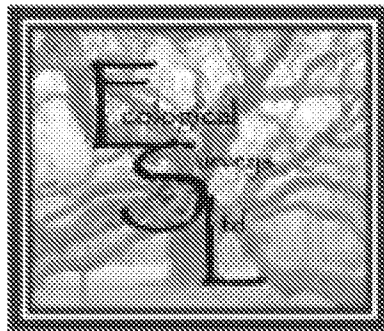




Preliminary Ecological Appraisal (PEA)



Lanes End
West Walberton Lane
Walberton
BN18 0QS

GR: SU 95734 06875

January 2020

1.	Contract Details.....	3
2.	Non-technical Summary	6
3.	Introduction.....	8
	3.1 Survey Aims.....	8
	3.2 Site Location and Size.....	8
	Figure 3.3 - Location Map and Wider Landscape in Context.....	8
4.	Proposed Development	9
	Figure 4.1: - Proposed Development/Illustrative Design.....	9
5.	Methodology	10
	5.1 Desktop Survey	10
	5.2 Field Survey	10
	5.3 Survey Constraints	10
	5.4 Assessment.....	11
6.	Results/Baseline Ecological Conditions.....	14
	6.1 Designated Sites.....	14
	Table 1 Designated/Non-Statutory Sites.....	14
	6.2 Extended Phase 1 Habitat Survey Map	15
	6.3 Habitats.....	16
	Semi-natural Broadleaved Woodland.....	16
	Poor Semi-improved Grassland.....	18
	Introduced Shrubs.....	19
	Buildings	20
	Hardstanding & Bare Ground	21
	Line of Trees	22
	Fence	23
	6.4 Species	24
	Bats	24
	Common Dormouse (<i>Muscardinus avellanarius</i>).....	26
	Birds.....	27
	Reptiles.....	28
	Amphibians.....	29
7.	Biodiversity Mitigation and Enhancement Details	30
	7.1 Construction Exclusion Zones / Buffer Zones.....	30
	7.2 Appropriate timing for woody species removal	31
	7.3 Artificial Lighting Strategy	31
	7.4 Bat Roosting Provision.....	32
	7.5 Bird Nesting Provision.....	32
	7.6 Solitary Bee Provision	33
	7.7 Reptile and Amphibian Mitigation Strategy (RAMS).....	33
	7.8 Landscaping for the Benefit of Wildlife.....	34
	7.9 General Good Practice for Construction Sites	35
8.	Conclusions	36
9.	References.....	37
	Data Search Websites	39
10.	Appendices	40
	Appendix A. Flora Species Recorded Onsite	40



Appendix B. Summary of the Legislation and Policy.....	42
Appendix C. Optimum Protected Species Survey Times.....	46
Appendix D. Assessing the Potential Value for Buildings for Roosting Bats.....	48
Appendix E. Bat Activity and Bat Emergence Survey Information.....	49
Appendix F. Wildlife Crime	53
Appendix G. Habitats Regulation Assessment (HRA).....	54
Appendix H. Bat Roost Warning Sign	55

Ecological Surveys Ltd

1. Contract Details

Preliminary Ecological Appraisal: Extended Phase 1 Ecology Survey	
Grid Reference:	SU 95734 06875
Client:	PJ Developments
Architect/Planning Consultant:	Not Advised
Date of Survey:	13/01/2020
Surveyor(s):	T. Woo-Glover BSc (Hons), MSc
Date of Report:	16/01/2020
Report Reference:	PEA_Lanes-End_PJ-Developments_January_2020
Author:	T. Woo-Glover BSc (Hons), MSc
Verified by:	Paul Diamond RHS Cert (Hort), BSc (Hons), MSc, MCIEEM, MArborA. Licentiate Member of the Landscape Institute
Revision no:	01
Issue date:	19/01/2020
Ecological Surveys Ltd Registered Address:	14, Lower Clicker Road, Menheniot, Liskeard. Cornwall. PL14 3PJ
Tel:	
Company Registration Number:	Incorporated in England and Wales- No: 08262426
VAT Registration Number:	224 3182 38

Declaration of Compliance BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of practice for planning and development, unless specifically stated otherwise.

Code of Professional Conduct

The information which we have prepared is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of Survey Data and Report

The findings of this report are valid for 12 months from the date of survey, unless the site has been maintained in exactly the same condition, in which case the report can be considered valid for 24 months. Please be aware that some Local Planning Authorities (LPAs) require an update once 12 months has elapsed. If work has not commenced within this period, an updated survey by a suitably qualified ecologist may be required.

