Prunus autumnalis</i>
Shrubs	
Winter daphne	<i>Daphne odora</i>
Hydrangea sp	<i>Hydrangea paniculata</i> 'Limelight'
Peony	<i>Paeonia lactiflora</i> 'Duchesse de Nemours'
Hedge	
Japanese holly	<i>Ilex crenata</i>
Topiary	
Yew	<i>Taxus baccata</i>
Portuguese laurel	<i>Prunus lusitanica</i>

5.6 BIRD BOXES

The creation of wildlife friendly soft landscaping will stand to provide good foraging habitat for birds and may act to encourage them to the site. There are opportunities to provide nest boxes for a number of Hertfordshire LBAP priority bird species within the development.

Open fronted nest boxes for song thrushes, generalist garden bird boxes including a 28mm entrance hole targeting tree sparrow species as well as integrated swift and house sparrow boxes will be incorporated within the scheme. The products shown in Figure 5.1 Example open fronted and generalist bird boxes, however Greengage does not officially endorse any products.

The following bird boxes will be hung on the trunks of existing mature trees in an east facing direction:

- Four song thrush open fronted nest boxes
- Four generalist 28mm hole bird boxes;
- Two generalist 32mm hole bird boxes;

Figure 5.1 Example open fronted³ and generalist bird boxes⁴



The following integrated bird boxes will be incorporated within the built form of each residential house:

- A total of six multi-chamber house sparrow terraces should be integrated within the fabric of the buildings, two per residential unit on east facing elevations, at least 2m high. They should be installed in a pair i.e. adjacent each other.
- A total of six swift boxes should be integrated within the fabric of the buildings, two per residential unit grouped together and located towards the eaves of the building ideally on a north facing elevation.

Figure 5.2 Example integrated bird boxes (Swift⁵ and House sparrow terrace⁶)



All bird should be placed out of direct sunlight and the most powerful winds, with unobstructed access and not directly above or under windows, doors or balconies. Appendix B shows suitable locations i.e. micro-siting, for these ahead of installation.

5.1 INVERTEBRATE HOTEL AND BEE BRICKS

One invertebrate hotel within a communal area will be integrated within the soft landscaping, situated by the wildlife pond in sunny, exposed area on a southern aspect between 1-2m from ground level. The incorporation near soft landscaping will provide nectar sources within close proximity.

Two bee bricks can be attached to or integrated within walls. Examples of invertebrate houses /bee bricks are provided in Figure 5.3.

Figure 5.3 Examples of invertebrate house /bee brick⁷⁸



5.2 STAG BEETLE LOGGERY

Stag Beetles are a Hertfordshire LBAP species and the proposed tree and shrub planting will increase the value of site for stag beetle. In addition, a stag beetle loggery will be included under the shade of a group of trees along the access driveway to the north. This will benefit all saprophytic invertebrates.

Deciduous, untreated wood will be used, sourced from site or locally. Log sizes will range from ~100mm up to ~400mm diameter and 500mm to 1000mm length, with approximately one third of the logs buried in the soil. Friable soil which allows for burying should be used.

Plants such as ferns, bulbs and other woodland understorey plants will be planted amongst the loggery.

Figure 5.4 Example of a stag beetle loggery



5.3 HORTICULTURAL BEST PRACTICE

The retained and newly created habitats will require maintenance once established. Detail on horticultural management is specific to each type of habitat and will follow the detailed soft landscape specifications produced by the landscape architect. Greengage have been made aware that this will

likely occur in relation to Planning Condition 20. When available, the document should be supplied to Greengage for this LEMP to be reviewed and revised, if and where appropriate.

The use of pesticides (herbicides, insecticides, fungicides and slug pellets) will be fully avoided, to prevent changes to the food chain, particularly on invertebrates, birds and/or mammals.

All plants will be sourced from UK nurseries and will be grown in peat free compost.

Sensitive habitat management described above is particularly favourable for song thrush, a Hertfordshire LBAP priority species. The declining population of song thrush is partially attributed to the use of molluscicides, as snails form a large part of their diet, particularly in spring. Avoidance of harmful substances will therefore help to achieve local conservation targets.

