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**Goldie Leigh Hospital, 136 Lodge
Hill, Welling, Bexley, London**

Preliminary Ecological Appraisal Report

August 2023

Goldie Leigh Hospital, 136 Lodge Hill, Welling, Bexley, London

Preliminary Ecological Appraisal Report

Client:	Oxleas NHS Foundation Trust	
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Abbreviations

CHS	Conservation of Habitats and Species Regulations 2017 (as amended)
EclA	Ecological Impact Assessment
GiGL	Greenspace Information for Greater London CIC
HPI	Habitat of Principal Importance
IRZ	Impact Risk Zone
LSI	London Invasive Species Initiative
LNR	Local Nature Reserve
MAGIC	Multi-agency Geographic Information for the Countryside
NERC	Natural Environment and Rural Communities Act 2006
NPPF	National Planning Policy Framework
PEA	Preliminary Ecological Appraisal
PRA	Preliminary Roost Assessment
PRF	Potential Roost Feature
SINC	Site of Importance for Nature Conservation
TN	Target Note
UKHab	UK Habitats Classification
WCA	Wildlife & Countryside Act 1981 (as amended)

0 Executive Summary

0.1 Introduction

0.1.1 A Preliminary Ecological Appraisal was undertaken for the site of a proposed open space development at Goldie Leigh Hospital, 136 Lodge Hill, Welling, Bexley, London (Grid Reference: TQ 47036 77461). The report was prepared to establish the site's suitability for redevelopment, inform the design process for the proposal, record the ecological baseline and identify key ecological features within and around the Application Site.

0.2 Results

0.2.1 There are no internationally important statutory sites within the 5km desk study search area. However, one nationally important Local Nature Reserve and one Site of Special Scientific Interest are located within 2km of the survey area. Additionally there are six non-statutory Sites of Importance for Nature Conservation. There are records of a range of protected or notable species in the locality, including amphibians, birds, invertebrates, terrestrial mammals, flowering plants and terrestrial reptiles, together with four Priority Habitats: Deciduous Woodland, Ancient Woodland, Lowland Heathland and Wood Pasture and Parkland.

0.2.2 The survey area lies to the north-east of the town of Welling in the London Borough of Bexley. The survey area comprises c.0.2ha of previously developed land, currently dominated by two buildings surrounded by small areas of modified grassland, scattered trees and car parking. The wider landscape is dominated by large blocks of woodland to the north and north-west; densely populated areas of housing to the east and south; and Plumstead Cemetery to the south-west.

0.3 Evaluation

0.3.1 Table 0.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 0.1: Summary of ecological constraints and opportunities

Feature	Detail
<u>Constraints:</u>	
Designated sites	The Plumstead Cemetery Site of Importance for Nature Conservation (c.47m south-east) and Lesnes Abbey Woods and Bostall Woods Sites of Importance for Nature Conservation (55m east) are vulnerable to negative effects from the Proposed Development, such as noise, light and dust pollution, hydrological changes, fly-tipping and invasive species. Ecological protection measures are recommended to prevent such impacts.

Feature	Detail
	None of the other statutory or non-statutory wildlife sites within the desk-study search zone are likely to be affected by the Proposed Development, considering the size and scale of the proposal and its distance from the designated sites.
Other habitats	The Proposed Development would result in permanent losses of up to c.0.2ha of developed land; sealed surface, building, bare ground, modified grassland and scattered trees across the survey area, depending on the extent and layout of proposals. These areas are of relatively low ecological value and of negligible importance.
Birds (nesting)	Possible permanent loss of nesting habitats (buildings and trees).
Bats (roosting)	Possible permanent loss of suitable roosting habitat within buildings (B1 & B2).
<u>Opportunities:</u>	
Habitat creation / enhancement	Habitat creation and enhancement opportunities include wildflower meadow planting, hedgerow creation, habitat piles and bird/bat boxes.

0.4 Recommendations

0.4.1 Recommendations are made for further protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to enhance the ecology of the survey area post-construction; these are summarised in Table 0.2. It is intended that these recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. The recommendations should be reviewed following the completion of further ecological surveys.

Table 0.2: Summary of recommendations

#	Summary of recommendations
Botanical / protected species surveys	
R1	Presence / absence surveys for roosting bats within buildings B1 and B2, undertaken between May and August.
Precautionary measures	
R2	Removal of nesting bird habitats (including vegetation and buildings) will be undertaken following a site check for nesting birds by a suitably qualified ecologist. This will take place no more than two days prior to works commencing. This is to ensure that no disturbance to active bird nests occurs.
Ecological protection measures	
R3	Hoardings will be installed at the construction zone perimeter for the duration of the works to protect the nearby Plumstead Cemetery Site of Importance for Nature Conservation and Lesnes Abbey Woods and Bostall Woods Site of Importance for Nature Conservation from temporary impacts.
R4	Standard site procedures to prevent impacts on trees will be adhered to during construction.

#	Summary of recommendations
R5	A method statement should be prepared to ensure adequate control measures are adopted to prevent the spread of invasive butterfly-bush during construction.
R6	The use of external lighting will be avoided or minimised to prevent impacts to nocturnal species. Lighting should not be directed towards retained wetland, woodland or hedgerows.
R7	At the end of each working day excavations will be covered over and open pipework capped to prevent entrapment of mammals, amphibians and other fauna.
Ecological enhancement	
R8	Green spaces will be sown with a native wildflower grassland seed mix.
R9	Hedgerow creation and / or restoration will use a range of native fruit, seed, nut and nectar-bearing shrub species.
R10	The site's landscaping plans will utilise plant species which encourage bats by providing additional food sources or roosting opportunities.
R11	Habitat piles for amphibians, invertebrates and reptiles will be created within or close to newly created hedgerows.
R12	The value of the survey area for birds will be enhanced by installing a range of artificial nest boxes on retained trees or posts, or on other buildings along Lodge Hill where these are within the applicant's control.
R13	The value of the survey area for bats will be enhanced by installing a range of artificial roost boxes on retained trees or posts, or on other buildings along Lodge Hill where these are within the applicant's control.

0.5 Conclusions

0.5.1 The majority of the survey area is of low ecological value. Significant constraints to the proposed Development were identified including nearby sites of nature conservation importance and the potential presence of nesting birds and roosting bats. Further bat surveys and impact assessment are required prior to submitting a planning application, to determine the value of the site for these species and to formulate a suitable mitigation strategy. For the remaining constraints, proportionate and effective mitigation is available to protect against the risk of impacts.

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1 Introduction

1.1 Purpose of this Report

1.1.1 This report presents a Preliminary Ecological Appraisal (PEA) for the site of a proposed open space development at Goldie Leigh Hospital, 136 Lodge Hill, Welling, Bexley, London (Grid Reference: TQ 47036 77461). The report has been prepared to establish the site's suitability for redevelopment, inform the design process for the proposal, record the ecological baseline and identify key ecological features within and around the Application Site.

1.2 Objectives and Approach of the Study

1.2.1 The objectives of the PEA were to:

- ▶ Identify features present on or adjacent to the Application Site which are ecologically significant and which may act as constraints or opportunities to the Proposed Development;
- ▶ Consider the need for further ecological surveys which may be necessary; and
- ▶ Make preliminary recommendations for the protection of important ecological features, to avoid or mitigate ecological impacts, and to enhance the Application Site for wildlife following construction.

1.2.2 The approach to establishing the ecological baseline found within this report has been achieved through:

- ▶ A desk study involving a review of statutory and non-statutory nature conservation sites, and records of habitats and species from the local area;
- ▶ An extended UK Habitats Classification survey identifying the main habitats on and adjacent to the Application Site, and the presence of, or potential for, protected and/or notable species; and
- ▶ A PEA of the effects of development proposals with respect to the nature conservation value of the site.

1.3 Survey Area

1.3.1 The Application Site boundary is expected to be the same as the survey area boundary.

1.3.2 The survey area lies to the north-east of the town of Welling in the London Borough of Bexley. The survey area comprises c.0.2ha of previously developed land, currently dominated by two buildings surrounded by small areas of modified grassland, scattered trees and car parking. The extent of the survey area is outlined in red on Figure 1.1.

- 1.3.3 The survey area is bounded on all sides by roads and hospital buildings, which form part of the larger Goldie Leigh Hospital complex. The wider landscape is dominated by large blocks of woodland to the north and north-west; densely populated areas of housing to the east and south; and Plumstead Cemetery to the south-west.

1.4 Proposed Construction Activities

- 1.4.1 Full planning consent is being sought for the demolition of two existing buildings (Thistle and Shamrock), to be replaced with soft landscaping. A Sketch Concept for the Proposed Development is shown at Figure 1.2.

Goldie Leigh Hospital, Welling

 Survey area

Figure 1.1: Survey area



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Ordnance Survey 0100031673

Scale (at A4): 1:4,000 Created by: MT

Date: Aug 2023 Reviewed by: NP

Drawing number:

UE0594ECO-GoldieLeighHospital_SitePlan_230814



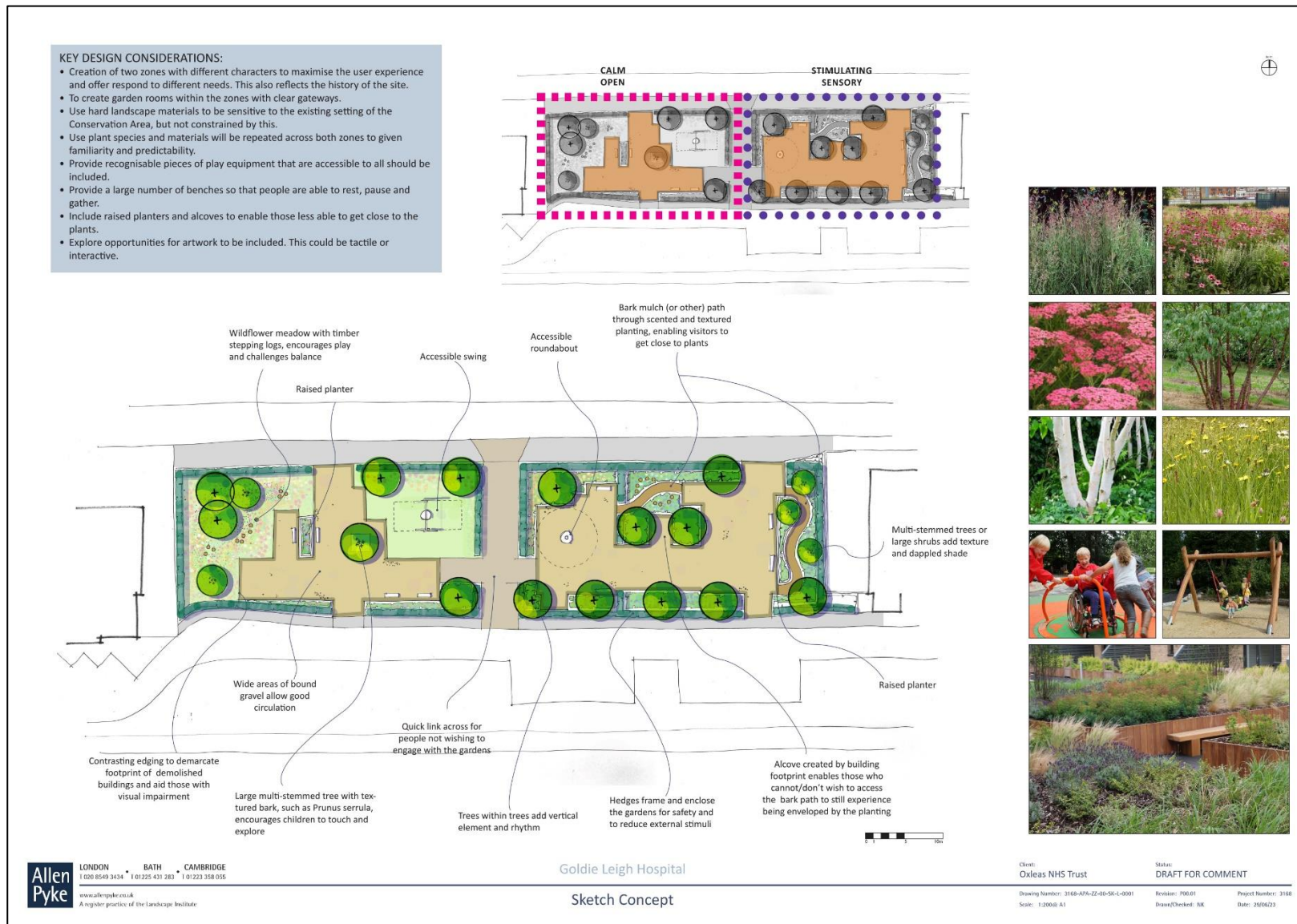


Figure 1.2: Sketch Concept

2 Survey Methodology

2.1 Desk Study

2.1.1 A desk-based study was undertaken to examine published information and biological records from within the search area (survey area centroid plus 1km). This was extended to 5km for internationally designated sites and 2km for nationally designated sites / bats. The desk study established the presence of designated sites of nature conservation interest, or records of protected/notable habitats/species within and surrounding the survey area. This information was collected from the following sources:

