



National Grid

Tottenham Substation PEA, PRA & BNG Baseline

Preliminary Ecological Appraisal & Preliminary Roost Assessment Report

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EXECUTIVE SUMMARY

1. This report presents the results of a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) comprising a background data search together with a field survey involving UK Habitat Classification (UKHab) and assessment for protected species. The survey was carried out on the 24th April 2025. This report has been produced to inform design considerations for proposed infrastructure upgrades at the Tottenham 275kV Substation, Watermead Way, Tottenham, London, N17 0UN (Central OS grid reference: TQ 35183 91282). The appraisal was based on the red line boundary plan of the development site shown in Figure 1 (referred to as the 'site' throughout this report).
2. The site comprises operational land associated with the substation and is predominantly buildings, urban roads and improved, modified grassland in poor condition. Three built structures are present within the site and were subject to a preliminary roost assessment (PRA). Two of these structures (Structure 2 and 3 - small brick outbuildings providing tunnel access underground) has moderate potential to support roosting bats. Building 1 has negligible roost suitability. The surrounding grassland offers limited ecological value for foraging species due to its uniform management, although the site lies within an ecologically strategic corridor.
3. The key ecological constraint identified is the moderate potential of Structure 2 and 3 to support roosting bats. However, the depth of the underground tunnel system is considered to be a significant enough buffer to absorb noise and vibrations - this combined with the short duration of the works would only likely constitute a single disturbance event (if any) to any undiscovered bat roosts that may be using the tunnel system
4. Enhancement opportunities associated with the proposed development include the installation of bird and bat boxes on retained buildings or boundary features, and potential habitat improvements through native planting or wildflower enhancement in undeveloped areas of the site.
5. A biodiversity Net Gain (BNG) calculation has been completed using the statutory biodiversity metric and is presented in Figure 3. This confirms the baseline value of habitats pre-development and will inform enhancement requirements in line with planning policy.

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1.0 INTRODUCTION

1.1 Purpose of this report

This report presents the results of a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA), comprising a desktop background data search and field surveys involving a habitat classification (UKHab) survey and an assessment for protected or otherwise notable species, at the Tottenham 275kV Substation, Watermead Way, Tottenham, London, N17 0UN (Central OS grid reference: TQ 35183 91282). The survey area included land within the red-line boundary and blue line boundary as shown in Figure 1. Built structures within the red line boundary were assessed from the ground to determine whether they might be suitable for roosting bats. The area was assessed and searched for field signs of notable and protected species.

The report aims to identify ecological constraints relevant to the project, specify any further survey or mitigation requirements, and suggest opportunities for ecological enhancement, particularly to deliver biodiversity net gain. The appraisal was carried out on behalf of National Grid and includes a baseline BNG assessment.

1.2 Landscape context

The site lies within an industrialised area of Tottenham, London, and is bordered by hardstanding and utility infrastructure. To the east lies Wild Marsh East, an area of open mosaic habitats and species-rich grassland bordering the River Lea and Banbury Reservoir. The broader landscape includes extensive urban development, infrastructure corridors, and open waterbodies associated with the Lee Valley corridor, which support a range of notable species and designated sites.

1.3 Development proposals

The development proposals include two options: 1. Demolition of the existing building and replacement with modular buildings (toilet and changing facilities), along with the redirection of existing services. 2. Replacement of the existing roof and potential internal upgrades such as windows, wall insulation and doors.

2.0 METHODS

2.1 Overview

The PEA and PRA was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017) and included a desk study and a field survey.

A desk study, also referred to as a background data search (BDS), was conducted to gather relevant ecological information about the site and its surroundings.

A field survey was carried out to inform habitat mapping and assess the potential presence of protected or notable species, including an evaluation of the suitability of Building 1, and structures 2 and 3 for roosting bats. The survey was carried out in suitable weather conditions.

The PEA report includes a description of the ecology of site and information about species that may occur there. Notes and mapping of any incidental sightings of plants and protected or priority fauna species are also provided.

The survey was carried out on 24th April 2024 by James Salisbury, assisted by Deren Pars. James is a suitably qualified and experienced senior ecologist, a member of CIEEM, and is experienced in carrying out preliminary ecological appraisals and preliminary roost assessments. James also holds a level 2 survey licence (2019-41384-CLS-CLS) to survey for bats. Deren is a consultant ecologist and a qualifying member of CIEEM.

2.2 Background data search

A search was made in November 2024 for existing ecological information, including protected and noteworthy species records, designated site locations and citations and areas or habitats of strategic significance. A list of sources is given in Table 1.

Table 1: Data sources

Information Obtained	Available From
Protected and noteworthy species-records	Hertfordshire Environmental Records Centre
Protected and noteworthy species-records	Essex Field Club
Designated site locations and citations	Natural England website

Designated site locations and citations	Joint Nature Conservation Committee (JNCC) website
Protected and noteworthy species-records	Hertfordshire Environmental Records Centre
Protected and noteworthy species-records	Essex Field Club
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website
Areas / Habitats of Strategic Significance	Hertfordshire Biodiversity Action Plan https://www.north-herts.gov.uk/sites/default/files/ORD4%20Hertfordshire%20Biodiversity%20Action%20Plan.pdf
Areas / Habitats of Strategic Significance	National Habitat Networks https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england
Areas / Habitats of Strategic Significance	National Priority Focus Areas https://www.data.gov.uk/dataset/c20a40c5-c975-43e1-9abd-d1257aa58432/natural-england-national-priority-focus-areas
Areas / Habitats of Strategic Significance	Nature Improvement Areas https://www.data.gov.uk/dataset/a19c95e3-9657-457d-825e-3d2f3993b653/nature-improvement-areas

A search was made for the following international and national statutory designated sites of ecological importance within 10km of the site boundary: Ramsar sites, Special Areas of Conservation (SAC), Special Protection Areas (SPA)¹, and for Sites of Special Scientific Interest (SSSI), including consideration of SSSI risk zones, within 2km.

The BDS included a search for records within 1 km of the site boundary of noteworthy species, which might pose a constraint to the proposed development.

2.3 Plants and habitats

UKHab habitat classification survey

The field survey was based on the UK habitats (UKHab) survey methodology². This system is the habitat classification that underpins the DEFRA Biodiversity Metric and is therefore the favoured habitat classification to use when surveys need to inform a

¹ SACs and SPAs were formerly called 'European Sites' and part of the Natura 2000 network; post-'Brexit', they are now considered part of the UK's 'national site network'. Ramsar sites are sites of international importance.

² UKHab Ltd (2023) *UK Habitat Classification Version 2.0* (at <https://ukhab.org>)

Biodiversity Net Gain Calculation. This field survey was undertaken in line with CIEEM, 2017 and involved the following elements:

- descriptions of the broad and dominant vegetation types;
- habitat mapping using a set of standard colour codes to indicate habitat types (Figure 2); and
- additional notes relating to numbered locations on Figure 2, called 'target notes'.

Vascular plant species were recorded but no attempt was made to produce an exhaustive species list (additional species would almost certainly be found during more detailed surveys or repeat surveys at various times of the year).

Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, introduced species and garden varieties were identified using relevant Floras. Plant names in the text are given with common names with the scientific name (in italics) immediately following the first time it is mentioned.

Invasive non-native species (INNS)

UK Hab survey does not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). The survey was not sufficient to prove that there are no invasive plants. However, had any INNS been encountered, they would have been noted.

2.4 Protected and notable animals

General

The site was assessed for its suitability to support protected or otherwise notable species that are likely to occur in the area. Some species could be ruled out through review of existing records, species distribution, geographic location, ecological connectivity, and broad habitat types. Taking into account connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the site, specific assessment was also carried out for the species/species groups outlined below.

Great crested newts

Although standing water is essential for their breeding, great crested newts (*Triturus cristatus*) are terrestrial for most of the year and have been recorded up to 500 m from their breeding ponds. Ordnance Survey maps and aerial imagery was reviewed to identify any ponds within 500 m of the site boundary, and the site was assessed for its suitability for both terrestrial and breeding great crested newts.

Reptiles

The site was assessed for its suitability for the four most widespread reptile species, with particular attention given to cover, suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).