Plant Care Principles

Selective spot trimming of annual plants in autumn, or spring once per year, using hand tools or strimmer to take place. Removing some plant material and re-incorporating some of the trimmed plant material into the substrate will also be beneficial.

Removal of undesirable plants, as needed, will take place.

Biosecurity

Works will follow appropriate biosecurity protocols to avoid introduction of INNS to the site. This will involve sourcing of plants and materials from the UK and checking for the presence of potential high-risk species if products have been in other water bodies prior to introduction to the site.

If there are any existing INNS remaining within the soft landscaped areas on site, these should be controlled to prevent outcompetition of native species and thereby maintain biodiversity value.

Litter removal

In areas where windblown or washed down litter is present, litter removal will occur.

Plastics

All products should avoid the use of plastic which may degrade to release microplastic particles.

Plastic waste and debris should be collected when encountered with a general site check for plastic litter at least once every two months.

6.0 MANAGEMENT AND MONITORING

This section provides an overview of the relevant management and monitoring actions for the ecological enhancements at the site.

A Habitat Management Plan (HMP) will follow a clearly defined 5-year timetable that will be used as a reference point for site maintenance, monitoring and any future planting and enhancement works that may be necessary.

The HMP will also be iterative in the medium to long-term, adapting in a staged process to the changing habitat compositions and in response to the feedback from monitoring exercises. Suggestions can be made to alter the enhancement measures or supplement the planting regime as necessary. Primarily, the HMP will include actions to maintain the ecological objectives for the habitat strategy, which are:

- Optimise biodiversity measured by the range of wildlife benefiting plant species, lichens, mosses and fungi, and invertebrate and bird species using the landscaped areas and enhancement features;
- Encourage invertebrates through diverse range of floral species and suitable invertebrate niche habitats;
- Encourage species highlighted in the UK and Hertfordshire LBAP and Red Data Book.

At or just after practical completion of the site, an ecologist should be engaged to inspect the ecological enhancements implemented as a result of the recommendations in this strategy. It is recommended for a Suitably Qualified Ecologist (SQE) to undertake the monitoring programme, observing any natural colonisation of the planting areas, the success of the seed mix and plug planting and use of the site by bats, birds and invertebrates as key biodiversity indicators. The monitoring for bats, birds and invertebrates in particular will occur annually for the first five years and is recommended biennially thereafter. Monitoring will measure the effectiveness of enhancement features by noting the diversity and abundance of targeted species.

Indicators of success will include the successful establishment of a wide variety of plant species, natural colonisation of floral species, evidence of invertebrates inhabiting the ecological features, evidence of bird activity such as birds using the nest boxes and bat activity such as using the bat boxes or foraging over the soft landscaping.

The management actions are summarised in Table 6.1. The table outlines the necessary responsibilities and key objectives for the next five years with monitoring surveys conducted in the summer, informing any management actions necessary to be undertaken in the autumn.

Table 6.1 Summary of Management Actions for First five Years

Year after completion and season	Habitat Management Plan
Upon project completion	<ul style="list-style-type: none"> Post-construction inspection to verify installed features match the plans
	<ul style="list-style-type: none"> Confirm installation of bird, bat boxes and loggery
	<ul style="list-style-type: none"> During the monitoring program it will be necessary to check the enhancement measures are intact
Year 1-5 (Spring/Summer)	Monitoring actions
	<ul style="list-style-type: none"> Annual monitoring programme to commence
	<ul style="list-style-type: none"> Single site visit by a Suitably Qualified Ecologist to be conducted between May and August
	<ul style="list-style-type: none"> Check bird/bat/bee boxes are intact and inspect for signs of occupancy
	Reporting procedure
	<ul style="list-style-type: none"> An annual monitoring program will measure the success of the enhancements for their biodiversity value
	<ul style="list-style-type: none"> Review of the effectiveness and validity of monitoring programme
	Remedial actions
	<ul style="list-style-type: none"> As identified by the annual monitoring programme report. May include but not be limited to the below:
	<ul style="list-style-type: none"> Watering wildlife friendly planting, shrubs, trees and hedgerows until established
<ul style="list-style-type: none"> Litter removal 	
<ul style="list-style-type: none"> Removal of tree protection guards once established 	
<ul style="list-style-type: none"> Removal of any invasive species/unwanted weeds prior to setting seed (in locations identified by the SQE) 	
Years 1 - 5 (Autumn Winter)	Monitoring Actions
	<ul style="list-style-type: none"> None
	Reporting Feedback to Management Company