- ▶ The 'MAGIC' (Multi-agency Geographic Information for the Countryside) website: www.magic.gov.uk; and
- ▶ Greenspace Information for Greater London CIC (GiGL)

2.2 Preliminary Ecological Appraisal

2.2.1 The PEA (compliant to British Standard BS42020:2013) is based on a survey of the site undertaken on 15 June 2023 by an experienced ecologist. Weather conditions were warm (c.23°C), with a light breeze (Beaufort Scale 2), 10% cloud cover and no precipitation.

2.2.2 Within the survey area every parcel of land was classified, recorded and mapped using standard colour codes, in accordance with the habitat types specified within the methodology for UK Habitats Classification (UKHab) survey (UKHab Ltd, 2023). This allows rapid visual assessment of the extent and distribution of different habitat types. The divergence from this methodology is in relation to individual trees, whereby these features are recorded and mapped separately from the baseline habitat that they sit within. Target notes (TN) were used to provide supplementary information on features which were particularly interesting or significant to specific construction proposals, or too small to map, or to provide additional details, for example relating to species composition and structure.

2.2.3 This basic methodology was extended to provide more detail in relation to habitats with potential to support rare or protected fauna, as described by the Chartered Institute of Ecology and Environmental Management's *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017b). The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers' Manual* (Gent and Gibson, 2003) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collin (ed.), 2016). Where a species/group is not specifically evaluated, this indicates that no habitat of potential value for the species was identified during the survey.

Scope of the survey

- 2.2.4 The buffer zone for the desk study was set at 1km from the centre of the survey area (2km for national sites / 5km for international sites) – a distance within which any notable ecological features likely to be affected by the Proposed Development would be identified.
- 2.2.5 All habitats within the survey area as indicated on Figure 1.1 were included in order to identify any ecological constraints that would be likely to apply to the scheme from within this zone. Adjacent habitats were also surveyed where appropriate in order to identify constraints falling outside of the Application Site and to place the survey area in its ecological context.

Evaluation criteria

- 2.2.6 Important ecological features were evaluated to the extent possible under the survey methods used, and in relation to a geographical frame of reference, i.e. international / European value being most important, then national, regional, metropolitan / county / district / borough, and lastly local (based on CIEEM, 2018).
- 2.2.7 Value judgements are based on various characteristics that contribute to the importance of ecological features. These include site designations (such as Site of Special Scientific Interest (SSSI), or for undesignated features, the extent, naturalness, conservation status (local or national importance and so on), and quality of the ecological resource. Quality can refer to habitats (for instance if they are particularly diverse, are a good example of a specific habitat type, or provide for the requirements of important species or assemblages), other features (such as connectivity provided by wildlife corridors or mosaics of habitats) or the richness and abundance of species populations or assemblages.

2.3 Preliminary Roost Assessment

- 2.3.1 Buildings and trees within / adjacent to the survey area were subject to an external inspection for potential bat roost features (subject to safe access). All observable features potentially suitable for bats were noted and the overall suitability of the structure / tree for roosting bats was classified with reference to Table 2.1. The objective was to establish whether each feature was of negligible, low, moderate or high roosting bat suitability, or a confirmed roost based on the presence of bats or their droppings.
- 2.3.2 External building inspections from ground-level focused on access points and potential roosting features (PRF) such as lifted lead flashing, broken, lifted or missing roof or ridge tiles, cracks in the render or gaps between exterior cladding and weatherboards, soffits or fascias. In the case of bats, typical indicators include droppings (which are characteristic and are often indicative of species), signs of fur oil staining, urine splashing, characteristic odours, and accumulations of discarded prey remains. It also assessed the overall suitability of the structure for roosting bats focusing particularly on the interior roof spaces and cellars (subject to safe access).
- 2.3.3 Trees were assessed from ground level for PRFs such as woodpecker holes, cavities, cracks or splits in major limbs (e.g. hazard beams, rot holes, frost cracks, knot holes, occlusions, flush cuts,

tear-outs, cankers or butt-rots), loose platey bark, aerial deadwood and dense ivy or epicormic growth.

- 2.3.4 The Preliminary Roost Assessment (PRA) was carried out with the aid of the following equipment: high-powered searchlight fitted with a red filter to search dark areas for signs of bats; close-focusing binoculars to view areas inaccessible on foot; and digital camera with flash to record any evidence of bats or features suitable for use by bats.

Table 2.1: Potential suitability of structures/trees for roosting bats (after Collins, 2016)

Suitability	Roosting habitats
<u>Negligible</u>	Negligible habitat features on site likely to be used by roosting bats
<u>Low</u>	A structure with one or more PRFs that could be used by individual bats opportunistically, but do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats A tree of sufficient size and age to contain PRFs but with none seen from the ground / using ladders or features seen with only very limited roosting potential
<u>Moderate</u>	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (for roost type only)
<u>High</u>	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat
<u>Confirmed roost</u>	Bats or unequivocal evidence of bats found, i.e. bat droppings

2.4 Limitations

- 2.4.1 Biological records gathered during the desk study can provide an indication of the likely presence of a species on or adjacent to a site, however, the absence of records for protected species does not equate to evidence of their absence from the locality. Data search accuracy is variable and records are often georeferenced to the nearest 1km grid square.
- 2.4.2 Time of year when the survey was carried out and other variations will influence the results of the survey. Botanical species vary considerably in their flowering, seeding and fruiting periods, and surveys outside of these periods can confound accurate species identification. Where this is the case plants have been identified to lowest possible taxonomic group, normally genus. The possibility nonetheless exists for other species to be present within the survey area which were not recorded or otherwise indicated by the survey. Ornamental species are not included in botanical listings.
- 2.4.3 The survey reported herein was carried out in mid-summer, during the flowering period for many botanical species, and the timing of the survey is not considered to be a significant limitation to meeting the objectives of the survey.

- 2.4.4 There were no difficulties in gaining access to habitats within the survey area and assess protected species suitability. However, the buildings were not accessed internally due to health and safety concerns. As such, a precautionary approach has been taken when assessing bat roosting suitability.
- 2.4.5 This report aims to provide general advice on the ecological constraints associated with development proposals for the survey area and includes recommendations for further survey where appropriate. Where impacts are likely or further ecological surveys are recommended, a more detailed Ecological Impact Assessment (EclA) of the effects of the Proposed Development should be carried out based on the results of recommended surveys. The EclA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures. This is in line with the latest guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a, 2017b, 2018).
- 2.4.6 The details of this report will remain valid for a period of 18 months from the date of the survey (June 2023), after which the validity of this assessment should be reviewed to determine whether further updates are necessary (CIEEM, 2019). Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the Application Site boundary or the Proposed Development upon which this report was based.
- 2.4.7 See Appendix V for general Legal and Technical Limitations which apply to this document.

2.5 Personnel

- 2.5.1 The survey was carried out by Christina Pullan BSc (Hons) QCIEEM, a Consultant Ecologist with seven years' professional consultancy experience in ecological field survey for a wide range of sites and development projects.

3 Results

3.1 Desk Study

Statutory and non-statutory site designations

- 3.1.1 There are no internationally important statutory sites within the 5km desk study search area. However, one nationally important Local Nature Reserve (LNR) and one SSSI are located within 2km of the survey area. Additionally there are six non-statutory Sites of Importance for Nature Conservation (SINC). The information provided by GiGL regarding these sites is presented in Table 3.1, while Figure 3.1 and Figure 3.2 show their locations in relation to the survey area.
- 3.1.2 The site is located within the Impact Risk Zones (IRZ) for Abbey Wood SSSI and Oxleas Woodland SSSI.

Priority Habitats

- 3.1.3 Priority Habitats include those listed on local Biodiversity Action Plans and Habitats of Principal Importance (HPI) listed under section 41 of the Natural Environment and Rural Communities Act 2006 (NERC). GiGL and a search of the MAGIC database returned the following data on priority and other habitats within the desk study search area: Deciduous Woodland, Ancient Woodland, Lowland Heathland and Wood Pasture and Parkland. None of these are shown as present within the survey area.

Table 3.1: Nature conservation sites within the desk study search area

Site name	Location*	Description
National statutory sites		
Lesnes Wood LNR	c.756m north-east	This site includes ancient woodland and coppice, parks and open space, heathland, wetlands and hedgerows. Notable species recorded include bluebell <i>Hyacinthoides non-scripta</i> and stag beetle <i>Lucanus cervus</i> , as well as a wide range of amphibians, birds, bats and invertebrates. A comprehensive study of the site found 906 species of invertebrate, 46 species of bird, 59 species of fungi, 292 species of plants and 12 species of mammal.
Abbey Wood SSSI	c.1.32km north-east	A Geological Conservation Review Site.
Non-statutory sites		
Plumstead Cemetery SINC (GrBII03)	c.47m south-west	Much of this large cemetery is close-mown acidic grassland, with sheep's sorrel <i>Rumex acetosella</i> , cat's-ear <i>Hypochaeris radicata</i> and mouse-ear hawkweed <i>Pilosella officinarum</i> growing among the common bent and sheep's fescue <i>Festuca ovina</i> sward. An area grassland appears to have a chalk influence, with fairy flax <i>Linum</i>

Site name	Location*	Description
		<i>catharticum</i> , common centaury <i>Centaureum erythraeum</i> and rough hawkbit <i>Leontodon hispidus</i> recorded.
Lesnes Abbey Woods and Bostall Woods SINC (M015)	c.55m west	A large complex of ancient and secondary woodland, with adjacent areas of heathland and acid grassland. Small, but significant areas of heath and acid grassland are present. The avifauna includes all three British woodpeckers, nuthatch <i>Sitta Europaea</i> and treecreeper <i>Certhia Familiaris</i> . Reptiles include slow worm <i>Anguis fragilis</i> and common lizard <i>Zootoca vivipara</i> . The site also appears important for bats.
East Wickham Open Space SINC (BxBII19)	c.524m south-west	A large area of grassland and woodland currently being managed to improve its value for wildlife. Steep banks on the north of the site contain small areas of scrubland and wildflower rich acid grassland. Wet woodland is present in the middle of the site. The site supports breeding sparrowhawk <i>Accipiter Nisus</i> and green woodpecker <i>Picus Viridis</i> , as well as large populations of invertebrates and a population of common lizard.
East Wickham Open Space (Greenwich section) SINC (GrL22)	c.577m south-west	A small strip of this large informal open space is in Greenwich, the rest of East Wickham Open Space lies in Bexley. Extensive beds of common nettle <i>Urtica dioica</i> may be of value to breeding butterflies, and grade into rough grassland. Several large mature poplars <i>Populus</i> sp. grow along the edge of the site.
Woolwich Cemeteries & Rockliffe Gardens SINC (GrBII11)	c.741m south-west	The western cemetery contains herb-rich grassland, with a wide variety of grasses and common wild flowers. Parts have a distinct acid influence, with species such as sheep's fescue <i>Festuca ovina</i> , early hair-grass <i>Aira praecox</i> , small crane's-bill <i>Geranium pusillum</i> , sheep's sorrel <i>Rumex acetosella</i> and mouse-ear hawkweed <i>Pilosella officinarum</i> . The eastern cemetery contains similar grassland, and also areas of scrub and secondary woodland.
Plumstead Common (Winn's Common, Bleak Hill and the Slade) SINC (GrBI01)	c.971m west	Extensive areas of acid grassland dominated by common bent <i>Agrostis capillaris</i> , red fescue <i>Festuca rubra</i> and wavy hair-grass <i>Deschampsia flexuosa</i> with typical acid grassland forbs. Scattered gorse <i>Ulex europaea</i> scrub of gorse occurs throughout the grassland. Areas of woodland are dominated by pedunculate oak <i>Quercus robur</i> and downy birch <i>Betula pubescens</i> , and a small pond is located at the northern end of The Slade.