Birds

Birds nest, forage and roost in a wide variety of habitats including scrub, woodland, hedgerows and trees, wetland, arable and pastoral farmland, and rough grassland. Some species also use open bare ground and man-made structures.

The site was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the RSPB's Birds of Conservation Concern 5 (Stanbury *et al.*, 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites. Consideration was given to the site's connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. The presence of nests or signs of nest building were recorded, and buildings were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings and pellets.

Bats

Habitats were assessed for their suitability for foraging and commuting bats, in line with best practice guidance (Collins, 2023). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.

Preliminary roost assessment (PRA) of built structures

The building due to be demolished and any other structured which may be impacted by the proposals were assessed externally and internally (where possible) to ascertain suitability for roosting bats, taking account of the following factors that influence the likelihood of bats roosting:

- Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.
- Construction detail: the type and construction of architectural features such as attics, soffit boxes, lead flashing and hanging tiles that could be used by roosting bats. Some construction details and materials are more favourable to bat occupation than others.
- Building condition: whether the building has no roof or has a sound roof without any potential bat-access points.
- Internal conditions: bats favour sheltered locations with a stable temperature regime, protection from the elements and little wind/light/rain penetration.
- Potential bat-access points: whether there is flight and crawl access.
- Potential roosting locations: descriptions of all bat-accessible voids, cracks, and crevices.

The building's potential to support roosting bats was then categorised as defined in Table 2.

Table 2: Categorisation of the suitability of buildings or trees for roosting bats (Collins 2023)

Category	Description
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices / suitable shelter at all ground / underground levels).
Negligible suitability	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low suitability	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites 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 (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats).
Moderate suitability	A structure 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 (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High suitability	A structure 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. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.

Badgers

An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging or setts of the site. The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines.

Other species of Principal Importance

UK countries are obliged by their individual laws to maintain lists of species and habitats of principal importance for biodiversity conservation. In England, this obligation derives from the Natural Environment and Rural Communities (NERC) Act 2006. An assessment of the suitability and likelihood of the site supporting such species was made, for example hedgehog (*Erinaceus europaeus*).

Invertebrates

A review of background records was undertaken to identify notable invertebrate species within the surrounding landscape. Particular attention was paid to species and records associated with the nearby Lee Valley corridor. The potential for invertebrates to occur on site was assessed during the habitat survey through consideration of floristic diversity, habitat heterogeneity, and landscape context.

2.5 Biodiversity Assessment Methods

This assessment was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2021), the British Standard for Biodiversity Net Gain (BS 8683) and industry best practice (CIEEM/CIRIA/IEMA, 2016).

To calculate the baseline values for the site, and assess any changes arising from the proposed development, this study uses methods set out the Statutory Biodiversity Metric (hereafter 'the Metric') user guide (Defra, 2023). The Metric measures biodiversity value for habitats in 'biodiversity units' (BUs)³.

The Metric is designed to quantify losses and gains of biodiversity as a result of proposed development or land management to inform and improve planning, design, land management and decision-making. The Metric uses habitats and as a proxy to describe biodiversity.

The Metric can calculate biodiversity value of:

- existing habitats;
- habitat enhancement; and
- habitat creation.

The Metric can calculate different types of BUs. There are three types of biodiversity units, which are calculated in three separate 'modules' of the Metric. These are:

- area habitat units (e.g. woodland, grasslands, wetlands);
- hedgerow units (e.g. hedgerows and lines of trees); and
- watercourse units (e.g. culverts, canals, wet ditches, rivers and streams).

Consequently, a site can have three biodiversity unit values, which are assessed using the Metric, but which cannot be summed together or traded between.

The area or length of a habitat is multiplied by several factors in the Metric (called multipliers) that indicate its quality and value (distinctiveness, condition and strategic location), and this provides its BU value.

In addition, for those habitats that are to be created or enhanced, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).

A brief description of the different multipliers contained within the Metric are detailed below in Table 3.

Table 3: Statutory Biodiversity Metric multipliers and their explanations

³ 'Biodiversity units' are used to describe relative biodiversity value. There are three types of biodiversity units: area habitat units, hedgerow units and watercourse units. Each of these are calculated in separate 'modules' of the biodiversity metric.

Biodiversity Metric multiplier	Explanation
Habitat distinctiveness	A measure based on the type of habitat and its distinguishing features. This includes: • consideration of species richness and rarity; • the extent to which the habitat is protected by designations; and • the degree to which a habitat supports species rarely found in other habitats.
Habitat condition	A measure of the habitat against its ecological optimum state. Condition is a way of measuring variation in the quality of patches of the same habitat type.
Strategic significance	Describes the local significance of the habitat based on its location and the habitat type.
Difficulty	A measure which represents the uncertainty in the effectiveness of management techniques used to enhance or create habitat.
Time to target condition	The average time taken between starting creation or enhancement of habitats and that habitat reaching its target condition or distinctiveness.
Spatial risk	Spatial risk represents the relationship between the location of biodiversity loss (on-site) and where the off-site habitat is being delivered. This is applied to off-site interventions only.
Riparian zone encroachment	A measure of any feature or intervention within the riparian zone that reduces the quantity, quality or ecological function of the riparian habitat.
Watercourse encroachment	A measure of any feature that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways.

2.6 Limitations

Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken outside of the ideal survey season. However, the survey was sufficient to make a broad assessment of the habitats present on the site.

This preliminary appraisal as to whether protected or otherwise notable species might occur on the site is based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.

Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.

Access was not made to adjacent land beyond 30 m of the redline boundary, and therefore it remains possible that a badger sett (or other evidence of protected or notable species) could exist in those areas. However, the peripheries of all such areas were extensively searched, providing a reasonable level of confidence in the results and assessment provided for the surveyed portions of the site.

3.0 RESULTS

3.1 Background Data Search

Statutory designated sites

Several statutory designated sites, including internationally designated Ramsar, SAC, and SPA sites, are located within 10 km of the site boundary. These are detailed in Table 4.

Table 4: Statutory sites within 10 km of the site boundary (2km for SSSIs and LNRs).

Site Name	Designation	Distance (m) and orientation
Lee Valley	SPA	940 - N
Designated for its internationally important populations of overwintering bittern (<i>Botaurus stellaris</i>) and other waterbirds associated with open water and wetland habitat. Although hydrologically disconnected from the site, the Lee Valley corridor supports ecological connectivity, particularly for mobile species such as bats and birds. No impact pathway is identified from the proposed works to this receptor.		
Lee Valley	Ramsar	940 - N
Wetland of international importance, designated for similar qualifying species and habitats as the SPA. No hydrological or functional connectivity to the site. No adverse effects expected.		
Wormley-Hoddesdonpark Woods	SAC	3,060 - W
Notified for its ancient woodland habitats and supporting populations of <i>Saproxylic</i> invertebrates. No connectivity or impact pathway from the pathways.		
Epping Forest	SAC	8,940 - S
Designated for old acidophilous oak woodland and stag beetle (<i>Lucanus cervus</i>). Due to distance and lack of connectivity, no impact is anticipated.		

There is one UK statutory site within 2 km of the site boundary.

Table 5: Statutory sites within 2 km of the site boundary

Site Name	Designation	Distance (m) and orientation
Rye Meads	SSSI	940 - N
Qualifying Features / Reason for Designation Link to citation https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1005497&SiteName=Rye%20Meads&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=		

In addition to designated sites, the site lies within multiple strategic ecological enhancement zones. These include a Habitat Network Expansion Zone (NEZ), a Buglife B-Line (pollinator corridor), and an Important Invertebrate Area (IIA), as defined in BDS. These designations emphasise the ecological connectivity of the wider landscape and highlights the site's potential contribution to biodiversity enhancement.

Non-Statutory Sites

There are three non-statutory designated sites within 1 km of the site boundary. The designated sites present within the study area are listed in *Table 6*, along with their proximity to the site.

Table 6: Non-statutory designated sites within 1 km of the site boundary

Site Name	Designation	Distance (m) and orientation
Rye House Power Station	LWS	10 - NE
Qualifying Features / Reason for Designation Link to citation (or location if saved on SharePoint) HERC		
Lea Valley North	LWS	185 - E
Qualifying Features / Reason for Designation Link to citation (or location if saved on SharePoint) Essex		
Admirals Walk Lake	LWS	730 - SW
Qualifying Features / Reason for Designation Link to citation (or location if saved on SharePoint) HERC		

Protected and Notable Species

Multiple protected and/or noteworthy species were recorded within 1 km of the site boundary, as identified in the Rye House BDS. These included multiple bird species, bats, water vole, otter, amphibians, reptiles, and invertebrates.