Legal and Moral Constraints and Responsibilities Summary

An overview of relevant legislation and responsibility is given within the Appendices: Planning Policy and Legislation. Constraints exist for development where specific habitats or species are, or are potentially, within or adjoining a site proposed for development.

It is the responsibility of the client and those in receipt of this report to ensure ALL personnel or associated peoples likely to be involved in ANY management or works to this site: - including but not limited to the tree / shrub / scrub / grassland cutting are fully informed of any restrictions in force regarding the possible presence of protected species on this site as outlined in this report. If there is any doubt as to what works or management of habitats may legally occur, consultation with the acting ecologist is essential.

Therefore, avoidance, mitigation, compensation and enhancement for a site will apply.

In all instances where Mitigation is given, also refer to:

- Any further survey work for protected species (Phase 2 Surveys) recommended, or their results.
- General Good Practice during Construction Stage.
- Law and Legislation pertaining to specific species (plants and animals)
- Prevention of the spread of native and non-native invasive plants and animals.
- Avoidance of Wildlife Crime <http://www.nwcu.police.uk/>

Further advice if species are found onsite during development may be sought from Ecological Surveys Ltd (Tel: 01503 240846 or 07736 458609) or Natural England.

What is a Preliminary Ecological Appraisal (PEA)?

Preliminary Ecological Appraisal (PEA) is the term used to describe a rapid assessment of the ecological features present, or potentially present, within a site and its surrounding area (the zone(s) of influence in relation to a specific project (usually a proposed development)). A PEA normally comprises a desk study and a walkover survey. It should be considered to be a simplified form of an ecological survey and assessment.

The key objectives of a PEA are to:

- identify the likely ecological constraints associated with a project;
- identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'
- identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA) should one be required; and
- identify the opportunities offered by a project to deliver ecological enhancement.

[CIEEM, 2017a]

The primary audience for a PEA is the client or developer and relevant members of the project team, such as the architect, planning consultant and landscape architect. It is normally produced to inform a developer (or other client) and their design team, about the key ecological constraints and opportunities associated with a project, possible mitigation requirements and any detailed further surveys required to inform an Ecological Impact Assessment (EcIA).

Many PEA's are written in a form which might not be accepted by the LPA as it might lack sufficient detail. Our report is written in a manner to support smaller scale developments.

2. Non-technical Summary

Proposed development:	Construction of 6 No. dwellings & 6 No. detached garages.
Purpose of the report:	To present the results of the Extended Phase 1 Habitat Survey undertaken at the named site; assess the impacts of the proposed development on the important ecological features identified and detail applicable compensation, mitigation measures and biodiversity enhancements as appropriate.
Is this PEA report considered sufficient on or does it require upgrading to an Ecological Impact Assessment (EcIA)?	This report is considered sufficient for the size and scale of predicted impacts as a result of the proposal.
Further Survey Work	- Bat Emergence Surveys. (Confirmed bat roost in house) - Dormouse Presence/Absence Survey (Suitable habitat in woodland on site)
Habitat Regulation Assessment (HRA) likely?	- It is considered unlikely that an HRA will be requested by the LPA – albeit that this is not our decision to make.
Important Ecological Features (IEFs) see below	The presence of an IEF on site, or in a location which could potentially be impacted by the development or post development activities will need to be Mitigated for.
IEF Designated sites	Onsite: None Offsite: None
IEF Habitats	Onsite: • Broadleaved Woodland • Building (bat roost) • Line of Trees (for dormice, birds, and bats) • Introduced Shrubs (for nesting birds) • Poor Semi-Improved Grassland (for reptiles) Offsite: None
IEF Species	Onsite: • Bats • Dormice • Reptiles • Nesting Birds Offsite: None

Invasive Non-native Species (Schedule 9 species)	Onsite: None recorded. Offsite: None recorded.
Avoidance Measures	Pending the results of Phase 2 Surveys.
Mitigation Measures	- Construction Exclusion Zones - Artificial Lighting Strategy - Reptile and Amphibian Mitigation Strategy (RAMS). - Appropriate timing of woody species removal - General Good Practice during Construction Phase. Further Mitigation will be required, the extent of which pending the results of the Phase 2 Surveys
Enhancement Measures The LPA have an obligation to ensure that all developments result in a 'net biodiversity gain'.	- Six <u>in-built</u> bat tubes. - Six <u>in-built</u> bird bricks - Six <u>in-built</u> solitary bee bricks - Landscaping to Benefit Wildlife
Landscape and Ecological Management Plan (LEMP)	- Recommended for this site.
Important Advisory	Ensure all onsite contractors/personnel are familiar with this report (and any Phase 2 reports associated with this site) and able to act upon the law and legislation governing protection of species and habitats onsite and mitigation specifically pertaining to this site. Should protected species be discovered on site, all works in the vicinity must cease immediately and ecological advice sought urgently.