* Approximate distance and bearing from the survey area

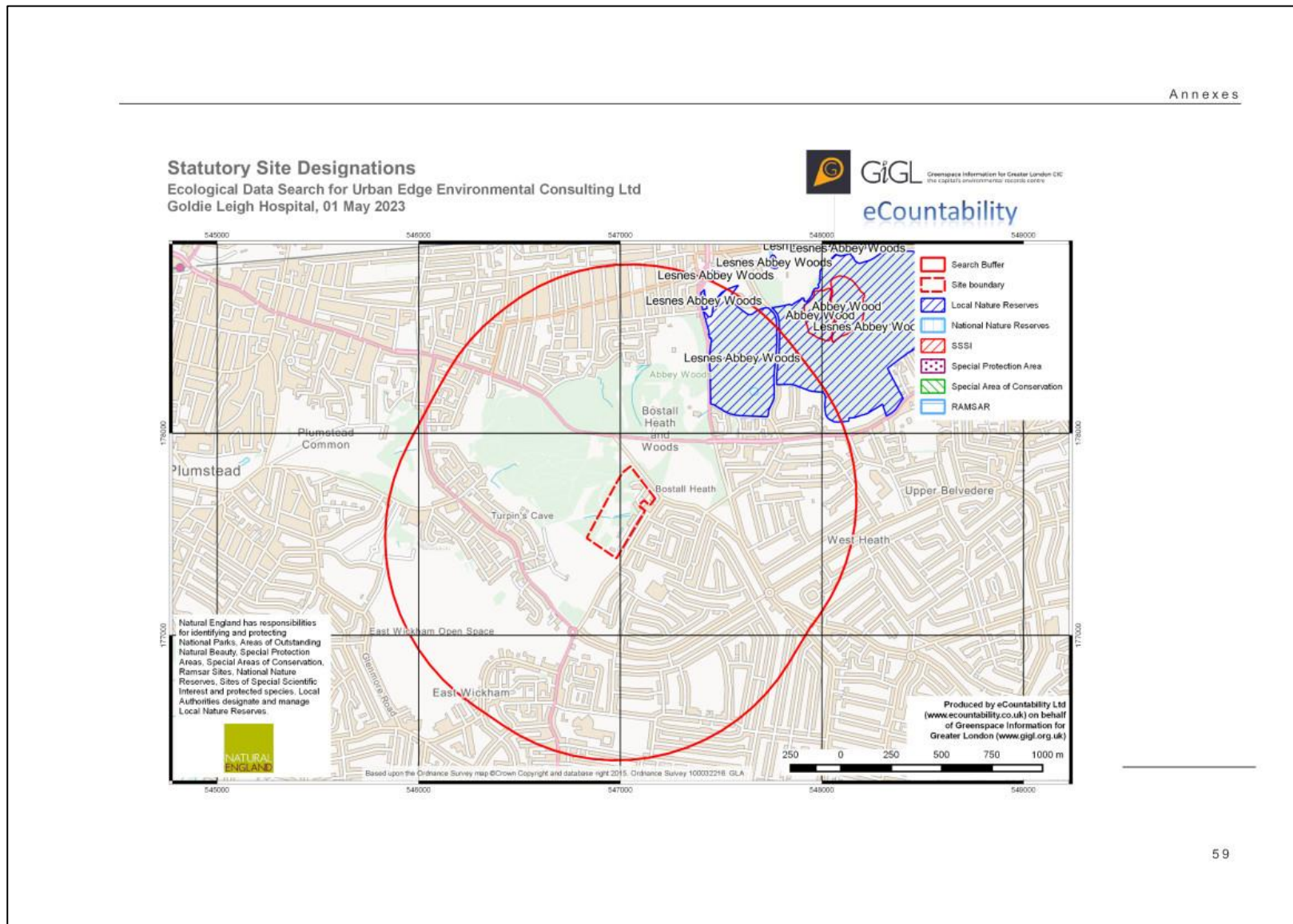


Figure 3.1: Statutory nature conservation sites within the desk study search area

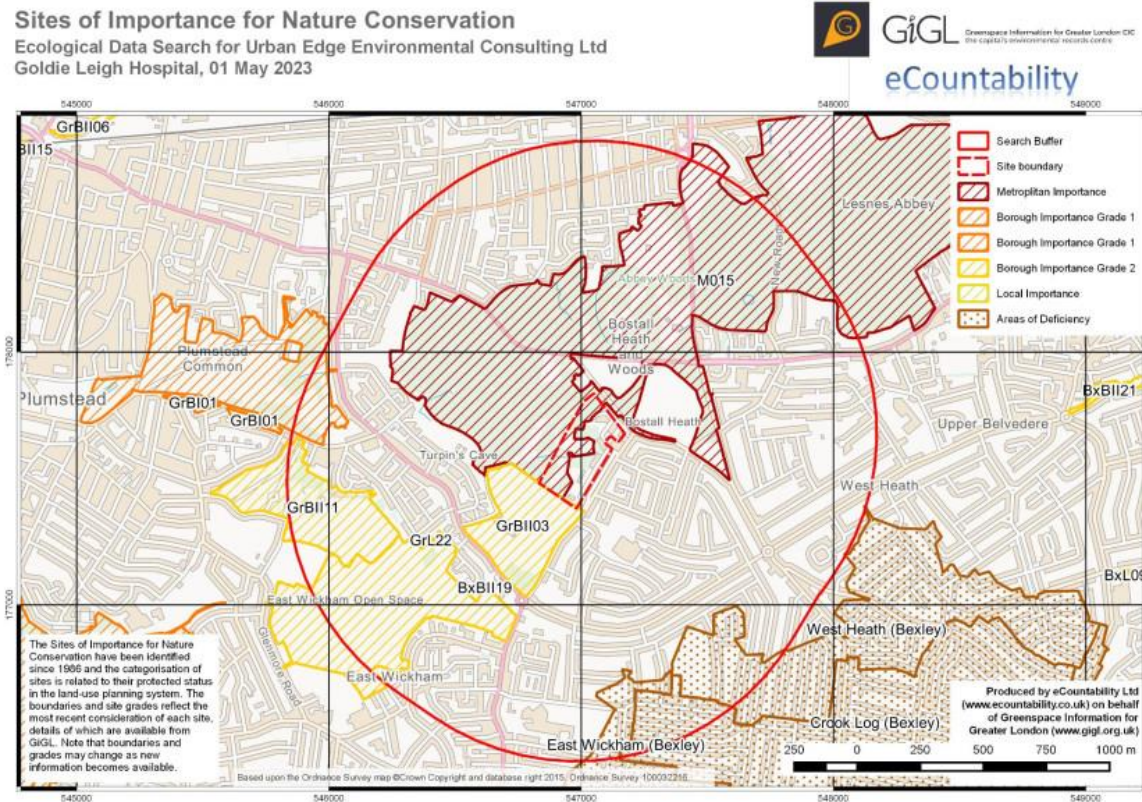


Figure 3.2: Non-statutory nature conservation sites within the desk study search area

Records of protected, rare and notable species

3.1.4 Biological records were obtained from GiGL for the desk study search area and are summarised in Table 3.2.

Table 3.2: Records of protected, rare & notable species within the desk study search area

Group	Species	Designation
Amphibians	Common frog <i>Rana temporaria</i>	WCA Sch.5 part
Birds (note: species may appear more than once)	Peregrine <i>Falco peregrinus</i>	Birds Dir.1
	Peregrine, Hobby <i>Falco Subbuteo</i> , Red kite <i>Milvus milvus</i> , Firecrest <i>Regulus ignicapillus</i> , Redwing <i>Turdus iliacus</i> , Fieldfare <i>Turdus pilaris</i>	WCA Sch.1
	Cuckoo <i>Cuculus canorus</i> , Dunnock <i>Prunella modularis</i> , Herring gull <i>Larus argentatus</i> , Spotted flycatcher <i>Muscicapa striata</i> , House sparrow <i>Passer domesticus</i> , Starling <i>Sturnus vulgaris</i> , Song thrush <i>Turdus philomelos</i>	NERC s41
	Cuckoo, Herring gull, Spotted flycatcher, House sparrow, Woodcock <i>Scolopax rusticola</i> , Starling, Redwing, Fieldfare, Mistle Thrush <i>Turdus viscivorus</i> , Swift <i>Apus apus</i> , Greenfinch <i>Chloris chloris</i>	RL
	Dunnock, Tawny Owl <i>Strix aluco</i>	AL
Invertebrates	Stag Beetle	Habs.Dir.2, WCA Sch.5 part, NERC s41
	Large heath <i>Coenonympha pamphilus</i> , Small heath <i>Coenonympha pamphilus</i> , Wall <i>Lasiommata megera</i> , Hornet Robberfly <i>Asilus crabroniformis</i>	NERC s41
Mammals (terrestrial)	Noctule <i>Nyctalus noctule</i> , Soprano pipistrelle <i>Pipistrellus pygmaeus</i> , Brown Long-eared <i>Plecotus auritus</i>	Habs.Dir.4, CHS Sch.2, WCA Sch.5 full, NERC s41
	Serotine <i>Eptesicus serotinus</i> , Daubenton's Bat <i>Myotis daubentonii</i> , Leisler's Bat <i>Nyctalus leisleri</i> , Nathusius' pipistrelle <i>Pipistrellus nathusii</i> Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Habs.Dir.4, CHS Sch.2, WCA Sch.5 full
	West European Hedgehog <i>Erinaceus europaeus</i> ,	NERC s41
Plants	Pennyroyal <i>Mentha pulegium</i>	WCA Sch.8, NERC s41
	Bluebell, Jersey Cudweed <i>Gnaphalium luteoalbum</i> , Corn Buttercup <i>Ranunculus arvensis</i> , Shepherd's-needle <i>Scandix pecten-veneris</i> , Greater Water-parsnip <i>Sium latifolium</i> , Spreading Hedge-parsley <i>Torilis arvensis</i>	WCA Sch.8
	Marsh Clubmoss <i>Lycopodiella inundata</i> , Pheasant's-eye <i>Adonis annua</i> , Tower Mustard <i>Arabis glabra</i> , Flat-sedge <i>Blysmus compressus</i> , Spreading Bellflower <i>Campanula patula</i> , Starved Wood-sedge <i>Carex depauperate</i> , Divided Sedge <i>Carex divisa</i> , Cornflower <i>Centaurea cyanus</i> ,	NERC s41

Group	Species	Designation
	Chamomile <i>Chamaemelum nobile</i> , Stinking Goosefoot <i>Chenopodium vulvaria</i> , Deptford Pink <i>Dianthus armeria</i> , Copse-bindweed <i>Fallopia dumetorum</i> , Corn Cleavers <i>Galium tricorutum</i> ,	
Reptiles (terrestrial)	Slow Worm, Common Lizard	WCA Sch.5 part, NERC s41

Birds.Dir.1	Wild Birds Directive 2009/147/EC Annex 1
Habs.Dir.2/4	Habitats Directive 92/43/EEC Annex 2 or 4
CHS Sch.X	Conservation of Habitats & Species Regulations 2017 Schedules 2 (EPS animals) or 5 (EPS plants)
WCA s1/Sch.X	Wildlife and Countryside Act 1981 Section 1 / Schedules 1, 5 (fully or partially protected), 6 or 8
NERC s41	Natural Environment & Rural Communities Act 2006 Section 41 Species of Principal Importance
RL/AL	Red/Amber Listed (IUCN or Birds of Conservation Concern 5 (Stanbury <i>et al.</i> , 2021))

3.2 UK Habitat Classification

3.2.1 The following habitats were identified within the survey area and are shown on the UKHab plan at Appendix I. The habitats are described below broadly in the order of their extent.