Species of principal importance under Section 41 of the NERC Act 2006 and those protected under Schedules 1, 2, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended) or the Conservation of Habitats and Species Regulations 2017 (as amended) are included.

3.2 Plants and habitats

UKHAB Survey

The habitat map is provided as Figure 2. The site comprises a single habitat type:

- Modified grassland in poor condition (four survey parcels assessed).

Modified Grassland

The dominant habitat recorded on site comprises improved and closely mown grassland parcels (totalling approximately 0.26 ha), managed around the operational infrastructure. The sward was uniform in structure and dominated by common and disturbance-tolerant species such as cocksfoot (*Dactylis glomerata*), white clover (*Trifolium repens*), broad-leaved plantain (*Plantago major*), yarrow (*Achillea millefolium*), dandelion (*Taraxacum officinale* agg.), and creeping cinquefoil (*Potentilla reptans*). The presence of ruderal species such as annual mercury (*Mercurialis annua*), red dead-nettle (*Lamium purpureum*), and spear thistle (*Cirsium vulgare*) was also noted.

All four parcels failed to meet the criteria required for 'Fair' condition under the Defra Biodiversity Metric 4.0 assessment. Typical failures included a lack of species diversity, uniform sward height, and signs of physical disturbance. Each parcel was therefore assessed as Modified Grassland – Poor Condition.

Invasive Non-native Species

No invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were identified during the survey.

3.3 Protected and notable animals

Great crested newts

There are no ponds on or within 500 m of the site based on aerial imagery and field verification. No records of great crested newts were returned within the search area. The site does not offer suitable aquatic or high-quality terrestrial habitat. No further survey effort is required.

Reptiles

Grass snake (*Natrix helvetica*) and slow-worm (*Anguis fragilis*) have been recorded within 1 km of the site. However, the site lacks suitable habitat—being largely dominated by mown grassland with minimal structural diversity or refugia. Reptiles are therefore unlikely to be present and no further survey is considered necessary.

Bats

Multiple bat species are recorded within 1 km of the site, these include:

- Chiropteras pp. (unidentified) – most recent record 2018, likely associated with the Lea Valley corridor.
- Daubenton's bat (*Myotis daubentoniid*)– 2017, associated with the nearby River Lea.
- Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*P.pygmaeus*), Noctule (*Nyctalus noctule*), Setorine (*Eptesicus serotinus*) – all recorded in 2013.

Three structures were assessed for their potential to support roosting bats, the main building to be impacted (Building 1) as well as two peripheral structures, Structure 2 and 3 (small brick tunnel access buildings) which could be impacted by the works by their proximity. Photographs illustrating the site and its context are set out in Appendix C. Locations of buildings and structures surveyed, their bat roosting potential and potential roosting features are shown in Figure 2. Full descriptions of each building/structure surveyed are outlined in Table 7. The three buildings/structures surveyed comprised:

Building 1 which was considered to have moderate potential; and,

Two structures within the proximity of Building 1, whose above ground parts have negligible potential, but whose underground areas have unknown potential, however are likely to be classified as high potential to support hibernating bats.

No evidence of bats (e.g. droppings, staining, or feeding remains) was observed within Building 1 or the above ground parts of Structure 1 & 2.

The site also supports foraging and commuting opportunities along its edges, particularly where narrow strips of ruderal vegetation and trees exist, and through connectivity to the wider Lee Valley corridor.

Table 7. Preliminary roost assessment survey results.

Building Reference	Building description	Potential Bat Access Points	Potential Bat Roosting Features	Suitability for Roosting Bats
Building 1	Partially used office building in good condition comprising original building and extension to the south. The original building had a flat roof with cavity brick wall and the extension had a flat roof, with rendered wall (Photo 1 & Photo 2). Fascia boarding, made of cladded material, was present around the southern extension and was well sealed (Photo 3). Building is likely subject to minor anthropogenic disturbance during the day.	Open windows on the western (Photo 2) and eastern western wall (Photo 4) - which are closed at night according to site operatives. An approximately 20 cm gap between the extension and original building was present (Photo 5). A wooden structure in the middle of this gap was visible (the internal walkway between buildings). Using a high-powered torch, no potential roost features were visible or considered likely - however a detailed inspection was not possible. No gaps within this walkway were present internally.	Internal features were present, including gaps in the wall leading to cavities (Photo 6 & Photo 7). Features were searched with an endoscope, no bat evidence was found within the features (however they were not fully inspectable due to extent) and no bat evident was found immediately surrounding the features. A part-boarded up door (with wooden particle board) was present on the southern extension, however, was too open and exposed to be used by bats (Photo 8).	No internal evidence and very limited external features (limited to potentially unseen areas within the gap between the original building and extension) Intensively urban area within the immediate vicinity with a lack of adjacent vegetated corridors therefore building 1 is considered to have Negligible potential for roosting bats.

Building Reference	Building description	Potential Bat Access Points	Potential Bat Roosting Features	Suitability for Roosting Bats
Structure 2 & 3	Structure 2: 3 m west of Building 1. Structure provides access to underground tunnel system and connected to Building 1. Potential bat access through top of louvered vent (Photo 9). Structure 3: 20 m south-west of Building 1 - access to underground tunnel system. Potential bat access through top of louvered vent (Photo 10).	Both structures had access to internal via a gap in the top of the louvered vent, large enough for bats to use (Photo 11)	Both structures contained no bat evidence within the above ground brick-built structures. The structures provide access to a deep tunnel system which has multiple other access points around the site in the form of similar structures to Structure 2 and 3. Underground sites such as these constitute as classic hibernation sites for bats due to their likelihood to remain temperature stable throughout the winter.	Above ground structures have – negligible potential to support roosting bats. The underground areas have not been surveyed and therefore bat roosting potential is unknown - but it is likely that they have high hibernation potential as they are defined as a 'classic hibernation site' – which typically includes underground structures. This is discussed further in the evaluation section.

Birds

Several notable bird species are recorded within 1 km of the site, including kingfisher (*Alcedo atthis*), redwing (*Turdus iliacus*), fieldfare (*Turdus pilaris*), peregrine (*Falco peregrinus*), and black redstart (*Phoenicurus ochruros*). These species are primarily associated with nearby wetland, riverine or open mosaic habitats such as those found in the Lee Valley corridor. The site itself offers limited suitable habitat for these species, and no targeted bird surveys are required.

The site contains limited features, suitable for common and widespread, nesting birds, including scrubby grass margins, and minor vegetated boundaries. built structures were of sealed/fabricated steel shell construction and structure 1 had no signs of nesting or roosting bats. No active nests or breeding behaviour was observed during the survey.

Water voles and otters

Water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) have both been recorded within 1 km of the site, likely associated with the River Lea. However, there is no watercourse within or immediately adjacent to the site, and no suitable habitat is present. No further survey effort is required.

Badgers

Although badger (*Meles meles*) is recorded within the surrounding 1 km, no evidence of setts or activity was recorded during the field survey. The site is enclosed by steel palisade fencing and lacks suitable sett-building habitat. No further action is required in relation to badgers.

Other species

The site may support common and widespread species such as hedgehog (*Erinaceus europaeus*), though none were observed during the survey. Appropriate precautionary measures (e.g. escape ramps from trenches, exclusion fencing) should be implemented during works. Numerous invertebrate species are recorded within 1 km of the site boundary, as noted in the BDS (Appendix B). These include several species listed under Section 41 of the NERC Act 2006, and species of conservation concern recorded in the wider Lee Valley corridor, however no suitable habitat site is considered likely to support notable invertebrate assemblages. No records of dormice were identified within 1km of the site. The site contains limited suitable habitat for dormice, and it is unlikely that they would be present. No further survey effort is required for dormice.

4.0 EVALUATION

This section considers the findings from the BDS and field surveys combined and discusses those that are important. The assessment identifies the ecological value of the habitats and species identified, with caveats subject to further survey where necessary. It also considers impact pathways and the Zone of Influence of the development, taking into account its nature and scale.