Any works which negatively impact the biodiversity of this site, post the results of this ecological survey being received verbally, or in writing, could constitute a Wildlife Crime (Appendix F. Wildlife Crime; <http://www.nwcu.police.uk/>).

3. Introduction

Ecological Surveys Ltd were commissioned to undertake a Preliminary Ecological Appraisal (PEA) to include the potential for legally protected and notable species of the Site, and to assess the potential impact of the development on the biodiversity of the Site and its immediate environs.

Only habitats which are present on site or adjoining the site are included and no discussion is entered into regarding habitats which are not present.

3.1 Survey Aims

The survey and this report identify features of conservation importance that could constitute a constraint to the proposals for this Site. Where appropriate, recommendations for impact avoidance, mitigation and post-development enhancement are made to ensure compliance with wildlife legislation and relevant planning policy.

This survey has been prepared in accordance with the 'Guidelines for Preliminary Ecological Appraisal' produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a).

3.2 Site Location and Size

The site comprises of a residential property and large garden. The garden includes areas of woodland, non-native shrub planting, and poor semi-improved grassland.

The site area surveyed is approximately 0.5 hectares in extent.

Figure 3.3 - Location Map and Wider Landscape in Context



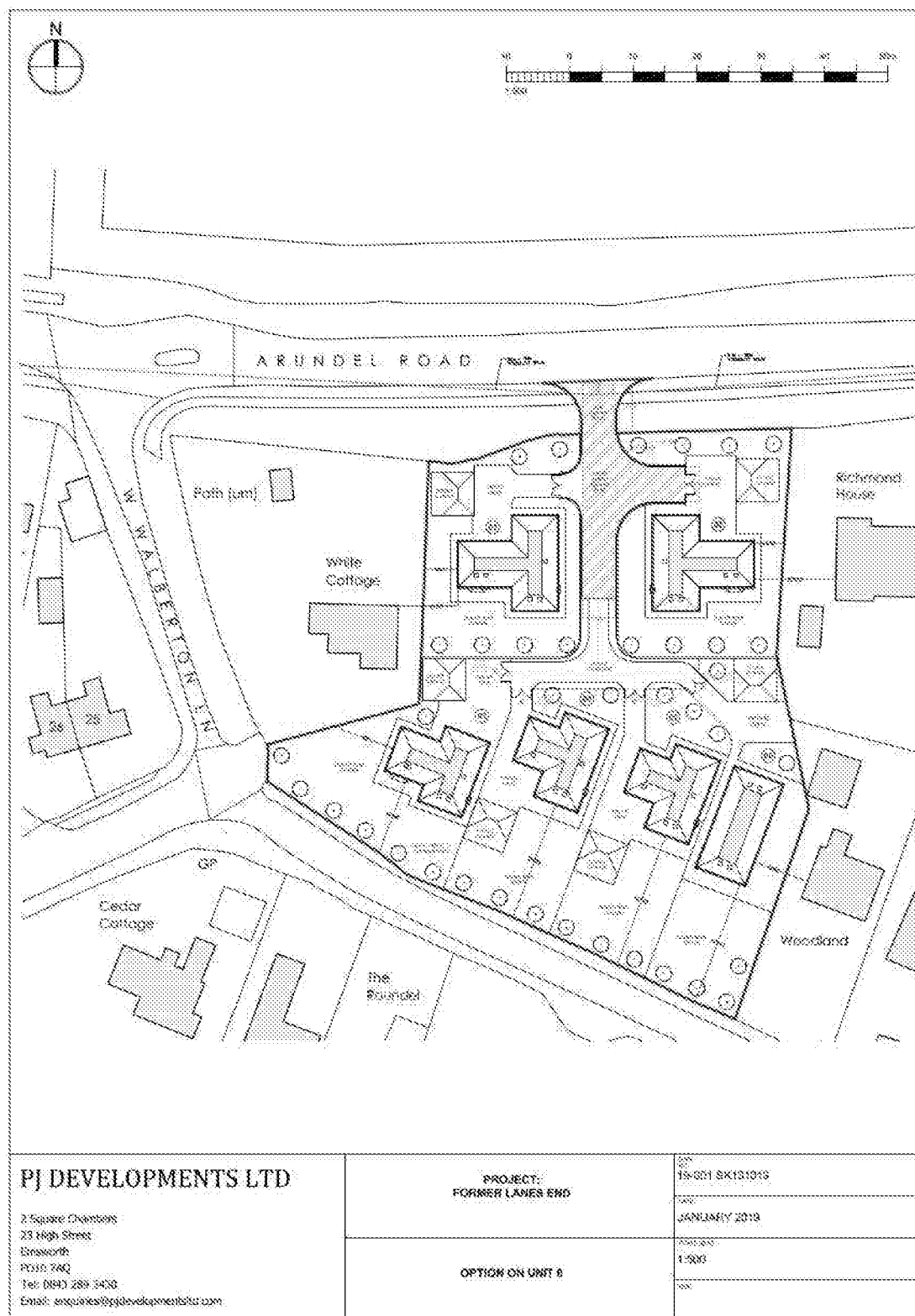


4. Proposed Development

Details of the proposed development, including a layout and design, were provided by the client before any survey work was undertaken. The proposed development comprises the clearance of habitat from the site, including some woodland and the house, to allow for the construction of 6 new properties and 6 detached garages.

The Illustrative Design is shown directly below.

Figure 4.1: - Proposed Development/Illustrative Design



5. Methodology

This Preliminary Ecological Appraisal encompasses the establishment of the ecological baseline by undertaking a desktop survey, drawing on existing information and data, and a field survey; initial evaluation of the impacts of the proposed development on the designated sites, habitats and species found both on the Site and in the immediate vicinity of the Site and the identification of measures to mitigate the impacts; and the identification of ways to enhance the biodiversity of the area.

5.1 Desktop Survey

A desktop survey was undertaken, collating existing data for the following relating to both the Site itself and the area within a two-kilometre radius:

- Statutory and non-statutory wildlife and earth science sites
- BAP Priority Inventory Habitats
- Legally protected and nationally notable species

Websites were consulted (refer to [References](#)).

5.2 Field Survey

The field survey included carrying out an Extended Phase 1 Habitat Survey, consisting of a walkover assessment of the Site using Phase 1 Habitat Survey methodology (JNCC, 2010, as amended by the Institute of Environmental Assessment (IEA, 1995)). This is a standard technique for classifying and mapping British habitats. All areas within the Site were surveyed, the main plant species recorded, and habitat type mapped. Indicators of ecological value were also noted, including the presence or signs of any legally protected or rare species.