- ▶ Urban:
 - Developed land; sealed surface
 - Building
 - Bare ground
- ▶ Grassland:
 - Modified grassland
- ▶ Scattered trees

Urban

Developed land; sealed surface; other developed land; Other hard surfaced areas u1b6, 1230

3.2.2 Large areas of asphalt and concrete were recorded within the survey area, particularly along the western extent which was used for car parking. Smaller areas provided access in and around the buildings in the form of footpaths and pavement. Mosses and encroaching grassland species such as wall barley *Hordeum murinum* and ribwort plantain *Plantago lanceolata* had started to colonise the areas surrounding B2, but generally these areas were devoid of vegetation.

3.2.3 A small rubbish pile was recorded to the west of B2, which was being encroached by vegetation (TN5).

Developed land; sealed surface; buildings u1b5

3.2.4 Two disused hospital buildings (B1 and B2) were identified within the survey area. A description and photos of each building is located within section 3.3.

- 3.2.5 Two stands areas of butterfly-bush *Buddleia davidii* were recorded growing out of B2 (TN6 & TN7).

Sparsely vegetated urban land; bare ground u1f, 510

- 3.2.6 A narrow strip of bare ground was present along the south-western aspect of B1. This gravelly area was generally devoid of vegetation although small patches of encroaching grassland species had started to colonise the area.

Grassland

Modified grassland g4

- 3.2.7 Areas of mown modified grassland were present around the buildings and at the survey area boundaries. The sward height varied in places particularly at the extremities, but generally the grassland appeared to be regularly managed. The species composition typically contained abundant perennial rye-grass *Lolium perenne* red clover *Trifolium pratense*, and daisy *Bellis perennis*, with frequent wall barley, Yorkshire fog *Holcus lanatus* and ribwort plantain. Occasional recorded forbs included creeping cinquefoil *Potentilla reptans*, white clover *Trifolium repens* and dandelion *Taraxacum* sp..

- 3.2.8 A single small holly *Ilex aquifolium* shrub was recorded in a strip of modified grassland along the south-eastern boundary (TN4).

Scattered trees 11

- 3.2.9 A total of six trees (T1-T6) were recorded within the survey area. T1 and T2 were semi-mature silver birch *Betula pendula* and T3 was a semi-mature horse-chestnut *Aesculus hippocastanum*. T4, T5 and T6 were young ash *Fraxinus excelsior* specimens.



Area of asphalt used for parking at B1 – view looking south-east



Example of colonisation of mosses in areas surrounding B2 – view looking south



Narrow strip of bare ground at B1 – view looking north-west



Example of modified grassland in the south of the survey area – view looking north-west



Semi-mature horse-chestnut in the south of the survey area (T3) – view looking south



Young ash along the southern boundary (T4, T5 & T6) – view looking south.

3.3 Preliminary Roost Assessment

3.3.1 Table 3.3 provides an assessment of the suitability of buildings within the survey area for roosting bats. No observable PRFs were identified on any of the trees located within the survey area, and accordingly all trees within the survey area were assessed as providing negligible suitability for roosting bats.

Table 3.3: Preliminary Roost Assessment of buildings within the survey area

Preliminary Roost Assessment of buildings
B1: Shamrock
<i>External description</i>
Disused two-storey hospital building including a complex multi-pitch roof, with smaller hipped, pent and dormer sections. A single-storey, flat-roofed extension was present on the north-western aspect. The

Preliminary Roost Assessment of buildings

building had been condemned and all windows were boarded up. The building was constructed from red brick, with grey textured rendering at first floor level. Clay tile roofs, with timber gable ends and soffits formed the pitched, hipped and pent sections of the roof. The flat roofed single-storey roof was concrete with timber weatherboarding. The building is dilapidated with widespread damage recorded, exposing the inside loft spaces. This includes sections of roof which have been poorly repaired with timber boards.

Internal description

N/A

Evidence of bats

None

Potential roost features (PRF)

Multiple features identified on all aspects:

- ▶ Gaps between the roof and walls;
- ▶ Crevices in red brick;
- ▶ Gaps at gable end overhangs;
- ▶ Gaps behind upper drainpipe; and
- ▶ Gaps beneath roof tiles and holes in repaired sections.

Overall suitability for roosting bats

High – elevated suitability given the lack of internal access and proximity to high quality commuting and foraging habitat.

B2: Thistle

External description

Disused 'T'-shaped two-storey hospital building including two interlinking pitched sections of roof, with small dormer section on the northern aspect. A single-storey, flat-roofed section was present on the western aspect. The building had been condemned and all windows were boarded up. The building was constructed from red brick, with grey textured rendering at first floor level. Clay tile roofs, with timber gable ends and soffits formed the pitched and dormer sections of the roof. The flat roofed single-storey roof was concrete with timber weatherboarding. The building is dilapidated with widespread damage recorded, exposing the inside loft spaces. This includes sections of roof which have been poorly repaired with timber boards.

Internal description

N/A

Evidence of bats

None

Potential roost features (PRF)

Multiple features identified on all aspects:

- ▶ Gaps between the roof and walls;
- ▶ Crevices in red brick;

Preliminary Roost Assessment of buildings

- ▶ Gaps at gable end overhangs;
- ▶ Gaps behind upper drainpipe;
- ▶ Damaged soffits; and
- ▶ Gaps beneath roof tiles and holes in repaired sections.

Overall suitability for roosting bats

High – elevated suitability given the lack of internal access and proximity to high quality commuting and foraging habitat.



View of eastern aspect of B1



View of western aspect of B1



Example of gaps at gable end overhangs at B1



Example of gaps at repaired sections of the roof at B1



View of south-eastern aspect of B2



Example of gaps beneath roof tiles at B1



Example of gaps at gable end overhangs at B2



Example of damaged soffit at B2

4 Evaluation

4.1 Introduction

4.1.1 This section evaluates the survey area in terms of the habitats and species present or potentially present on site or its immediate vicinity, in the context of relevant legislation and planning policy. See Appendix IV for a review of the legislation and planning context.

4.2 Designated Sites

4.2.1 The site is located within the IRZ for Abbey Wood SSSI and Oxleas Woodland SSSI, which address a variety of land use proposals, but excludes demolition and landscaping proposals.

4.2.2 Plumstead Cemetery SINC and Lesnes Abbey Woods and Bostall Woods SINC are located c.47m south-east and c55m east of the survey area, respectively. Additionally, Lesnes Abbey Woods and Bostall Woods SINC include areas of Deciduous Woodland and Ancient Woodland. These SINC are vulnerable to negative effects from the proposed development, such as noise, light and dust pollution, fly-tipping and invasive species. Ecological protection measures are recommended at section 5.4 to prevent such impacts. Due to the nature of the development, no increases in recreational pressure are anticipated upon either of the SINC.

4.2.3 None of the other statutory or non-statutory wildlife sites or areas of ancient woodland within the desk-study search zone are likely to be affected by the Proposed Development, considering the size and scale of the proposal and its distance from the designated sites.

4.3 Habitats

Evaluation

4.3.1 Table 4.1 presents a preliminary evaluation of the habitats recorded within or adjacent to the survey area, with reference to the criteria defined at section 2.2.6. It is important to note that these preliminary evaluations may be updated following completion of more detailed botanical or protected species surveys.

Table 4.1: Preliminary evaluation of habitats within the survey area

Habitat	Evaluation	Rationale
All habitats	Negligible	These habitats are common and widespread or poor-quality examples, none of which are HPI habitats.

Priority Habitats

- 4.3.2 There are no Priority Habitats within the survey area which could be affected by the development proposals.

Other habitats

- 4.3.3 The Proposed Development would result in permanent losses of up to c.0.2ha of developed land; sealed surface, building, bare ground, modified grassland and scattered trees across the survey area, depending on the extent and layout of proposals. These areas are of low ecological value and of negligible importance.

4.4 Species

Amphibians (excluding great crested newt)

- 4.4.1 The hard surfaces and short mown modified grassland habitat within the survey area are of low ecological value for common and widespread amphibian species due to its uniform structure and short sward height. Additionally, no ponds within or nearby the survey area were identified and common amphibians are not considered to present a constraint to the Proposed Development.

Great crested newt

- 4.4.2 No records of great crested newt were returned from within the desk-study search zone.
- 4.4.3 The survey area contains predominantly sub-optimal terrestrial habitat for great crested newt, comprised mainly of hard surfaces and short mown modified grassland. Grasslands of this nature are occasionally used by foraging or dispersing great crested, but contain few shelter habitats and are unlikely to support high numbers. There is no breeding habitat within the survey area and no nearby ponds were identified through analysis of Ordnance Survey maps and aerial photography. Great crested newt is not considered to present a constraint to the development proposals and no further surveys for this species are required.

Birds (nesting)

- 4.4.4 GiGL returned records of 18 notable bird species from within the desk-study search zone, between 1964 and 2022.
- 4.4.5 Active feral pigeon *Columba livia domestica* nests were noted at both B1 and B2 (TN1, TN2, TN3 and TN8), as was an inactive 'cup-shaped' nest at the gable end of B1, which may have previously been used by a *Hirundinidae* species. The survey area's buildings and scattered trees are suitable for nesting Species of Principal Importance (SPI) such as starling and house sparrow (both Red-listed) which have been recorded in the area.
- 4.4.6 The areas of modified grassland are considered sub-optimal and unlikely to support ground-nesting species such as skylark *Alauda arvensis* (SPI and Red-listed) and meadow pipit *Anthus pratensis* (Amber-listed). This is due to the poor structural form of the grassland, as well as high levels of disturbance from the surrounding area.

- 4.4.7 Further breeding bird surveys are not required, but precautionary measures for nesting birds are recommended at section 5.3.

Invertebrates

- 4.4.8 GiGL returned records of 5 species of protected invertebrate from within the desk-study search zone, between 2015 and 2021. These comprised of three butterflies, a fly and stag beetle (NERC SPI).
- 4.4.9 The habitats within the survey area are largely unsuitable for invertebrates and are unlikely to support a diverse or abundant invertebrate fauna in general. Invertebrates are not considered to present a constraint to the development proposals and no further surveys for this group are required.