4.1 Designated Sites

The site itself is not designated, and there are no statutory or non-statutory designations within the site boundary. The closest statutory designated sites are Lee Valley SPA and Ramsar (940 m north), Rye Meads SSSI (also 940 m north), and Wormley-Hoddesdonpark Woods SAC (3,060 m west), all identified using the Rye House BDS. Given the small scale and contained nature of the proposed development, in combination with the distance and lack of direct hydrological or ecological connectivity, it is highly unlikely that any direct or indirect impacts will occur on these sites.

The site lies within a Network Expansion Zone and the Buglife B-Line network, with partial overlap with an Important Invertebrate Area. While the habitats on-site are of low distinctiveness and in poor condition, their presence within strategic zones suggests the potential for enhancement to contribute meaningfully to ecological connectivity.

4.2 Habitats and Plants

The habitats present within the site are of limited ecological value overall. Modified grassland dominates the site and has been assessed as being in poor condition. It supports a low diversity of common and disturbance-tolerant species.

No other habitats were identified on-site beyond ruderal grassland and hardstanding. There is no hedgerow, woodland, or linear habitat of particular note within the red line boundary. However, the site is bounded in places by sparse scrub and a narrow verge of vegetation that may serve as a minor wildlife corridor.

While the habitat does not meet the criteria for any Section 41 (NERC Act) Priority Habitat classification, it is strategically located near areas that do qualify. There may therefore be opportunities to enhance the site through improved management or wildflower seeding.

4.3 Protected and other notable species

Birds

The site has the potential to support several protected and notable species, primarily due to its proximity to the River Lea and the presence of semi-natural habitats nearby.

Bats

Building 1 is considered negligible to support roosting bats, no further surveys for this building are recommended.

Structure 2 is functionally connected to Building 1 by wires and Structure 3 is 20 m southeast. The aboveground brick structures were assessed as having negligible potential to support roosting bats. Both structures have underground parts (maintenance access tunnels), which extend several meters underground. Structure 2 has tunnels which run underneath Building 1.

No inspection of these tunnels was undertaken, however, in line with Collins (2022), the tunnels underneath Building 1 are likely to be classified as having high hibernation bat roost potential, as there are potential bat access points at the top of the louvred vents, and they meet the criteria of a 'classic hibernation site' e.g. an underground tunnel.

The site itself offers low foraging and negligible commuting potential due to intensive management isolation. However, bordering vegetation to the south and east connects to the Lee Valley corridor and is assessed as low potential for commuting bats.

The proposed works will not impact directly upon the tunnel system. Demolition and construction works of Building 1 will cause noise and vibration, however, the depth of the underground tunnel system is considered to be a significant enough buffer to absorb noise and vibrations – this combined with the short duration of the works would only likely constitute a single disturbance event (if any) to any undiscovered bat roosts that may be using the tunnel system (Reason & Wray 2023). Furthermore, the lack of vegetation immediately surrounding the structures and likely high lighting levels, reduces the likelihood that they are used as a roost. Therefore, further surveys for the tunnel system are not considered to be proportionate, however precautionary working methods are recommended.

Reptiles

The site is unlikely to support reptiles due to its tightly mown grassland and lack of cover. No further surveys required.

Other species

No signs of badgers or suitable sett-building habitat were identified. No further survey is required.

Great crested newt can be ruled out due to the absence of waterbodies on or near the site. No further survey work is required.

Due to lack of suitable habitat, water vole, otter, and dormouse can also be discounted, and no further survey work is needed.

While invertebrate records were identified during the BDS, the on-site habitats are not suitable for rare or specialist invertebrates. The modified grassland is species-poor and intensively managed, with limited microhabitat variation. Therefore, no further assessment or survey for invertebrates is required.

4.4 BNG Baseline Evaluation

The UKHab survey identified 4 parcels of modified grassland in poor condition, covering approximately 0.26 ha. These are the only habitats that offer a biodiversity baseline on site calculated at 0.54 total habitat units. The grassland type is classified as low

distinctiveness under the statutory biodiversity metric. No habitats of medium or high distinctiveness were recorded, and no linear or aquatic features are present.

4.5 Validity of Data

Unless the site changes significantly, the surveys carried out for this report should remain valid for at least 18 months (CIEEM 2019).

5.0 RECOMMENDATIONS

5.1 Key constraints to design and construction

The proposed works will be constrained by the legislative protection afforded to bats and nesting birds, as outlined in relevant legislation.

5.2 Mitigation requirements

Birds

Works affecting structures with nesting potential should be scheduled to avoid the bird breeding season (March to August inclusive), or preceded by a check by a suitably qualified ecologist.

If active nests are found, a suitable buffer must be retained, and works delayed until the young have fledged.

Although the site has limited tree and shrub cover, any scrub, ruderal vegetation or structure that may be used by nesting birds should be treated with caution. Retention of vegetated boundaries is preferred where feasible.

Bird boxes could be installed on retained buildings or infrastructure, provided they are placed at a height to reduce risk of vandalism. Boxes should cater to species likely to use the surrounding Lee Valley habitats (e.g. house sparrow, robin, starling).

Bats

Structure 2 & 3 lead downwards to tunnel systems (as do other similar structures throughout the site) which have not been inspected for bat roosts. Whilst the proposed scope works are not anticipated to impact upon any bat roosts, as the tunnel system has not been surveyed for bats – it is recommended that the access to the tunnels (i.e. the opening in the top of the louvered vents detailed within the PRA section) are not covered, or obstructed in case they are used as access by bats into an unknown bat roost.

If new lighting is required, luminaires should be directed away from vegetated site margins and should adopt warm-spectrum, low-UV, and directional designs.

Reptiles

No reptile mitigation or supervision is required for works limited to short-mown grassland or hardstanding.

If any scrub, longer grassland or spoil piles (hibernaculum) at the site margins are to be cleared, this should be carried out under a precautionary method of working. This may include phased clearance in suitable weather under ecological supervision.

Should any foundation works or excavations be left open overnight, they should include escape measures (e.g. ramps or ladders) to prevent wildlife entrapment.

The grassland should be kept short throughout the construction period to maintain low suitability for reptiles and deter colonisation.

5.3 Opportunities for enhancement

The proposed development presents several opportunities for enhancing the biodiversity value of the site and achieving a biodiversity net gain. These opportunities should be integrated into the design and landscaping plans to create a more ecologically diverse and functional site (British Standard 2013).

The BNG assessment (*Figure 3.*) sets out the baseline biodiversity value of the site. This has been calculated using Defra Biodiversity Metric 4.0 and should be used to inform post-development habitat creation or enhancement opportunities that meet the biodiversity net gain requirement.

Native species planting: The existing amenity grassland offers an opportunity for habitat enhancement through the introduction of native wildflowers and grasses. This would create a more diverse and valuable grassland habitat, providing food and shelter for pollinators, invertebrates, and other wildlife. The incorporation of native shrubs and trees within the landscaping scheme would further enhance habitat diversity and connectivity.

Wildlife-friendly features: The incorporation of bird and bat boxes on retained buildings and trees could still offer some additional nesting and roosting opportunities for these species. While log piles and insect hotels can offer valuable habitat for wildlife, their placement in this public area needs careful consideration. If suitable locations with minimal public disturbance and vandalism risk can be identified, incorporating these features using materials from site clearance could enhance the biodiversity value of the area.

Bat boxes can be installed on retained buildings or boundary structures at a height of at least 3 m. Boxes should be selected to suit species recorded within the area (e.g. pipistrelle, Daubenton's bat).

Green roofs: If feasible, incorporating green roofs on the new building could provide additional habitat for plants and invertebrates, contributing to biodiversity in the built environment.

These enhancement measures should be carefully designed and implemented to maximize their ecological benefits and ensure a net gain in biodiversity. It is recommended that an ecological consultant be involved in the design and implementation of these measures to ensure their effectiveness and long-term sustainability.