Year after completion and season	Habitat Management Plan
	<ul style="list-style-type: none"> Submission of all biological records obtained to Hertfordshire Environmental Records Centre (HERC)
	Remedial Actions
	<ul style="list-style-type: none"> As identified by annual report
	<ul style="list-style-type: none"> Litter removal
	<ul style="list-style-type: none"> Re-siting of bird boxes in Year 4 onwards if no signs of uptake is observed in Years 1-3. (New location to be agreed with SQE)
	<ul style="list-style-type: none"> Bird box and bat box maintenance and management actions undertaken Removal of invasive species/unwanted weeds prior to setting seed
Year 5 (Winter)	<ul style="list-style-type: none"> Review of five-year monitoring results against the uptake of habitat features
	<ul style="list-style-type: none"> Determine whether changes to the frequency of monitoring should occur
	<ul style="list-style-type: none"> Produce a relevant, updated 5-year monitoring plan if considered necessary

6.1 ECOLOGICAL CONSTRAINTS TO MANAGEMENT

The features to be implemented on site, specifically, bird boxes and large shrub and tree planting, will provide potential to support nesting birds. To avoid disturbing, harming or killing any nesting birds or their young, any maintenance and management of these features will take place outside of the breeding bird season (the breeding season is typically recognised as March-August inclusive). If this is not possible, a nesting bird check must take place, by an SQE prior to any works taking place.

This principle has been embedded within the maintenance timings in Table 6.1.

6.2 RESPONSIBILITY

Maintenance of all enhancement features will be the responsibility of 9 Newlands Avenue Management Limited.

7.0 SUMMARY AND CONCLUSIONS

Greengage was commissioned by ACRE to produce an LEMP to cover a period of five years for 9 Newlands Avenue in Radlett, Hertfordshire to address Condition 26 of the planning consent (ref: 23/0570/FUL) for the proposed development at the site.

Targeted ecological enhancements have been specified in light of baseline conditions, contemporary best practice, local conservation targets (such as LBAP priorities), relevant planning policy, and proposed development details. Enhancements have been incorporated into the landscaping proposals and will seek to create habitat suitable for supporting rare, protected and notable ecological receptors, ensuring net gains in biodiversity value.

Bat emergence surveys completed in August, September 2022 and updated in June 2023 identified a single common pipistrelle roost. Proposals would result in the demolition of the buildings and therefore destruction of the roost. All bats are protected by UK legislation, and therefore either a licence from Natural England will be required to ensure the development is legally compliant. As per the condition, this mitigation strategy has been omitted from the report as it will be approved by Natural England.

The purpose of this report is to detail the mitigation strategies for potential ecological receptors on site and provide a management plan to ensure the longevity of the habitats on site to meet the objectives of the planning condition and complement local and regional biodiversity targets.

A number of opportunities to enhance the site were identified through the detailed design evolution to complement the landscaping (Appendix A). Enhancements for the site include creation of wildflower meadow, a wildlife pond, wildlife friendly planting, tree and hedgerow planting, integrated bird and bat boxes in buildings, hanging bird and bat boxes in trees, dormice boxes in hedgerows and invertebrate features as well as on-going wildlife sensitive management.

A HMP has been produced to ensure the continued success of the ecological enhancements providing biodiversity value the medium to longer term. Monitoring of the recommended management of the site for biodiversity will occur frequently as will ecological surveys for bats, birds and insects so that remedial actions can be performed accordingly.