Mammals (terrestrial)

Badger

- 4.4.10 GiGL returned no records of badger *Meles meles* within the desk study search area.
- 4.4.11 The survey area provides limited foraging habitat for badger and negligible limited sett creation potential. A search for badger setts and signs of their presence was undertaken within a 30m radius of the survey area boundary. There was no observable evidence of badger activity within or around the survey area, such as badger paths, footprints, latrines, dung pits, or badger hairs caught at fence lines. Badger is not considered to present a constraint to the development proposals and no further surveys for this species are required. General ecological protection measures for badgers and other mammals are advised in section 5.4.

Bats

- 4.4.12 GiGL returned eight records of at least two species of bat from within 2km of the survey area, all in 2018. This included one undefined breeding record for *Chiroptera*, although its precise location is not provided. The closest record comprised of Leisler's bat c. 298m south-east of the survey area in 2005. The remaining records comprised records for noctule, soprano pipistrelle, brown long-eared, serotine, Daubenton's Bat, Nathusius' pipistrelle and common pipistrelle.
- 4.4.13 The PRA concluded that buildings B1 and B2 were of high suitability for roosting bats based on an external inspection only, and their possible use by roosting bats cannot be ruled out. Demolition of these buildings could result in destruction of a bat roost or present a risk of killing, injury or disturbance if bats are present during the works. Further surveys for bats roosting in buildings are recommended at section 5.2.
- 4.4.14 None of the trees within the survey area displayed potential roost features during a ground-level assessment, and PRFs are considered unlikely to be present higher up due to the relatively young age and good condition of the trees. Bats roosting in trees are not considered to present a constraint the Proposed Development and no further surveys are required.

- 4.4.15 The hard surfaces and managed grassland habitat which dominate the survey area provides a small patch of low suitability foraging habitat for bats. The scattered trees may serve as a navigation route or foraging feature for bats, but they are generally isolated in an otherwise highly developed environment. Given the scale of Proposed Development, the small area of suitable habitat to be affected, significant impacts to foraging/commuting bats are unlikely. Further bat activity surveys are not required, but it is possible that nearby woodland will experience an increase in artificial lighting following development, which may render them less suitable for possible foraging / commuting bats in future. Therefore, recommendations for sensitive lighting are presented in section 5.3.

Hazel dormouse

- 4.4.16 GiGL returned no records of hazel dormouse *Muscardinus avellanarius* within the desk study search area.
- 4.4.17 The habitats which dominate the survey area (hard surfaces and short mown modified grassland) provide negligible opportunities for hazel dormouse. The survey area is also isolated, with limited connectivity to areas of mature woodland or hedgerows in the wider landscape. Hazel dormouse is not considered to present a constraint to the Proposed Development and no further surveys for this species are required.

Water vole and otter

- 4.4.18 GiGL returned no records of water vole *Arvicola amphibius* or otter *Lutra lutra* within the desk study search area.
- 4.4.19 There are no riparian habitats running through or adjacent to the survey area, nor in the wider landscape, making it unlikely that either species would be present. Neither species is considered to present a constraint to development proposals and further surveys are not required.

Plants, native

- 4.4.20 GiGL returned records of 20 protected botanical species from within the desk-study search zone, between 1780 and 2022.
- 4.4.21 No rare or protected species of flora were recorded within the survey area and, based on the habitat types present and past and current management regimes, it is considered unlikely that these are present. Botanical species are not considered to present a constraint to the Proposed Development and no further surveys for this group are required.

Plants – invasive non-native species and injurious weeds

- 4.4.22 Butterfly-bush was recorded in two locations at B2 in the southern extent of the survey area. This species is not listed on the Wildlife & Countryside Act 1981 (as amended) (WCA), but is listed on

the London Invasive Species Initiative (LISI) report¹. As such, control measures are advised to prevent this species spreading into the wild; see section 5.4.

- 4.4.23 No significant stands of injurious weed species were noted (ragwort *Senecio jacobea*, spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense*, curled dock *Rumex crispus*, and broad-leaved dock *Rumex obtusifolius*). Invasive plant species and injurious weeds are not considered to present a constraint to the Proposed Development and no further action for this group is required.

Reptiles (terrestrial)

- 4.4.24 GiGL returned eleven records of terrestrial reptile species from within the desk-study search area, between 2011 and 2019. Two of the four widespread species have been recorded in the vicinity; slow worm and common lizard. The closest record to the site was a slow worm located c.172m north in 2014.
- 4.4.25 The survey area contains predominantly sub-optimal habitat for reptiles, comprised mainly of hard surfaces and mown modified grassland with a short sward height and little structural variation. Grasslands of this nature contain few shelter habitats and are unlikely to support high numbers. Reptiles are not considered to present a constraint to Proposed Development and no further surveys for this group are required.

Other protected, rare or notable species

- 4.4.26 GiGL returned four records of hedgehog from within the desk-study search zone, all in 2021. The closest to the site was located c.350m east. The survey area contains limited areas of suitable habitat for this species in the form of modified grassland. Hedgehog is listed as a species of principal importance under the NERC and is undergoing a significant population decline. It is anticipated that no boundary fencing will be installed which severs the ability of this species to use habitats within the survey area. However, general ecological protection measures for hedgehog and other mammals are advised in section 5.4.

¹ Invasive Non-native Species in London
[https://www.lbp.org.uk/LISI.html#:~:text=London%20Invasive%20Species%20Initiative%20\(LISI\)&text=LISI's%20Objectives%20follow%20the%20principles,of%20invasive%20species%20in%20London.](https://www.lbp.org.uk/LISI.html#:~:text=London%20Invasive%20Species%20Initiative%20(LISI)&text=LISI's%20Objectives%20follow%20the%20principles,of%20invasive%20species%20in%20London.)

5 Recommendations and Conclusions

5.1 Introduction

5.1.1 With regard to the objectives of this PEA, recommendations are made below for further protected species survey where necessary. Preliminary recommendations are also made for the protection of important ecological features, and/or to avoid or mitigate ecological impacts, and to enhance the survey area for wildlife following construction. It is intended that these recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. The recommendations should be reviewed following the completion of further ecological surveys.

5.2 Botanical or Protected Species Surveys

5.2.1 The following species / groups (Table 5.1) will require additional surveys prior to refining development designs and formulating a suitable avoidance and mitigation strategy (if required).

Table 5.1: Recommendations for further ecological surveys

#	Recommendations for further ecological survey
R1	Presence / absence surveys for roosting bats within buildings B1 and B2, undertaken between May and August.

Roosting bats

5.2.2 The Proposed Development will require the demolition of buildings B1 and B2. These works could result in destruction of a bat roost or killing, injury or disturbance to roosting bats, and further surveys are recommended to determine their presence or likely absence with these features. The surveys should follow current guidelines (Collins, 2016), comprising dusk emergence and/or dawn re-entry surveys, and can be carried out between May and September (May to August is the optimal period). Surveys should begin at least quarter of an hour before dusk and continue for up to 2 hours after sunset, or begin 1.5 to 2 hours before dawn and continue until at least 15mins after sunrise. The level of survey effort required for High suitability buildings is at least three surveys visits in total, including at least one dusk emergence and at least one separate dawn re-entry survey.

5.3 Precautionary Measures

5.3.1 The following species/groups (Table 5.2) require specific precautionary measures to be adhered to prior to and during construction to ensure that an offence under the relevant legislation is

avoided. These measures may need to be added to or amended following completion of the protected species surveys described above.

Table 5.2: Recommended precautionary measures

#	Recommended precautionary measures
R2	Removal of nesting bird habitats (including vegetation and buildings) will be undertaken outside of the bird nesting season, which runs from 1 March to 31 August. However, as feral pigeon nest year-round a site check for nesting birds by a suitably qualified ecologist is required. This will take place no more than two days prior to works commencing. This is to ensure that no disturbance to active bird nests occurs. If a nest is found it must be cordoned off and works adjacent to the nest must be delayed until such time that the chicks have fledged from the nest. This will be supervised by a suitably qualified ecologist.

5.4 Ecological Protection Measures

5.4.1 The following protection measures (Table 5.3) will be carried out as part of the Proposed Development, alongside any specific measures that are recommended following the protected species surveys described above.

Table 5.3: Recommended ecological protection measures

#	Recommended ecological protection measures
R3	Hoardings will be installed at the construction zone perimeter for the duration of the works to protect the nearby Plumstead Cemetery SINC and Lesnes Abbey Woods and Bostall Woods SINC from temporary impacts including noise, light and dust pollution. The exact location of hoarding will be led by the root protection zones of surrounding trees, to be confirmed by the arboricultural report for the survey area.
R4	British Standard BS 5837:2012 and/or National Joint Utilities Group Guidelines (NJUG, 1995) will be followed at all times during construction when working in close proximity to trees or shrubs which are to be retained. According to NJUG Guidelines the root protection zone or precautionary area is 4x the circumference of the trunk (circumference is measured around the trunk at a height of 1.5m above ground level). The distance is measured from the centre of the trunk to the nearest part of any excavation or other work. If a separate tree survey is carried out for the proposed development, works will be undertaken in accordance with the recommendations therein.
R5	Butterfly-bush is present at two locations within the survey area (TN6 & TN7). This species is considered invasive within London and listed within the LISI. A method statement should be prepared to ensure adequate control measures are adopted during construction to prevent this species spreading from the site. Control measures can comprise cutting, digging of roots and removing the arisings to prevent it spreading.
R6	The use of external lighting will be avoided or reduced to the minimum required for its intended purpose, during both construction and operation. This will be of benefit to nocturnal species e.g. bats. Where external lighting is to be provided, it will be low-level, directional lighting with minimal spill and glare, and consideration will be given to reduced hours of operation and/or a movement responsive system of control. Use narrow-spectrum bulbs and light sources that emit minimal UV light, avoiding white and blue wavelengths of the spectrum.

#	Recommended ecological protection measures
	Use glass lantern covers instead of plastic to filter UV light. Lighting will not be directed towards adjacent retained trees or nearby boundary hedgerows or Plumstead Cemetery SINC and Lesnes Abbey Woods and Bostall Woods SINC.
R7	All excavations left overnight will either be covered over, or provided with a ramp to enable easy escape of badgers, hedgehogs, small mammals, amphibians and other fauna, and inspected each morning prior to recommencement. Open pipework greater than 150mm outside diameter will be blanked off at the end of each working day.

5.5 Recommendations for Ecological Enhancement

5.5.1 The following ecological enhancements (Table 5.4) should be considered to improve the value of the survey area for biodiversity after construction, but should be reviewed and specified further following the completion of recommended protected species surveys.