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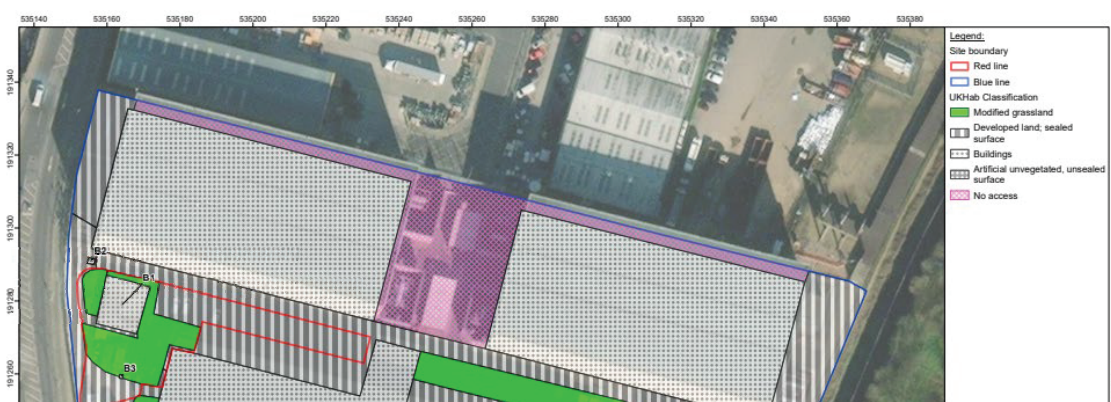
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FIGURES

Figure 1 - Site Plan



Figure 2 - Bat roosting potential and potential roosting features, with habitat map



APPENDIX A – BNG ASSESSMENT

Existing area habitats				Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline	
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat						Area (hectares)
1	Grassland	Modified grassland	No	0.27	Low	Poor	Area compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.54
2	Urban	Artificial unvegetated, unsealed surface	No	0.05	V Low	N/A - Other	Area compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
3	Urban	Developed land, sealed surface	No	1.09	V Low	N/A - Other	Area compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
4	▼								
5									
6									
7									
8									
9									
Total habitat area				1.41					
Site Area (Excluding area of individual trees, green walls, intertidal hard structures)				1.41					
0.54									

Area Habitats

		Existing area habitats			Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Total habitat units
1	Grassland	Modified grassland	No	0.27	Low	Poor	Area compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.54
2	Urban	Artificial unvegetated, unsealed surface	No	0.05	V Low	N/A - Other	Area compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
3	Urban	Developed land, sealed surface	No	1.09	V Low	N/A - Other	Area compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
4									
5									
6									
7									
8									
9									
				Total habitat area	1.41				0.54
				Site Area (Excluding area of individual trees, green walls, intertidal hard structures)	1.41				

Summary Results

Headline Results		Return to results menu	
Scroll down for final results Δ			
On-site baseline		Habitat units	0.54
		Hedge row units	0.00
		Watercourse units	0.00
On-site post-intervention (including habitat retention, creation & enhancement)		Habitat units	0.00
		Hedge row units	0.00
		Watercourse units	0.00
On-site net change (units & percentage)		Habitat units	-0.54
		Hedge row units	0.00
		Watercourse units	0.00%
			-100.00%
			0.00%
			0.00%

APPENDIX B – PRE-DEVELOPMENT HABITAT CONDITION SURVEY RESULTS

Baseline Habitat Reference 1

UKHab Classification	Artificial unvegetated; unsealed surface		
Distinctiveness	Very Low	Area (ha)	0.05
Overall Condition Assessment			
N/A - Artificial unvegetated; unsealed surface does not qualify for condition assessment.			

Baseline Habitat Reference 2

UKHab Classification	Developed land; sealed surface		
Distinctiveness	Very Low (0)	Area (ha)	1.09
Overall Condition Assessment			
N/A - Developed land; sealed surface does not qualify for condition assessment.			

Baseline Habitat Reference 3

UKHab Classification	Modified grassland		
Distinctiveness	Low (2)	Area (ha)	0.1
Condition Assessment Criteria	Pass / Fail	Condition Assessment Justification	
There are 6-8 vascular plant species per m ² present, including at least 2 forbs (Note - this criterion is essential for achieving Moderate or Good condition).	Fail	Less than 6 species were present per m ² .	
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Fail	Sward height was mostly uniform.	
Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble may be present).	Fail	No scrub present	
Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Fail	Physical damage was more than 5% of the total grassland area.	

Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass	Bare ground covered between 1-10% of the total grassland area.
Cover of bracken (<i>Pteridium aquilinum</i>) is less than 20%.	Pass	Bracken cover was less than 20%.
There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4).	Pass	No invasive species were found on site.
Overall Condition Assessment		
3 out of 7 criteria passed (not including essential criterion A) - Poor condition		

Baseline Habitat Reference 4

UKHab Classification	Modified grassland		
Distinctiveness	Low	Area (ha)	0.15
Condition Assessment Criteria	Pass / Fail	Condition Assessment Justification	
There are 6-8 vascular plant species per m² present, including at least 2 forbs (Note - this criterion is essential for achieving Moderate or Good condition).	Fail	Less than 6 species were present per m².	
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Pass	Sward height was varied	
Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble may be present).	Fail	No scrub present	
Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Fail	Physical damage was more than 5% of the total grassland area.	
Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass	Bare ground covered between 1-10% of the total grassland area.	
Cover of bracken (<i>Pteridium aquilinum</i>) is less than 20%.	Pass	Bracken cover was less than 20%.	
There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4).	Pass	No invasive species were found on site.	
Overall Condition Assessment			
4 out of 7 criteria passed (not including essential criterion A) – Poor condition			

APPENDIX C - PHOTOGRAPHS

	
Photo 1 (24/04/2025): Building 1: north wall, original building with sealed brickwork, flat roof and no fascia boarding.	Photo 2 (24/04/2025): Building 1, southern extension with rendered walls and well-sealed fascia boarding with open window on western aspect.
	
Photo 3 (24/04/2025): Building 1: well-sealed fascia cladding on southern extension.	Photo 4 (24/04/2025): Building 1: open window on eastern wall.



Photo 5 (24/04/2025): Building 1: 20 cm gap between extension and original building.



Photo 6 (24/04/2025): Building 1: internal feature - leading to wall cavity. No bat evidence visible within or outside the feature.



Photo 7 (24/04/2025): Building 1: Missing tiles leading to internal cavities in the bathroom.



Photo 8 (24/04/2025): Building 1: boarding on broken door on south wall of extension.



Photo 9 (24/04/2025): Structure 2 - 3 m west of Building 1. Structure provides access to underground tunnel system and connected to Building 1. Potential bat access through top of louvered vent.



Photo 10 (24/04/2025): Structure 3, 20 m south west of Building 1 - access to underground tunnel system. Potential bat access through top of louvered vent.



Photo 11 (24/04/2025): Structure 2 & 3: access through vent in both.



Photo 12 (24/04/2025): Structure 2 access tunnel (Structure 3 had an identical appearance). No bat evidence in above-ground structure.



Photo 13 – Modified Grassland to the north of the site



Photo 14 – Modified Grassland to the east of the site



Photo 15 – Modified Grassland to the south east of the site



Photo 16 – Modified Grassland to the east of the site.

APPENDIX D – NATURE CONSERVATION LEGISLATION AND POLICY

National Legislation

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Wildlife and Countryside Act (WCA) 1981

<https://www.legislation.gov.uk/ukpga/1981/69>

The Wildlife and Countryside Act 1981 (as amended) is the primary piece of legislation relating to nature conservation in the UK, though it has been adapted in different ways in the devolved administrations. It was initially enacted to implement the Bern Convention, Bonn Convention and the Birds Directive (described above).

The act is supplemented by provisions in the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales⁴. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

All species of bird are protected under the WCA. The legislation makes it an offence to intentionally:

- a) kill, injure or take any wild bird;
- b) take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
- c) take or destroy an egg of any wild bird.

Those species of birds listed on Schedule 1 of the WCA are afforded additional protection, which deems it an offence to intentionally or recklessly:

- a) disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- b) disturb dependent young of such a bird.

Under Section 9 of the WCA, for animals listed on Schedule 5, it is an offence in England and Wales to intentionally or recklessly:

- kill, injure or take any wild animal listed on Schedule 5*;
- possess or control any live or dead those wild animals or anything derived from it*;
- damage or destroy any structure or place which wild animals listed on Schedule 5 uses for shelter or protection*;
- disturb any such animal while it is occupying a structure or place of shelter or protection;

⁴ Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

- obstruct access to any structure or place used by any such animal for shelter or protection; and
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead wild animal listed on Schedule 5 or any part of, or anything derived from such an animal.