APPENDIX A LANDSCAPE PLAN

Figure A.1 Soft landscaping plan



Planting Palette for Individual Plots:

House 1 Total Planting - 230 m2
House 2 Total Planting - 90 m2

CLIMBERS (3L to be planted at approx. 5 per plot):
Clematis alpina
Rosa banksiae var. *banksiae*
Trachelospermum jasminoides

PERENNIALS/GRASSES/FERNS (2L to be planted at approx. 4/m2 - see plant images above):
 a. *Achillea 'Credo'*
 b. *Alchemilla mollis*
 c. *Aster 'Manch'*
 d. *Astrantia major 'Alba'*
 e. *Blechnum spicant*
 f. *Euphorbia amygdalifolia* var. *robbaiae*
 g. *Gaura lindheimeri*
 h. *Geum 'Mai Tai'*
 i. *Geranium 'Rozanne'*
 j. *Liriope muscari*
 k. *Nepeta fassenii*
 l. *Polypodium vulgare*
 m. *Polystichum munitum*
 n. *Stachys 'Hummelo'*
 o. *Stipa tenuissima*
 p. *Verbena bonariensis*
 q. *Veronicastrum virginicum 'Album'*

BULBS:
 r. *Crocus tommasinianus* - 20/sqm
 s. *Narcissus white mix* - 20/sqm
 t. *Allium 'Purple Sensation'* - 5/sqm

Tree & Shrub Palette for Individual Plots
 Concealed Bat & Bird Boxes to be installed in new trees

66no. Standard Trees
Acer campestre 20-25cm girth Std
Ilex aquifolium 20-25cm girth Std
Liquidambar styraciflua 20-25cm girth Std
Liriodendron tulipifera 20-25cm girth Std
Malus sylvestris 20-25cm girth Std
Pyrus callieriana 20-25cm girth Std
Prunus autumnalis 20-25cm girth Std

7no. Parasol Trees
Liquidambar styraciflua - 20-25cm girth

SHRUBS (10-15L to be planted at 1 shrub per 5m2):
Daphne odora
Hydrangea paniculata 'Limelight'
Paeonia lactiflora 'Duchesse de Nemours'
Pittosporum tobira 'Nanum'
Sarcococca confusa

HEDGE (2L to be planted at 5/m2):
Ilex crenata (Holly) - Instant Hedging

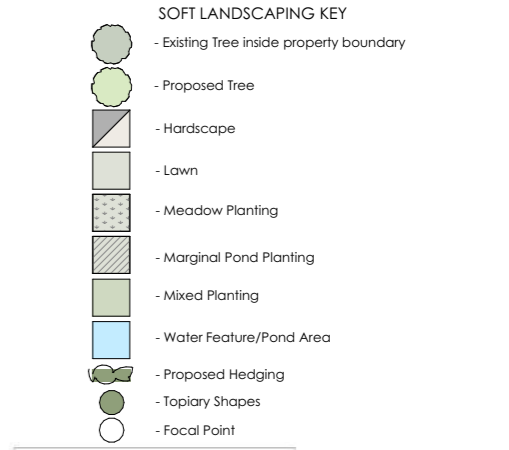
TOPIARY (mixed sizes 50 - 150cm H):
Taxus baccata (Yew) - Topiary
Prunus lusitanica - Topiary

Soft Landscape Plan
 1:750



NOTES

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- All boundaries are assumed. To be confirmed on site before building work commences.
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- The survey information shown on this drawing is based on a survey prepared by a third party. HollandGreen accept no responsibility for the accuracy or completeness of the survey.



A PROJECT BY
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Stage: **PLANNING**

Drawing: **Landscape Plan - Soft Landscape Plan**

Revision	Date	Details
01	28/07/2022	Issued to Client
02	01/08/2022	Issued to Client
03	05/08/2022	Issued to Client
04	16/08/2022	Issued to Client
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Project
Acre London - 9 Newlands Ave.

Project Number **1369** Project Address **9 Newlands Avenue Radlett WD7 8EH**

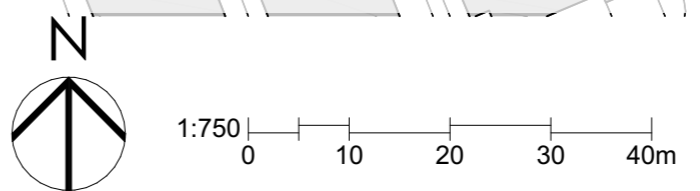
Project Leader **Noemi Mercurelli**

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APPENDIX B ECOLOGICAL ENHANCEMENT PLAN

9 NEWLANDS AVENUE



Title: Appendix B
 Drawn by: Laura Thomas
 Date: 19th January 2024
 Reviewed by: Helen Hinchliffe
 Date: 19th January 2024
 Project number: 552089
 Sources: Holland Green Map



Soft Landscape Plan
 1:750

APPENDIX C LEGISLATION AND POLICY

C.1 LEGISLATION

Current key legislation relating to ecology includes the Wildlife and Countryside Act 1981 (as amended)⁹; The Conservation of Habitats and Species Regulations 2019 ('Habitats & Species Regulations')¹⁰, The Countryside and Rights of Way Act 2000 (CRoW Act)¹¹, and The Natural Environment and Rural Communities Act, 2006¹².