Table 5.4: Preliminary recommendations for ecological enhancement

#	Preliminary recommendations for ecological enhancement
R8	Buffers of less intensively managed vegetation (e.g. coarse grasses and wildflowers, including the use of tussock-forming grass species such as cock's foot <i>Dactylis glomerata</i> , Yorkshire fog, tufted hair-grass <i>Deschampsia cespitosa</i> and false oat-grass <i>Arrhenatherum elatius</i>) will be created within soft landscaped areas within the Proposed Development, towards the survey area boundaries and alongside newly created hedgerows. This will help to enhance ecological connectivity through the survey area for reptiles, amphibians and small mammals, and provide forage for invertebrates.
R9	Hedgerow creation and / or restoration as part of the landscaping plan for the survey area will use a range of native shrub species. Fruit, seed, nut and nectar-bearing species will be used preferentially when selecting species for landscape planting, so that food sources are available throughout the year (e.g. hazel <i>Corylus avellana</i> , hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> , field maple <i>Acer campestre</i> , dogwood <i>Cornus sanguinea</i> , privet <i>Ligustrum vulgare</i> , spindle <i>Euonymus europaeus</i> and honeysuckle <i>Lonicera periclymenum</i>). If an evergreen hedge is required for landscape screening, suitable native species include holly and yew <i>Taxus baccata</i> .
R10	The landscaping plans for the survey area will utilise plant species which encourage bats. The table at Appendix III lists species of plants that can provide benefit for bats either by providing a food source for insects on which bats feed, or providing additional roosting opportunities (Gunnell <i>et al.</i> , 2012). The plant species are predominantly native to Britain, but not all species will be suitable in all situations. The aim is to encourage a diverse range of invertebrate food sources and increased bat roost potential.
R11	Habitat piles will be created within at the edges of the survey area close to newly created hedgerows. These will provide additional hibernation and shelter resources for amphibians, invertebrates, reptiles, and a range of other wildlife, and egg-laying substrate for grass snakes. Hibernacula can be created by partially burying logs and stones in sheltered areas away from flood risk, and covering over with earth or turf. Breeding habitats can be created by collecting grass clippings and other prunings arising from landscape management of the site, and composting them in a secluded corner of the site. Deadwood piles can be created using

# Preliminary recommendations for ecological enhancement	
	arisings from site clearance to provide shelter and breeding opportunities for invertebrates, particularly saproxylic species which are dependent on deadwood.
R12	<p>The value of the survey area for birds will be enhanced by installing a range of artificial nest boxes. These will be placed on retained trees or posts installed within the development or at the survey area boundaries. For instance, nest boxes with entrance holes suitable for tit species, woodpeckers and nuthatches, and open-fronted boxes suitable for spotted flycatcher or song thrush and tree creeper boxes.</p> <p>In addition, nest boxes for house sparrow <i>Passer domesticus</i> and swift <i>Apus apus</i> can be installed under the north-west facing eaves of other buildings along Lodge Hill where these are within the applicant's control.</p>
R13	<p>The value of the survey area for bats will be enhanced by installing a range of artificial roost boxes. These will be placed on retained trees or post installed within the development or at the survey area boundaries. For instance:</p> <ul style="list-style-type: none"> ▪ Pipistrelles: bat boxes suitable to install on trees or posts include the Schwegler 1FF Flat Bat Box, or other manufacturer's equivalent. ▪ <i>Nyctalus spp.</i> and brown long eared bats: bat boxes suitable to install on trees or posts include the Schwegler 2F General Purpose Bat Box or the 2FN Woodland Bat Box, or other manufacturer's equivalent. <p>Bat boxes should be installed facing vegetation features such as hedgerows or trees, but with a clear line of flight for bats exiting the roost, and away from sources of artificial light.</p> <p>In addition, roost boxes for pipistrelles <i>Pipistrellus spp.</i> or serotine <i>Eptesicus serotinus</i> can be installed under the south-west facing eaves of other buildings along Lodge Hill where these are within the applicant's control.</p>

5.6 Conclusions

- 5.6.1 The majority of the survey area is of low ecological value. Significant constraints to the proposed Development were identified including nearby sites of nature conservation importance and the potential presence of nesting birds and roosting bats. Further bat surveys and impact assessment are required prior to submitting a planning application, to determine the value of the site for these species and to formulate a suitable mitigation strategy. For the remaining constraints, proportionate and effective mitigation is available to protect against the risk of impacts.

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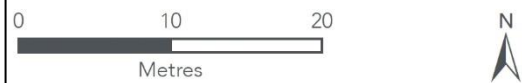
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Appendix I: UKHab Habitats Plan

Goldie Leigh Hospital, Welling

-  Survey area
-  Modified grassland
-  Developed land, sealed surface
-  Bare ground
-  Building
-  Metal fence
-  Target note
-  Scattered tree

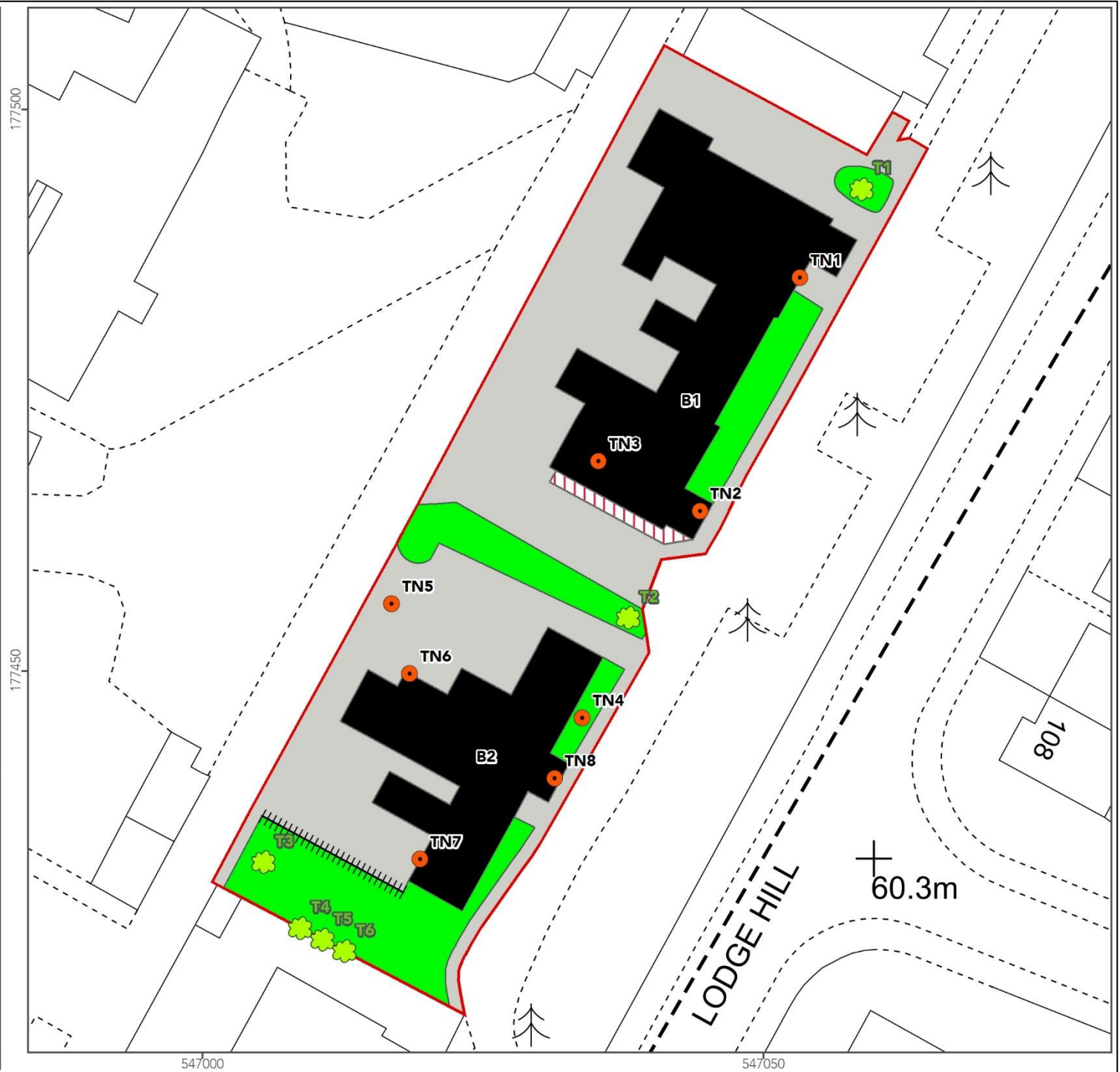


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Scale (at A4): 1:500 Created by: MT




Date: Aug 2023 Reviewed by: NP


Drawing number:
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Appendix II: Target Notes

Target Note	Photo
1. Active feral pigeon nest	
2. Active feral pigeon nest	
3. Active feral pigeon nest	

Target Note	Photo
4. Holly shrub	
5. Rubble pile	
6. Butterfly-bush	
7. Butterfly-bush	No photo

Target Note	Photo
8. Active feral pigeon nest	

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Appendix III: Plant Species which encourage Bats

Please see following pages which are drawn from Gunnell *et al.* (2012).

Plant Species	Common name	Native	Type	Benefit	Soil	Light	Extensive green roofs	Living walls	Rain Gardens	Hedges/ trees	Beds/ borders
<i>Acer campestre</i>	Field maple	N	T/S	C	Any	Sun / shade				Y	
<i>Acer platanoides</i>	Norway maple		T	S	Well drained / alkaline	Sun / shade				Y	
<i>Acer saccharum</i>	Sugar maple		T	S	Any	Sun / shade				Y	
<i>Achillea millefolium</i>	Yarrow	N	HP	C,F	Well drained	Sun	Y				
<i>Ajuga reptans</i>	Bugle	N	HP	C,F	Any	Sun / shade	Y				
<i>Anthyllis vulneraria</i>	Kidney vetch	N	HP	F	Well drained	Sun	Y				
<i>Aubrieta deltoidea</i>	Aubrieta		H	F	Well drained	Sun / shade		Y			
<i>Betula pendula</i>	Silver birch	N	T	C	Sandy / Acid	Sun				Y	
<i>Cardamine pratensis</i>	Cuckoo-flower	N	HP	F	Moist	Sun / shade					Y
<i>Carpinus betulus</i>	Hornbeam	N	T	C	Clay	Sun				Y	
<i>Centaurea nigra</i>	Common knapweed	N	HP	C,F	Dry, not acid	Sun	Y				Y
<i>Centranthus ruber</i>	Red valerian		HP	F	Well drained / alkaline	Sun	Y				Y
<i>Clematis vitalba</i>	Old man's beard	N	C	F	Well drained / alkaline	Sun				Y	
<i>Corylus avellana</i>	Hazel	N	S	C	Any dry	Sun / shade		Y		Y	
<i>Crataegus monogyna</i>	Hawthorn	N	S	S,C	Any	Sun / shade				Y	
<i>Daucus carota</i>	Wild carrot	N	Bi	S,C,F	Any	Sun	Y				Y
<i>Dianthus spp.</i>	Pinks	N	A-Bi	F	Well drained	Sun	Y	Y			Y
<i>Digitalis purpurea</i>	Foxglove	N	Bi	C	Well drained	Shade / partial shade				Y	Y
<i>Erica cinerea</i>	Bell heather	N	S	F	Sandy	Full sun					Y
<i>Erysimum cheiri</i>	Wallflower		Bi-P	F	Well drained	Sun		Y			
<i>Eupatorium cannabinum</i>	Hemp agrimony	N	H	F	Moist	Sun / shade					Y
<i>Fagus sylvatica</i>	Beech	N	T	C,R	Well drained / alkaline	Sun / shade				Y	
<i>Foeniculum vulgare</i>	Fennel		H	F	Well drained	Sun					Y
<i>Fraxinus excelsior</i>	Common ash	N	T	C,R	Any	Sun / shade				Y	
<i>Hebe spp.</i>	Hebe species		S	F	Well drained	Sun / shade				Y	Y
<i>Hedera helix</i>	Ivy	N	C	F,C	Any	Sun / shade		Y		Y	Y
<i>Hesperis matronalis</i>	Sweet rocket		H	F	Well drained / dry	Sun / shade					Y
<i>Hyacinthoides non-scripta</i>	Bluebell	N	B	F	Loam	Shade / partial shade		Y		Y	Y