As noted above, there are minor differences between the offences in England and Wales outlined above, and those in Scotland / Northern Ireland. The three clauses marked with asterisks do not apply to EPS in England and Wales, as these offences are included in the 'Habitats Regulations' (see below). In addition, the Wildlife and Countryside Act 1981 is no longer relevant to EPS in Scotland or Northern Ireland, which instead are afforded full protection by the 'Habitats Regulations' (see below).

In addition to EPS, species commonly found on development sites include water voles (*Arvicola amphibius*) and widespread species of reptiles: common lizard (*Zootoca vivipara*); slow-worm (*Anguis fragilis*); grass snake (*Naatrix helvetica*); and adder (*Vipera berus*). These four reptile species receive partial protection, which prevents the intentional or deliberate killing and injuring of reptiles or offering them for sale.

Section 14(2)⁵ states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

Section 16(i) of the Act makes provision for derogation licences to be issued "*for the purposes of preserving public health or public ... safety*". For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)⁶.

Until recently, there has been no provision within the Act for derogation licences to be issued for the purposes of development, although Section 10 provides a defence in cases that may be considered to be: "*the incidental result of a lawful operation and could not reasonably have been avoided*" if certain conditions are met.

As a result of the Environment Act 2021, the introduction of the 'overriding public interest' ('OPI') test was added to the licensing purposes in the WCA, from October 2022, though this only applies in England.

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017 (as amended)

<https://www.legislation.gov.uk/ukxi/2017/1012> England and Wales

The Habitats Regulations 2017 consolidated the various amendments made to the 1994 Habitat Regulations, which were developed to implement the Birds Directive and Habitats Directive (see above) at a national level, though this consolidation only applies in England and Wales. As noted above, in Scotland and in Northern Ireland, the original versions of the Regulations in each region have been retained and amended to include protections for EPS that were initially provided under the WCA (or its equivalent).

⁵ In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

⁶ SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Northern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

The Regulations (as amended) provide for the designation and protection of the national site network (formerly 'Natura 2000 sites'), the adaptation of planning and other controls for those sites, and the protection of EPS (listed on Schedules 2 and 5).

The 2017 Regulations (England and Wales, Reg. 43) deems it an offence to:

- a) deliberately capture, injure or kill a wild animal of a EPS,
- b) deliberately disturb wild animals of any such species,
- c) deliberately take or destroy the eggs of such an animal, or
- d) damage or destroy a breeding site or resting place of such an animal.

For the purposes of paragraph (b), disturbance of animals includes in particular any disturbance which is likely to:

- a) impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b) to affect significantly the local distribution or abundance of the species to which they belong.

There are also restrictions on transport, possession and sale.

The Habitats Regulations 1994 which apply in Scotland with a number of amendments, provide full protection to EPS without recourse to the WCA⁷.

The legislation in Northern Ireland is similar to Scotland in that the protection for EPS has been transferred to the Conservation (Natural Habitats, & c.) Regulations (NI) 1995 (as amended).

It is possible to obtain a derogation licence from the relevant SNCB⁶ to permit activities which would otherwise contravene the regulations above, including for development purposes, when certain conditions are met. Failure to satisfy the Regulations and obtain a licence where required could result in prosecution and lead to fines and possible imprisonment.

To meet the requirements in Regulation 63(1) [48(1) of the 1994 Regulations in Scotland], an HRA is required (see note in previous section).

Currently (2021), all EPS are also listed on Schedule 5 of the WCA (outlined above), as it applies in England and Wales, though only some clauses of the WCA apply (Section 9 4(b), (c) and 5). EPS often encountered on development sites include GCN (*Triturus cristatus*), all species of bats, dormice (*Muscardinus avellanarius*) and otters (*Lutra lutra*).

Countryside and Rights of Way Act 2000

<https://www.legislation.gov.uk/ukpga/2000/37>

The Countryside and Rights of Way (CROW) Act 2000 provides for public access on foot to certain land types, amends the law for public rights of way, increases protection for SSSIs, and strengthens wildlife enforcement legislation. It applies only in England and Wales.

The Natural Environment and Rural Communities (NERC) Act 2006; The Environment (Wales) Act 2016

<https://www.legislation.gov.uk/ukpga/2006/16>

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it. In Wales, a similar duty has been moved to Section 6 of the Environment (Wales) Act 2016.

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act; in Wales, under Section 7 of the Environment (Wales) Act. The lists for England are accessible online via the National Archive⁸; for Wales via <https://www.biodiversitywales.org.uk/>.

The Hedgerows Regulations 1997

<https://www.legislation.gov.uk/ukxi/1997/1160/made>

The Hedgerows Regulations 1997 provide protection for 'important' hedgerows for which replanting is not a substitute. The 'importance' of a hedgerow depends upon several archaeological, wildlife and landscape criteria (which are outlined in the Regulations). The regulations deem it an offence to remove an 'important hedgerow' without prior notification to the relevant local planning authority.

Protection of Badgers Act 1992

<https://www.legislation.gov.uk/ukpga/1992/51>

Badgers and their setts are protected under the Protection of Badgers Act 1992 (England, Wales and Scotland). The key part of this legislation in relation to the proposed development are in Section 3, which deems it an offence to:

- a) damage a badger sett or any part of it;
- b) destroy a badger sett;
- c) obstruct access to, or any entrance of, a badger sett;
- d) disturb a badger when it is occupying a badger sett,
- e) intend to do any of those things or be reckless as to whether those actions would have any of the consequences listed above.

Derogation licences may be obtained from the relevant SNCB⁶ under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

Note: there are additional provisions relating to badgers under the WCA Section 11 (Prohibition of certain methods of killing or taking wild animals).

⁸

<https://webarchive.nationalarchives.gov.uk/ukgwa/20140712055944/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>

The Wild Mammals (Protection) Act 1996
<https://www.legislation.gov.uk/ukpga/1996/3>

All wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended). This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal.

APPENDIX E – PROTECTED AND NOTEWORTHY SPECIES RECORDS

Table . displays noteworthy species records that are located within 1 km of the site boundary. These species records were obtained from Environmental Records Information Centre North East. The scientific and common names for species are given as well as their level of designation. A glossary defining abbreviations used in the table is given in 7, Appendix C. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but that data-holding organizations do not have records of it in these locations.

Table 6: Protected species records within 1 km of the site boundary

Latin Name	Common Name	Designation	Most Recent	Any Records in 100m
Amphibians				
<i>Triturus cristatus</i>	great crested newt	EPS(Sch2), WCA5, S41	2017	
Birds				
<i>Alcedo atthis</i>	kingfisher	WCA1.1	2021	
<i>Anas acuta</i>	pintail	WCA1.2, Amber, GB RDB(CR)	2021	
<i>Anser anser</i>	greylag goose	WCA1.2, Amber	2023	
<i>Aythya marila</i>	scaup	WCA1.1, S41, Red, GB RDB(EN)	2013	
<i>Bucephala clangula</i>	goldeneye	WCA1.2, Red, GB RDB(VU)	2023	
<i>Cettia cetti</i>	Cetti's warbler	WCA1.1	2023	
<i>Charadrius dubius</i>	little ringed plover	WCA1.1	2020	
<i>Circus aeruginosus</i>	marsh harrier	WCA1.1, Amber	2018	
<i>Falco peregrinus</i>	peregrine	WCA1.1	2022	
<i>Falco subbuteo</i>	hobby	WCA1.1	2020	
<i>Larus melanocephalus</i>	mediterranean gull	WCA1.1, Amber	2018	
<i>Lullula arborea</i>	woodlark	WCA1.1, S41, GB RDB(VU)	2015	
<i>Milvus milvus</i>	red kite	WCA1.1	2023	
<i>Pandion haliaetus</i>	osprey	WCA1.1, Amber	2014	
<i>Phoenicurus ochruros</i>	black redstart	WCA1.1, Amber, GB RDB(EN)	2020	
<i>Podiceps nigricollis</i>	black-necked grebe	WCA1.1, Amber, GB RDB(EN)	2020	
<i>Tringa ochropus</i>	green sandpiper	WCA1.1, Amber, GB RDB(EN)	2020	
<i>Turdus iliacus</i>	redwing	WCA1.1, Amber, GB RDB(CR)	2023	