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

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)¹³, and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')¹⁴, and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')¹⁵ into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which –

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats¹⁶ (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CRoW Act. The CRoW Act amends the law relating to nature conservation and protection of wildlife. In relation to threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (*Erinaceus europaeus*), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan¹⁷ (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework¹⁸ (and Biodiversity 2020 strategy¹⁹ in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020²⁰ and EU Biodiversity Strategy (EUBS)²¹, this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of Species of Principal Importance for Nature Conservation.

Regional and local BAPs are still valid however and continue to be updated and produced.

Detail on the relevant BAPs for this site are provided in the main text of this report.

Legislation Relating to Nesting Birds

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

Legislation Relating to Bats

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

Although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas.

The Wildlife & Countryside Act 1981 (WCA) was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annex IV of the Habitats Directive, 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 43 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transposes the Habitats Directive into UK law. Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

This legislation applies to all bat life stages.

The implications of the above in relation to the proposals are that where it is necessary during construction to remove trees, buildings or structures in which bats roost, it must first be determined that work is compulsory and if so, appropriate licenses must be obtained from Natural England.

Legislation Relating to Reptiles

All species of reptile native to the UK are protected to some degree under national and/or international legislation, which provides mechanisms to protect the species, their habitats and sites occupied by the species.

Sand lizards and smooth snakes are European protected species and are afforded full protection under Section 9 of the Wildlife and Countryside Act 1981 and Regulation 43 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. However, these species are rare and highly localised. Their occurrence is not considered as relevant in this instance, as the ranges and specialist habitats of these species do not occur at this site.

The remaining widespread species of native reptiles (adder, grass snake, slow worm and viviparous lizard) are protected under part of Section 9(1) and all of Section 9(5) of the Wildlife and Countryside Act 1981. They are protected against intentional killing and injury and against sale, transporting for sale etc. The habitat of these species is not protected. However, in terms of development, disturbing or destroying reptile habitat during the course of development activities while reptiles are present is likely to lead to an offence under the Wildlife and Countryside Act 1981. It is therefore important to identify the presence of these species within a potential development site. If any of these species are confirmed, all reasonable measures must then be taken to ensure the species are removed to avoid the threat of injury or death associated with development activities.

Each species of native reptile has specific habitat requirements but general shared features include a structurally diverse habitat that provides for shelter, basking, foraging and hibernating.

All reptiles are BAP species and as such are also of material consideration in the planning process due to the NPPF.

Legislation Relating to Dormice

Dormice are given full protection under Schedule 5 of the Wildlife and Countryside Act 1981, as amended. Protection to the species is also afforded by Regulation 43 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, making the hazel dormouse a European Protected Species. These two pieces of legislation operate in parallel, although there are some small differences in scope and wording. Under the provisions of Section 9 of the Wildlife & Countryside Act, it is an offence to:

- Intentionally kill, injure or take a dormouse;
- Possess or control and live or dead specimen or anything derived from a dormouse (unless it can be shown to have been legally acquired);
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse; and
- Intentionally or recklessly disturb a dormouse while it is occupying a structure or place which it uses for that purpose.

Regulation 43 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 makes it an offence to:

- Deliberately capture or kill a dormouse;
- Deliberately disturb a dormouse;
- Damage or destroy a breeding site or resting place of a dormouse; and
- Keep transport, sell or exchange, or offer for sale or exchange a live or dead dormouse or any part of a dormouse.