Plant Species	Common name	Native	Type	Benefit	Soil	Light	Extensive green roofs	Living walls	Rain Gardens	Hedges/ trees	Beds/ borders
<i>Ilex aquifolium</i>	Holly	N	T	C	Any	Sun / shade				Y	
<i>Jasminum officinale</i>	Common jasmine		C	F	Well drained	Sun		Y			Y
<i>Lavandula spp.</i>	Lavender species		S	F	Well drained / sandy	Sun		Y			Y
<i>Linaria vulgaris</i>	Toadflax	N	HP	C	Well drained / alkaline	Sun	Y				Y
<i>Lonicera periclymenum</i>	Honeysuckle	N	C	F	Well drained	Sun		Y		Y	
<i>Lotus corniculatus</i>	Bird's foot trefoil	N	HP	F	Well drained / dry	Sun	Y				Y
<i>Lunaria annua</i>	Honesty		Bi	F	Any	Sun / partial shade	Y				
<i>Malus spp.</i>	Apple		T	C	Any	Sun				Y	
<i>Matthiola longipetala</i>	Night-scented stock		A	F	Well drained/ moist	Sun			Y		
<i>Myosotis spp.</i>	forget-me-not	N	A	F	Any	Sun	Y	Y			
<i>Nicotiana glauca</i>	Ornamental tobacco		A	F	Well drained/ moist	Sun / partial shade			Y		
<i>Oenothera spp.</i>	Evening primrose species		Bi	F	Well drained/ dry	Sun	Y				
<i>Origanum vulgare</i>	Marjoram	N	HP	F	Well drained/ dry	Sun	Y	Y			
<i>Populus alba</i>	White poplar	N	T	C	Clay loam	Sun				Y	
<i>Primula veris</i>	Cowslip	N	HP	F	Well drained/moist	Sun / partial shade	Y				
<i>Primula vulgaris</i>	Primrose	N	HP	F	Moist	Partial shade	Y	Y		Y	
<i>Prunus avium</i>	Wild cherry	N	T	C	Any	Sun				Y	
<i>Prunus domestica</i>	Plum		T	C	Well drained/ moist	Sun				Y	
<i>Prunus spinosa</i>	Blackthorn	N	S	C	Any	Sun / partial shade				Y	
<i>Quercus petraea</i>	Sessile oak	N	T	C,R	Sandy loam	Sun / shade				Y	
<i>Quercus robur</i>	Common oak	N	T	C,R	Clay loam	Sun / shade				Y	
<i>Rosa canina</i>	Dog rose	N	S	C	Any	Sun			Y	Y	
<i>Salix spp.</i>	Willow species	N	S	S,C	Moist	Sun / shade			Y	Y	
<i>Sambucus nigra</i>	Elder	N	T	C	Clay loam	Sun				Y	
<i>Saponaria officinalis</i>	Soapwort	N	HP	F	Any	Sun					
<i>Saxifraga oppositifolia</i>	Saxifrage	N	HP	C	Well drained	Sun	Y	Y			
<i>Scabiosa columbaria</i>	Small scabious	N	HP	F	Well drained/ alkaline	Sun	Y				
<i>Sedum spectabile</i>	Ice plant		HP	F	Well drained/ dry	Sun	Y				
<i>Silene dioica</i>	Red campion	N	HP	F	Any	Shade / partial shade		Y	Y	Y	

Plant Species	Common name	Native	Type	Benefit	Soil	Light	Extensive green roofs	Living walls	Rain Gardens	Hedges/ trees	Beds/ borders
<i>Sorbus aucuparia</i>	Rowan	N	T	C	Well drained	Sun				Y	
<i>Stachys lanata</i>	Lamb's ears		HP	F	Well drained/dry	Sun	Y				
<i>Symphotrichum spp.</i>	Michaelmas daisies		HP	F	Any	Sun					
<i>Tegetes patula</i>	French marigold		A	F	Well drained/moist	Sun					
<i>Thymus serpyllum</i>	Creeping thyme	N	HP/S	F	Well drained/dry	Sun	Y	Y			
<i>Tilia x europaea</i>	Common lime		Type	C	Any	Sun / shade				Y	
<i>Trifolium spp.</i>	Clover species	N	HP	F	Any	Sun	Y				
<i>Valeriana spp.</i>	Valerian species	N	HP	F	Moist	Sun / partial shade			Y		
<i>Verbascum spp</i>	Mulleins	N	Bi,HP	C	Well drained	Sun	Y				
<i>Verbena bonariensis</i>	Verbena		HP	F	Well drained/moist	Sun					
<i>Viburnum lantana</i>	Wayfaring tree	N	S	C	Any	Sun / shade				Y	
<i>Viburnum opulus</i>	Guelder rose	N	S	C	Moist	Sun / shade			Y	Y	
<i>Viola tricolor</i>	Pansy	N	A	F	Well drained/moist		Y	Y			

The table above is derived from the BCT publication Landscape and Urban Design for Bats and Biodiversity (Gunnell et al., 2012) and lists suggested plant species that can provide benefit for bats either by providing a food source for insects or roost potential. The plants listed are predominately native to Britain. The small group of non-native plants is included for their documented value for wildlife. This list has been checked against Natural England's list of invasive non-native plants.

HP: Herbaceous perennial

T: Tree

A: Annual

Benefit:

Bi: Biennial

S: Shrub

B: Bulb

C: Moth caterpillar food plant

F: Flowers attract adult moths

BiP: Biennial perennial

H: Herb

C: Creeper/climber

S: Sap sucking insects (e.g. whiteflies)

R: Good roost potential

Appendix IV: Legislation and Planning Context

Legislation

General

The main legislative instruments for ecological protection in England and Wales are: the Wildlife and Countryside Act 1981 (WCA; as amended); Countryside and Rights of Way Act 2000 (CRoW; as amended); Natural Environment and Rural Communities Act 2006 (NERC; as amended); the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations; as amended); and the Environment Act 2021.

WCA 1981 consolidated and amended pre-existing national wildlife legislation in order to implement the Bern Convention and the European Union Wild Birds Directive (Council Directive 2009/147/EC). It complements the Habitats Regulations, offering protection to a wider range of species than the latter. The Act also provided for the designation and protection of nationally important conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSI). Schedules of the act list protected species of flora and fauna, as well as invasive species, and detail the possible offences that apply to these species.

The CROW Act 2000 amended and strengthened existing wildlife legislation detailed in the WCA. It placed a duty on government departments & the National Assembly for Wales to have regard for biodiversity, provided increased powers for the protection and maintenance of SSSI, and created a right of access to parts of the countryside. The Act contained lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The NERC Act 2006 consolidated and replaced aspects of earlier legislation. Section 40 of the Act places a duty upon all local authorities and public bodies in England and Wales to have regard to the purpose of conserving biodiversity in exercising all of their functions, including by restoring or enhancing habitats and species populations. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity (otherwise known as Priority Habitats/species as listed in the now superseded UK Biodiversity Action Plan). These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Habitats Regulations 2017 are the principal means by the European Union Habitats Directive (Council Directive 92/43/EEC) was transposed into English and Welsh law, and place a duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria in Europe are designated as Sites of Community Importance by the European Commission, and subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. Since the UK's departure from the European Union the European Commission no longer has a role in designating SACs in the UK. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 establish a single stage designation process, where the appropriate authority is the decision maker. The selection and designation of SACs is based on the criteria set out in Annex III of the Habitats Directive insofar as it applies to the UK, and having regard to the advice of the appropriate nature conservation body.

The 2019 Amendment Regulations have created a new national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes existing SACs, existing Special

Protection Areas (SPA) originally designated as a result of Council Directive 2009/147/EC on the Conservation of Wild Birds, and any new SACs and SPAs designated under the 2019 Regulations. SACs and SPAs in the UK therefore no longer form part of the EU's Natura 2000 ecological network.

The Habitats Regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively (European Protected Species (EPS)). Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade in these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations. Under the Habitats Regulations disturbance includes any activity which is likely to: impair the ability of a EPS to survive, breed, reproduce, or rear/nurture its young; impair the ability of a EPS to migrate or hibernate; or significantly affect the local distribution or abundance of the species.

The Environment Act 2021, among other things: established an Office for Environmental Protection; introduced a mandatory requirement for all new development requiring planning permission to achieve a net gain for biodiversity of at least 10% (although implementation of this is transitional); amended the NERC Act duty to conserve biodiversity by explicitly adding a duty to enhance; and requires local authorities to produce local nature recovery strategies.

Great crested newt (*Triturus cristatus*; GCN) (and natterjack toad *Bufo calamita*)

GCN is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a GCN (including its eggs).
- ▶ Possess or control a live or dead GCN, any part of, or anything derived from a GCN.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a GCN uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a GCN while it is occupying a structure or place that it uses for shelter or protection.

Wild birds

Wild birds are protected by the Wildlife and Countryside Act, 1981 (as amended). This legislation makes it an offence to intentionally kill, injure or take away any wild bird. It is also an offence to take, damage or destroy the nest of any wild bird while it is in use or being built or to take or destroy the egg of any wild bird. In addition, certain species are listed on Schedule 1 of the WCA (such as kingfisher *Alcedo atthis*). This makes it an additional offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young. Such species are considered to be in greater need of legal protection or of high nature conservation priority.

Birds of Conservation Concern (BoCC5) are included on Red and Amber lists (Stanbury *et al.*, 2021). Birds on the Red list are those of highest conservation priority due significant and sustained population decreases and/or range contractions (e.g. house sparrow *Passer domesticus* and starling *Sturnus vulgaris*). Birds on the Amber list are the next most critical group and include species whose population/range have shown moderate declines, or which have recovered to some extent from historical decline, such as dunnock *Prunella modularis*.

Badger (*Meles meles*)

Badgers are listed under Schedule 6 of the Wildlife and Countryside Act which grants them partial protection. This protection is extended by the Protection of Badgers Act 1992 (Badger Act) which makes it an offence to take, injure or kill a badger, interfere with a sett, sell or possess a live badger, or mark or ring a badger without a licence. Under the Act disturbance is illegal without a licence. Natural England has published guidelines to be adopted when determining whether an activity is 'disturbing' i.e. a licence is required when, for example, using heavy machinery (generally tracked vehicles) within 30m of any entrance to an active sett. Licences are not normally issued during the badger breeding season (December – June inclusive).

Bats (*Chiroptera*)

Bats and their roosts are fully protected by protected by the WCA and the Habitats Regulations, and seven species of bats are species of principal importance. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a bat.
- ▶ Possess or control a live or dead bat, any part of a bat, or anything derived from a bat.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not.
- ▶ Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- ▶ Make a false statement in order to obtain a licence for bat work.

Under the Habitats Regulations disturbance includes any activity which is likely to:

- ▶ Impair the ability of a bat to survive, breed, reproduce, or rear/nurture its young.
- ▶ Impair the ability of a bat to migrate or hibernate.
- ▶ Significantly affect the local distribution or abundance of the species.

Eurasian beaver (*Castor fiber*)

From October 2022 Eurasian beavers are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). Under this legislation it is an offence to:

- ▶ Deliberately disturb a beaver – this includes any action likely to impair their ability to survive, breed or rear their young.
- ▶ Deliberately injure, capture or kill a beaver.
- ▶ Damage or destroy the breeding site or resting place of a beaver.

It is also an offence to:

- ▶ Possess, control or transport a beaver.
- ▶ Sell or exchange a beaver.
- ▶ Offer a beaver for sale or exchange.

This applies whether the beaver is alive or dead and includes beaver parts and derivatives.

The Wildlife and Countryside Act 1981 (as amended) prohibits the release of beavers into the wild except with a licence. It also makes it an offence to use any trap or snare for the purpose of killing, taking or restraining beavers. It is also an offence to set a trap or snare in place to cause injury to a beaver.

Some management activities near or in a site of special scientific interest may need permission from Natural England under this legislation.

Beavers are protected from unnecessary suffering and cruel treatment under the Animal Welfare Act 2006 and the Wild Mammals (Protection) Act 1996.

Hazel dormouse (Muscardinus avellanarius)

Dormouse is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*:

- ▶ Intentionally kill, injure or take a dormouse.
- ▶ Possess or control a live or dead dormouse, any part of, or anything derived from a dormouse.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a dormouse uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a dormouse while it is occupying a structure or place that it uses for shelter or protection.