Latin Name	Common Name	Designation	Most Recent	Any Records in 100m
<i>Turdus pilaris</i>	fieldfare	WCA1.1, Red, GB RDB(CR)	2021	
<i>Tyto alba</i>	barn owl	WCA1.1	2019	
Invertebrates				
<i>Austropotamobius pallipes</i>	white-clawed crayfish	WCA5, S41	1981	
Mammals				
<i>Arvicola amphibius</i>	water vole	WCA5, S41, GB RDB(EN)	2021	
Chiroptera	unidentified bat	EPS(Sch2)	2018	
<i>Eptesicus serotinus</i>	serotine	EPS(Sch2), WCA5, GB RDB(VU)	2013	
<i>Lutra lutra</i>	otter	EPS(Sch2), WCA5, S41	2022	
<i>Meles meles</i>	badger	BA	2021	
<i>Myotis brandtii</i>	Brandt's bat	EPS(Sch2), WCA5	1999	
<i>Myotis daubentonii</i>	Daubenton's bat	EPS(Sch2), WCA5	2017	
<i>Myotis nattereri</i>	natterer's bat	EPS(Sch2), WCA5	2012	
<i>Nyctalus leisleri</i>	Leisler's bat	EPS(Sch2), WCA5	2013	
<i>Nyctalus noctula</i>	noctule	EPS(Sch2), WCA5, S41	2013	
<i>Pipistrellus nathusii</i>	Nathusius's pipistrelle	EPS(Sch2), WCA5	2013	
<i>Pipistrellus pipistrellus</i>	common pipistrelle	EPS(Sch2), WCA5	2013	
<i>Pipistrellus pygmaeus</i>	soprano pipistrelle	EPS(Sch2), WCA5, S41	2013	
<i>Pipistrellus</i> sp.	a pipistrelle bat	EPS(Sch2), WCA5	1997	
<i>Plecotus</i> sp.	a long-eared bat	EPS(Sch2), WCA5	1963	
<i>Plecotus auritus</i>	brown long-eared bat	EPS(Sch2), WCA5, S41	2012	
Vespertilionidae	unidentified bat	EPS(Sch2), WCA5	2008	
Plants				
<i>Filago pyramidata</i>	broad-leaved cudweed	WCA8, S41, GB RDB(EN), ENG BSBI RDB(EN), NS	1958	
Reptiles				
<i>Natrix helvetica</i>	grass snake	WCA5, S41	2001	
<i>Zootoca vivipara</i>	common lizard	WCA5, S41	1986	

Table 7: Noteworthy species records within 1 km of the site boundary

Latin Name	Common Name	Designation
Amphibians		
<i>Bufo bufo</i>	common toad	WCA5, S41
Birds		

Latin Name	Common Name	Designation
<i>Acanthis cabaret</i>	lesser redpoll	S41, Red
<i>Accipiter nisus</i>	sparrowhawk	Amber
<i>Acrocephalus schoenobaenus</i>	sedge warbler	Amber
<i>Actitis hypoleucos</i>	common sandpiper	Amber, GB RDB(VU)
<i>Alauda arvensis</i>	skylark	S41, Red
<i>Anas crecca</i>	teal	Amber
<i>Anas penelope</i>	wigeon	Amber
<i>Anas platyrhynchos</i>	mallard	Amber
<i>Anas strepera</i>	gadwall	Amber
<i>Anser albifrons</i>	white-fronted goose	Red, GB RDB(CR)
<i>Anser brachyrhynchus</i>	pink-footed goose	Amber
<i>Anthus pratensis</i>	meadow pipit	Amber
<i>Anthus spinoletta</i>	water pipit	Amber, GB RDB(VU)
<i>Apus apus</i>	swift	Red, GB RDB(EN)
<i>Aythya ferina</i>	pochard	Red, GB RDB(EN)
<i>Bubulcus ibis</i>	cattle egret	Amber
<i>Chloris chloris</i>	greenfinch	Red, GB RDB(EN)
<i>Chroicocephalus ridibundus</i>	black-headed gull	Amber, GB RDB(VU)
<i>Coccothraustes coccothraustes</i>	hawfinch	S41, Red, GB RDB(EN)
<i>Columba oenas</i>	stock dove	Amber
<i>Columba palumbus</i>	woodpigeon	Amber
<i>Cuculus canorus</i>	cuckoo	S41, Red, GB RDB(VU)
<i>Curruca communis</i>	whitethroat	Amber
<i>Delichon urbicum</i>	house martin	Red, GB RDB(VU)
<i>Dryobates minor</i>	lesser spotted woodpecker	S41, Red, GB RDB(EN)
<i>Emberiza calandra</i>	corn bunting	S41, Red
<i>Emberiza citrinella</i>	yellowhammer	S41, Red
<i>Emberiza schoeniclus</i>	reed bunting	S41, Amber
<i>Falco tinnunculus</i>	kestrel	Amber, GB RDB(VU)
<i>Gallinago gallinago</i>	snipe	Amber
<i>Gallinula chloropus</i>	moorhen	Amber, GB RDB(VU)
<i>Haematopus ostralegus</i>	oystercatcher	Amber
<i>Larus argentatus</i>	herring gull	S41, Red, GB RDB(EN)
<i>Larus canus</i>	common gull	Amber
<i>Larus fuscus</i>	lesser black-backed gull	Amber
<i>Larus glaucoides</i>	Iceland gull	Amber, GB RDB(VU)
<i>Larus marinus</i>	great black-backed gull	Red, GB RDB(EN)
<i>Larus michahellis</i>	yellow-legged gull	Amber, GB RDB(EN)
<i>Linaria cannabina</i>	linnet	S41, Red
<i>Locustella naevia</i>	grasshopper warbler	S41, Red
<i>Luscinia megarhynchos</i>	nightingale	Red, GB RDB(VU)
<i>Mareca penelope</i>	wigeon	Amber
<i>Mareca strepera</i>	gadwall	Amber
<i>Mergellus albellus</i>	smew	Red, GB RDB(CR)

Latin Name	Common Name	Designation
<i>Motacilla cinerea</i>	grey wagtail	Amber
<i>Motacilla flava</i>	yellow wagtail	S41, Red
<i>Muscicapa striata</i>	spotted flycatcher	S41, Red
<i>Oenanthe oenanthe</i>	wheatear	Amber
<i>Passer domesticus</i>	house sparrow	S41, Red
<i>Passer montanus</i>	tree sparrow	S41, Red, GB RDB(VU)
<i>Phylloscopus sibilatrix</i>	wood warbler	S41, Red, GB RDB(VU)
<i>Phylloscopus trochilus</i>	willow warbler	Amber
<i>Podiceps cristatus</i>	great crested grebe	GB RDB(VU)
<i>Prunella modularis</i>	dunnock	S41, Amber
<i>Pyrrhula pyrrhula</i>	bullfinch	S41, Amber
<i>Saxicola rubetra</i>	whinchat	Red
<i>Scolopax rusticola</i>	woodcock	Red, GB RDB(VU)
<i>Spatula clypeata</i>	shoveler	Amber
<i>Sterna hirundo</i>	common tern	Amber
<i>Sterna paradisaea</i>	arctic tern	Red, GB RDB(VU)
<i>Streptopelia turtur</i>	turtle dove	S41, Red, GB RDB(CR)
<i>Strix aluco</i>	tawny owl	Amber
<i>Sturnus vulgaris</i>	starling	S41, Red, GB RDB(VU)
<i>Tadorna tadorna</i>	shelduck	Amber, GB RDB(EN)
<i>Tringa totanus</i>	redshank	Amber, GB RDB(VU)
<i>Troglodytes troglodytes</i>	wren	Amber
<i>Turdus philomelos</i>	song thrush	S41, Amber
<i>Turdus viscivorus</i>	mistle thrush	Red, GB RDB(VU)
<i>Vanellus vanellus</i>	lapwing	S41, Red, GB RDB(EN)
Fish		
<i>Anguilla anguilla</i>	European eel	S41, OSPAR
Invertebrates		
<i>Acronicta rumicis</i>	knot grass	S41
<i>Agrochola lychnidis</i>	beaded chestnut	S41
<i>Apamea anceps</i>	large nutmeg	S41
<i>Arctia caja</i>	garden tiger	S41
<i>Atethmia centrargo</i>	centre-barred sawfly	S41
<i>Brachylomia viminalis</i>	minor shoulder-knot	S41
<i>Caradrina morpheus</i>	mottled rustic	S41
<i>Ceramica pisi</i>	broom moth	S41
<i>Cerceris quinquefasciata</i>	5-banded tailed digger wasp	S41
<i>Chiasmia clathrata</i>	lattice heath	S41
<i>Cirrhia icteritia</i>	sallow	S41
<i>Coenonympha pamphilus</i>	small heath	S41
<i>Cossus cossus</i>	goat moth	S41
<i>Ennomos fuscantaria</i>	dusky thorn	S41
<i>Eugnorisma glareosa</i>	autumnal rustic	S41
<i>Eulithis mellinata</i>	spinach	S41
<i>Euxoa nigricans</i>	garden dart	S41