C.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2021²² sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Local

Hertsmere Core Strategy 2017-2027

Policy CS12 The Enhancement of the Natural Environment

All development proposals must conserve and enhance the natural environment of the Borough, including biodiversity, habitats, protected trees, landscape character, and sites of ecological and geological value, in order to maintain and improve environmental quality, and contribute to the objectives of the adopted Greenways Strategy and the Hertsmere Green Infrastructure Plan. Proposals should provide opportunities for habitat creation and enhancement throughout the life of a development. In the case of the highest quality agricultural land (Grades 1, 2 and 3a) and Preferred Areas of mineral extraction, proposals will only be permitted where there is no likelihood of the land being sterilised for future agriculture or mineral extraction.

Hertsmere Council- Supplementary Planning Document (SPD)

Biodiversity, Trees and Landscape ²³

Sites of Ecological Importance Wildlife Sites

These are non-statutory sites identified largely following the Habitat Survey and existing data held at Hertfordshire Biological Records Centre. Reflecting the best habitats and species sites outside SSSIs, they all meet recognised minimum criteria and are considered to be of county or at least district importance. The system used to identify them follows the DEFRA guidance on Local Sites. 130 sites have been identified in Hertsmere in 2008, some 7% of the borough.

Key Biodiversity Areas

The Hertfordshire Biodiversity Action Plan (BAP) has identified Key Biodiversity Areas in Hertfordshire, largely from habitat data available and personal knowledge of the 'naturalness' of the animal and plant communities that persist to a greater extent in some areas.

Local Biodiversity Action Plan

Developers should consult Hertfordshire's Local Biodiversity Action Plan (BAP) in order to assess whether development proposals can fulfil a number of the listed actions.

Grassland

This habitat makes up 3,279 ha (32%) of the borough, which is considerably higher than average for the rest of the county. However, at least two thirds of this has been improved for agriculture or amenity use. Most of the remaining grassland is considered to have at least some botanical interest, but only 77ha (2% of the borough, half the county average) was considered to be unimproved and of high ecological value. Most of this (60 ha) is neutral grassland, 11 ha acidic and 4 ha marshy. Unimproved neutral grassland characteristically supports common bent, black knapweed, bird's-foot trefoil, sweet vernal grass, meadow vetchling, meadow buttercup, lesser stitchwort and common sorrel, whilst damper areas include hairy sedge, meadowsweet, marsh thistle, cuckooflower, greater bird's-foot trefoil and ragged robin. Good examples of acid grassland support sneezewort, betony, tormentil and devil's-bit scabious.

Creation

The creation of grassland habitats can be achieved on areas occupied by improved grassland and or arable production. These new sites would provide benefits from being created in close proximity to existing unimproved grassland. They would ensure greater chances of survival by acting as a buffer zone to pesticide drift and fertilisers. Creation of large-scale grassland will depend on seed sources outside of Hertsmere due to a lack of suitable sources within Hertsmere. Although seeds could be collected from elsewhere in the UK it is preferable that they are collected within close proximity of Hertfordshire as this means that they would already be adapted to local conditions to deal with local environmental stresses.

Although creation of grassland would ideally be located around areas of existing unimproved grassland, future management of these grasslands would be the overriding factor as to their location. The BAP has identified the whole of Hertsmere and south Hertfordshire as one of four key areas in Hertfordshire that require targeting for neutral grassland creation.

Considering that the numbers of landowners with grazing horses are projected to increase, there needs to be specific advice given to these landowners as to their vital future contribution of grassland quality. Most of this advice can be obtained from Natural England. The success of grassland creation will be increased where there is a coupling between increased payments given by schemes alongside improved management advice given.

Bats

Where are they in the Borough?

Bat records are quite common across the entire borough, and seven species have been recorded – Whiskered, Natterer's, Daubenton's, Serotine, Noctule, Pipistrelle and Brown Long-eared.

Protection and Action Plans

Bats, as a European Protected Species, have been afforded strict legal protection in England, Scotland and Wales. All Bats are protected under section 9 of the Wildlife and Country Act 1981 and are also protected under regulation 39 of the Conservation (Natural Habitat) Regulations 1994 (as amended). The regulation in conjunction with the Act renders it illegal to carry out the following:

- Intentionally or deliberately kill, injure or capture (take) Bats;
- Deliberately disturb Bats (whether in a roost or not);
- Damage, destroy or obstruct access to Bat roosts;
- Possess or transport a Bat or any part of a Bat, unless acquired legally;
- Sell, barter or exchange Bats, or parts of Bats.