Otter (Lutra lutra)

Otter is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take an otter.
- ▶ Possess or control a live or dead otter, any part of, or anything derived from an otter.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that an otter uses for shelter or protection.
- ▶ Intentionally or recklessly disturb an otter while it is occupying a structure or place that it uses for shelter or protection.

Water vole (Arvicola amphibious)

Water vole is fully protected by the WCA. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a water vole.
- ▶ Possess or control a live or dead water vole, any part of, or anything derived from a water vole.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a water vole while it is occupying a structure or place that it uses for shelter or protection.

Reptiles

The four common species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, adder *Vipera berus* and grass snake *Natrix helvetica*) are partially protected under the WCA. They are protected, *inter alia*, against intentional killing and injuring. The handling and translocation of these reptiles does not require a licence.

Smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a smooth snake or sand lizard.
- ▶ Possess or control a live or dead smooth snake or sand lizard, any part of, or anything derived from a smooth snake or sand lizard.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a smooth snake or sand lizard uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a smooth snake or sand lizard while it is occupying a structure or place that it uses for shelter or protection.

Weeds Act 1959 / Ragwort Control Act 2003

This legislation provides for orders to be made for control where notifiable weed species such as ragwort are said to be a problem. The act does not make it illegal to have ragwort (or other weed species) on your land, make it illegal to allow ragwort to spread, or force landowners automatically to control it. However, if DEFRA is satisfied that there are injurious weeds to which this Act applies growing upon any land it may serve upon the occupier of the land a notice in writing requiring them, within the time specified in the notice, to take such action as may be necessary to prevent the weeds from spreading.

Planning context

National Planning Policy Framework (Section 15: Conserving and enhancing the natural environment)

The National Planning Policy Framework (NPPF), published in July 2021, outlines the Government's commitment to the conservation of wildlife and natural features. It is concerned with:

- ▶ Protecting and enhancing valued landscapes, sites of biodiversity or geological conservation value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- ▶ Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- ▶ Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- ▶ Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current & future pressures;
- ▶ Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- ▶ Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The NPPF requires that local plans should “distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value...; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries”.

To protect and enhance biodiversity and geodiversity, the NPPF states that planning policies should:

- ▶ Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- ▶ Promote the conservation, restoration and enhancement of Priority Habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should aim to protect and enhance biodiversity by applying the following principles:

- ▶ 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;
- ▶ development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- ▶ development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- ▶ 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.

The following wildlife sites should be given the same protection as habitats sites:

- ▶ potential Special Protection Areas and possible Special Areas of Conservation;
- ▶ listed or proposed Ramsar sites; and
- ▶ sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site. The policies within the NPPF (and additional guidance contained within Circular 06/2005) are a material planning consideration.

UK/Local Biodiversity Action Plan Designations and Birds of Conservation Concern and Red Data Book Listings

Note that BAP designations and status as RSPB Birds of Conservation Concern or Red Data Book species does not offer any further legal protection, but planning authorities are required to prevent these species from being adversely affected by development in accordance with National Planning Policy and the CROW and NERC Acts. The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, was a government initiative

designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contained a list of Priority Habitats and species of conservation concern in the UK, and outlined biodiversity initiatives designed to enhance their conservation status.

However, as a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK lists of Priority Habitats and species nonetheless remain an important reference source and were used to draw up statutory lists of Priority Habitats and species in England, Northern Ireland, Scotland and Wales. The Priority Habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP required that conservation of biodiversity be addressed at a County level through the production of Local BAPs. These are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. Where they exist, Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Local Planning Policy

The London Plan

The following policies relating to wildlife and biodiversity are contained within The London Plan (Greater London Authority, 2021) are of relevance:

Policy D8 Public realm Development Plans and development proposals should:

...

I incorporate green infrastructure such as street trees and other vegetation into the public realm to support rainwater management through sustainable drainage, reduce exposure to air pollution, moderate surface and air temperature and increase biodiversity

...

Policy G5 Urban greening

A Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

...

Policy G6 Biodiversity and access to nature

A Sites of Importance for Nature Conservation (SINCs) should be protected.

B Boroughs, in developing Development Plans, should:

1) use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks

- 2) identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them
 - 3) support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans
 - 4) seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context
 - 5) ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.
- C Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:
- 1) avoid damaging the significant ecological features of the site
 - 2) minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site
 - 3) deliver off-site compensation of better biodiversity value
- D Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
- E Proposals which reduce deficiencies in access to nature should be considered positively.

Policy G7 Trees and woodland

- A London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
- B In their Development Plans, boroughs should:
- 1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site¹³⁹
 - 2) identify opportunities for tree planting in strategic locations.
- C Development proposals should ensure that, wherever possible, existing trees of value are retained.¹⁴⁰ If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

Bexley Local Plan

The following policies relating to wildlife and biodiversity are contained within the adopted Bexley Local Plan (London Borough of Bexley, 2023):

POLICY SP9 Protecting and enhancing biodiversity and geological assets

1. In its planning decisions, planning policies and action plans, the Council will protect and enhance the borough's biodiversity and geodiversity assets, in line with national and regional policy, by:

- a. ensuring development in Bexley does not adversely affect the integrity of any designated European site of nature conservation importance;
- b. recognising the value of landforms, landscapes, geological processes and soils as contributors to the geodiversity of the borough by protecting designated Sites of Special Scientific Interest (SSSI), and Regionally Important Geological sites (RIGs) and Locally Important Geological sites (LIGs) and supporting their sustainable conservation and management;
- c. establishing clear goals for the management of identified geological sites, in order to promote public access, appreciation and interpretation of geodiversity;
- d. protecting, conserving, restoring, and enhancing ecological networks, Sites of Importance for Nature Conservation (SINC), Local Nature Reserves, Strategic Green Wildlife Corridors and local wildlife corridors, thus securing measurable net gains for biodiversity, recognising and promoting those sites where ecological value has increased to a higher grade of nature conservation importance;
- e. resisting development that will have a significant adverse impact on the population or conservation status of protected or priority species as identified by legislation or in biodiversity action plans prepared at national, regional or local level;
- f. protecting and enhancing the natural environment, seeking biodiversity enhancements, net gains for biodiversity and improved access to nature, particularly in areas of deficiency as illustrated by Figure 8, through new development and projects that help deliver opportunities for green infrastructure with preference given to enhancements that help to deliver the targets for habitats and species set out in the London Plan and local biodiversity action plans and strategies;
- g. enabling environmental education opportunities at the borough's schools, and investigating opportunities to involve the wider community in biodiversity or geodiversity restoration and enhancement through projects;
- h. ensuring landscaping schemes in development proposals use native plant species of local provenance; and, seeking opportunities to provide for greening of the built environment

POLICY DP20 Biodiversity and geodiversity in developments

Protection for biodiversity

1. Development proposals will only be permitted where it can be demonstrated that:

- a. a strict approach to the mitigation hierarchy has been taken (i.e. avoid, mitigate, compensate and net gain) and all unavoidable impacts on biodiversity can be justified;
- b. completion of the development will result in a measurable long-term net gain for biodiversity, as demonstrated through the application of an acceptable method of measurement, and/or impact assessments;
- c. biodiversity enhancement measures and where appropriate mitigation measures have been incorporated within the design, layout and materials used in the built structure and landscaping;
- d. opportunities to help connect and improve the wider ecological networks, wildlife corridors and stepping stones for wildlife have been taken by creating linkages through the development site;
- e. deficiencies in access to nature conservation are reduced, where possible; and,
- f. opportunities to increase wildlife aesthetic value and visual connections with important features have been considered.

Protection of designated sites and habitats

2. Development proposals that would have a direct or indirect impact on a site designated for its nature conservation or geological interest should protect and enhance the designated site's value, and will not be permitted unless all of the following criteria are met:

- a. there are no reasonable, less damaging, alternative solutions, locations or sites;
- b. ecological buffer zones have been incorporated into the scheme, where appropriate, to protect and enhance the designated site's intrinsic value;
- c. the continuity of wildlife habitat within wildlife corridors is maintained; and,
- d. access to the designated site is not compromised and where possible, access and/or interpretation is improved.

Protection of Ancient Woodland and veteran trees

3. Irreplaceable habitats, including Ancient Woodland and aged or veteran trees found outside of Ancient Woodland will be protected from loss or deterioration resulting from development. Where development proposals may affect irreplaceable habitats and their immediate surroundings, the following principles of good practice shall be used to guide the site assessment and design of development:

- a. establishment of the likelihood and type of any impacts;
- b. implementation of appropriate and adequate mitigation, compensation, and management measures that respect the features and characteristics of the veteran trees and/or Ancient Woodland;
- c. provision of adequate buffers; and
- d. provision of adequate evidence to support development proposals.

POLICY DP21 Greening of development sites

1. Development proposals should set out what measures have been taken to achieve urban greening onsite; and all new major developments should quantify what urban greening factor (UGF) score has been achieved.
2. Development proposals will be required to provide a high standard of landscape design, having regard to the well-being, water, wildlife and character of the surrounding area, ensuring sustainable planting for the long term and be supported by appropriate management and maintenance measures.
3. There will be a presumption in favour of the retention and enhancement of existing trees, woodland and hedgerow cover on site; and planning permission will not normally be permitted where the proposal adversely affects important trees, woodlands, or hedgerows.
4. Development proposals should maximise potential for the planting of new native trees and hedges within the development site and new streets should be tree-lined, unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate.
5. Planting and landscaping within developments and ecological buffer zones:
 - a. will be required to contribute to habitats and features of landscape and nature conservation importance; and,
 - b. must not include 'potentially invasive, non-native species' and, where found on a site, appropriate measures to remove these species must be taken as part of the redevelopment.

Appendix V: Legal and Technical Limitations

- This report has been prepared by Urban Edge Environmental Consulting Ltd (UEEC Ltd) with all reasonable skill, care and diligence within the terms of the contract made with the Client to undertake this work, and taking into account the information made available by the Client. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us.
- UEEC Ltd disclaims any responsibility to the Client and others in respect of any matters outside the scope of this contract. This report is confidential to the Client and is not to be disclosed to third parties. If disclosed to third parties, UEEC Ltd accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any third party relies upon the contents of this report at their own risk and the report is not to be relied upon by any party, other than the Client without the prior and express written agreement of UEEC Ltd.
- The advice provided in this report does not constitute legal advice. As such, the services of lawyers may also be considered to be warranted.
- Unless otherwise stated in this report, the assessments made assume that the sites and facilities that have been considered in this report will continue to be used for their current planned purpose without significant change.
- All work carried out in preparing this report has utilised and is based upon UEEC Ltd's current professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. UEEC Ltd does not accept responsibility for advising the Client or other interested parties of the facts or implications of any such changes;
- Where this report presents or relies upon the findings of ecological field surveys (including habitat, botanical or protected/notable species surveys), its conclusions should not be relied upon for longer than a maximum period of two years from the date of the original field surveys. Ecological change (e.g. colonisation of a site by a protected species) can occur rapidly and this limitation is not intended to imply that a likely absence of, for instance, a protected species will persist for any period of time;
- This report has been prepared using factual information contained in maps and documents prepared by others. No responsibility can be accepted by UEEC Ltd for the accuracy of such information;
- Every effort has been made to accurately represent the location of mapped features, however, the precise locations of features should not be relied upon;
- Populations of animals and plants are often transient in nature and a single survey visit can only provide a general indication of species present on site. Time of year when the survey was carried out, weather conditions and other variables will influence the results of an ecological survey (e.g. it is possible that some flowering plant species which flower at other times of the year were not observed). Every effort has been made to accurately note indicators of presence of protected, rare and notable species within and adjacent to the site but the possibility nonetheless exists for other species to be present which were not recorded or otherwise indicated by the survey;
- Any works undertaken as a consequence of the recommendations provided within this report should be subjected to the necessary health & safety checks and full risk assessments.

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