Latin Name	Common Name	Designation
<i>Hepialus humuli</i>	ghost moth	S41
<i>Hoplodrina blanda</i>	rustic	S41
<i>Hydraecia micacea</i>	rosy rustic	S41
<i>Lasioglossum malachurum</i>	sharp-collared furrow bee	Notable:B
<i>Lasiommata megera</i>	wall	S41
<i>Lasius brunneus</i>	n/a	Notable:A
<i>Lestiphorus bicinctus</i>	n/a	Notable:B
<i>Leucania comma</i>	shoulder-striped wainscot	S41
<i>Lucanus cervus</i>	stag beetle	WCA5, S41, NS, Notable:B
<i>Malacosoma neustria</i>	lackey	S41
<i>Mimesa bruxellensis</i>	n/a	Notable:A
<i>Mimesa bruxellensis</i>	n/a	Notable:A
<i>Mniotype adusta</i>	dark brocade	S41
<i>Orthosia gracilis</i>	powdered quaker	S41
<i>Pipiza lugubris</i>	n/a	NS, Notable
<i>Polia bombycina</i>	pale shining brown	S41
<i>Prionus coriarius</i>	tanner beetle	Notable:A
<i>Rhizedra lutosa</i>	large wainscot	S41
<i>Satyrrium w-album</i>	white-letter hairstreak	WCA5, S41, GB RDB(EN)
<i>Schoenobius gigantella</i>	giant water-veneer	Notable:B
<i>Scotopteryx chenopodiata</i>	shaded broad-bar	S41
<i>Sphecodes crassus</i>	swollen-thighed blood bee	Notable:B
<i>Sphecodes longulus</i>	little sickle-jawed blood bee	Notable:A
<i>Spilosoma lubricipeda</i>	white ermine	S41
<i>Spilosoma lutea</i>	buff ermine	S41
<i>Tholera decimalis</i>	feathered gothic	S41
<i>Timandra comae</i>	blood-vein	S41
<i>Tiphia minuta</i>	the small tiphia	Notable:B
<i>Tyria jacobaeae</i>	cinnabar	S41
<i>Vertigo (Vertigo) moulinsiana</i>	Desmoulins's whorl snail	S41, GB RDB(VU), NS
<i>Xanthorhoe ferrugata</i>	dark-barred twin-spot carpet	S41
Mammals		
<i>Erinaceus europaeus</i>	hedgehog	S41, GB RDB(VU)
<i>Micromys minutus</i>	harvest mouse	S41
Plants		
<i>Anacamptis morio</i>	green-winged orchid	GB RDB(VU), ENG BSBI RDB(VU)
<i>Bromus secalinus</i>	rye brome	NS
<i>Buxus sempervirens</i>	box	NR
<i>Catabrosa aquatica</i>	whorl-grass	GB RDB(VU), ENG BSBI RDB(VU)
<i>Cichorium intybus</i>	chicory	GB RDB(VU), ENG BSBI RDB(VU)
<i>Gnaphalium sylvaticum</i>	heath cudweed	GB RDB(EN), ENG BSBI RDB(EN)
<i>Hyacinthoides non-scripta</i>	bluebell	WCA8

Latin Name	Common Name	Designation
<i>Medicago sativa subsp. falcata</i>	sickle medick	NS
<i>Moenchia erecta</i>	upright chickweed	GB RDB(VU), ENG BSBI RDB(VU)
<i>Onobrychis viciifolia</i>	sainfoin	GB RDB(VU), ENG BSBI RDB(VU)
<i>Persicaria minor</i>	small water-pepper	GB RDB(VU)
<i>Ranunculus flammula</i>	lesser spearwort	GB RDB(VU), ENG BSBI RDB(VU)
<i>Tilia platyphyllos</i>	large-leaved lime	NS
<i>Vicia lutea</i>	yellow-vetch	GB RDB(VU), ENG BSBI RDB(VU), NS

Note - **P** relates to records with 4 figure or tetrad grid references that could potentially be anywhere within a 1 km or 2 km square.

APPENDIX F – ABBREVIATIONS

Table 6 displays abbreviations of protected species legislation.

Ideally, needs to be edited to ensure it only covers those abbreviations used in the report and that nothing has been missed

Table 5: Glossary of abbreviations used in this report

Code	Full Title	Explanation
BAP	Biodiversity action plan	A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity.
EPS (Sch 2)	European protected species (Schedule 2)	European protected species of animals, listed on Schedule 2 of The Conservation of Habitats and Species Regulations 2017.
EPS (Sch 5)	European protected species (Schedule 5)	European protected species of plants, listed on Schedule 5 of The Conservation of Habitats and Species Regulations 2017.
GB RDB	Red data book species	Species identified in one of the UK Red Data 2001.
GB RDB(CR)	Critically endangered	An IUCN Red List designation for species at an extremely high risk of extinction.
GB RDB(EN)	Endangered	An IUCN Red List designation for species at a very high risk of extinction.
GB RDB(VU)	Vulnerable	An IUCN Red List designation for species at high risk of extinction.
LBAP	Local biodiversity action plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity at the county or regional level.
Notable	Scarce and threatened invertebrates	Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available).
S41	Species of principal importance	Species of Principal Importance in England under The Natural Environment and Rural Communities (NERC) Act (2006).
WCA	The Wildlife and Countryside Act 1981 (as amended)	Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. All wild plants in Britain are protected from intentional uprooting by an unauthorized person, but land owners, land occupiers, persons authorized by either of these or persons authorized in writing by the local authority for the area are exempt. Protection for some species may be limited to certain Sections of the Act (e.g. S13(2)).
WCA1	Schedule 1 of The Wildlife and Countryside Act 1981 (as amended)	This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law. Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity. Schedule 1 WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentional or reckless disturbance of dependent young.
WCA5	Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale,

Code	Full Title	Explanation
		possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (e.g. S9(1), S9(4a), S9(4b), S9(5)).
WCA8	Schedule 8 of The Wildlife and Countryside Act 1981 (as amended)	Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), etc.
BNG	Biodiversity Net Gain	A measurable increase in biodiversity value resulting from development.
BDS	Background Data Search	Desk-based collation of ecological records and designations.
EPS	European Protected Species	Species protected under the Conservation of Habitats and Species Regulations.
EPSML	European Protected Species Mitigation Licence	Required if works will affect a European protected species or its habitat.
INNS	Invasive Non-Native Species	Species not native to the UK that cause ecological, economic, or health harm.
LNR	Local Nature Reserve	Statutory designated site of local conservation interest.
NERC	Natural Environment and Rural Communities Act 2006	UK legislation listing habitats and species of principal importance.
NPPF	National Planning Policy Framework	Government policy guiding planning and biodiversity.
PRA	Preliminary Roost Assessment	Initial assessment of a structure or tree for bat roost potential.
S41	Section 41 (NERC Act 2006)	List of habitats and species of principal importance in England.
SSSI	Site of Special Scientific Interest	Statutory protected site of national biological or geological interest.
UKHab	UK Habitat Classification	Standardised habitat classification system used in UK ecological surveys.
WCA	Wildlife and Countryside Act 1981	Primary UK legislation protecting wildlife and habitats.



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