Of the seven species of Bats that are listed, only the Natterer's Bat (*Myotis nattereri*) has a Species Action Plan in the Hertfordshire BAP. The Natterer's Bat is considered vulnerable in Hertsmere due to limited habitats. The Hertfordshire Biological Record Centre is identifying key sites of which some have been designated as important Wildlife sites. A major threat to the numbers of all Bat species in Hertsmere is the decline of insect-rich feeding habitats. Some of these habitats are wetlands, hedgerows, unimproved pastures and ancient woodlands.

Below is a list of three objectives that are important to the longevity of the Natterer's Bat taken from the Hertfordshire BAP.

- Disseminate a current status report;
- Create annual roosting opportunities;
- Raise awareness by holding annual seminars for key audiences.

What to look out for

Lofts and old barn conversions pose one of the greatest risks to the decline of Bat numbers in Hertsmere, as they are one of their preferred roost sites. Other 'trigger sites' identified by the Bat Conservation Trust (2007) include:

- Buildings with weatherboard and/or hanging tiles and pre-1960 detached buildings within 200m of woodland or water;
- Pre-1914 buildings within 400m of water or woodland (especially those with gable end or slate roofs, regardless of location);
- All listed buildings;
- Rural settings with mature woodland, hedges, trees and mature trees, grassland, river, lakes and ponds.

All development effecting the types of buildings and trees outlined in the above paragraph (6.10) should be assessed for the presence of Bats. Developers must be aware that the initial absence of Bats is not sufficient evidence to proceed with development as Bats reuse roosts. Legal opinion states that a roost is protected whether or not the Bats are present at the time of a search. The habitat surrounding the types of buildings and trees outlined in paragraph 6.10 must also be documented to identify key landscape features of importance to the Bats. The clearance of old trees suitable for Bat roosts, fragmentation of colonies, and disruption of flight line features (hedgerows) have the adverse effect of isolating species and reducing the chances of breeding.

Reptiles

Where are they in the Borough?

Of the 33 recent reptile records scattered across the borough, 10 are Slow Worms and the majority of these are located within allotments in Potters Bar. The remainder are of grass snake, with no obvious pattern influencing their distribution of records. Therefore, care should be exercised when developing known habitat preferences such as allotments, scrubland and brownfield sites.

Protection and Action Plans

Slow Worms are protected under Schedule 5 of the Wildlife and Countryside Act 1981 but only against deliberate injuring or killing and sale.

The Slow Worm has not been identified within the Hertfordshire BAP.

What to look out for

The presence of Slow Worms is particularly difficult to identify. This is because they choose to locate under heavy cover even when they are not hibernating throughout the winter months. The species preferred food is slugs, which is why they can be found within allotments. Nevertheless, care should be taken when digging through compost heaps as these warm, damp places are known to be a favourite residence for the Slow Worm. Slow Worms are also fond of rocks, dense grass vegetation and other

cover such as pieces of wood and under sheds. As such, care should be taken on brownfield land development.

Replacing Trees²⁴

In accordance with BS 5837, a scheme should seek to retain trees by incorporating them into the design. Where this is not possible or, for some reason trees need to be felled regardless of the proposed scheme, then it is considered that these should be adequately replaced. Where space allows, two trees for every one lost will be required. Where space is limited, replacement of only the felled trees will be acceptable. However, it may be expected that a proportion of replacement trees to be of a larger size than those felled. Where the planting of larger trees is not possible, possible solutions include planting smaller trees, or planting trees on other sites, which will usually be part of a legal agreement (Section 106). Other law and policy can have a significant bearing on planting schemes, please refer to part A of this SPD series for more information on Hertsmere's policies.

There are a number of firms that can supply mature trees (which can be over 8 metres high) but there are many considerations that need to be addressed such as access. An arboriculturalist's advice should be sought in order to ensure that it is practical to plant large trees. Information regarding how the tree will be maintained and cared for until established will be required. It should also be noted that it is common practice to apply conditions requiring a replacement for any new trees that die within 5 years. Replacing a large tree will be very costly so good aftercare is essential. Some firms will supply, plant and guarantee trees for a period of time as well as undertake maintenance.

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