Plant species were identified according to Stace (2019).

A search was also made to identify the presence of any invasive non-native species (particularly those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)), including Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*).

Any buildings onsite were assessed for their potential to support roosting bats (using the criteria set out in Appendix D). Buildings were examined both externally and internally to consider the potential and actual use by bats, as well as by nesting birds.

5.3 Survey Constraints

All areas of the Site were readily accessible with the time spent on site considered appropriate to obtain all the details required for each habitat and species to enable an assessment to be made. Although some plant species would not have been visible during the survey period, the botanical diversity was considered sufficient to be able to classify and assess the habitats present, as well as their potential for supporting legally protected and notable species. It should be noted that habitats, and the species they may support, change over time due to natural processes and because of human influence. In line with current guidelines, the survey on which this report is based is only valid for two years, after which time it will need updating. It being accepted that some LPA's now expect a survey to be updated after twelve months.

5.4 Assessment

All ecological data and information gained through both the desktop survey and the survey work were evaluated. The important ecological features were then identified and evaluated against the potential impacts/effects that the proposed development may have on the ecology of the Site and surrounding area.

The biodiversity importance of each designated site, habitat and species is evaluated on a geographic scale: international, national, county and local.

Evaluation of designated sites considers their designation; their ecological and landscape relationship with the proposed site; and the species and/or habitat types for which the site was designated.

Evaluation of habitats considers their designation; their area, quality and viability, diversity and connectivity to the wider landscape; and structural diversity and species-richness.

Evaluation of species considers their designation, including legal protection and rarity.

When assessing the impact of the development and changes to the baseline conditions on site, predictions will be made which focus solely on the zone of influence whilst taking into consideration the lifespan of the development and the significant impacts as identified from the proposed work operations throughout the lifespan of the development.

The proposed development aims to firstly avoid and then mitigate against any potential effects/impacts on the local ecology/biodiversity, ensuring compliance with nature conservation legislation. It aims to achieve this by applying the mitigation hierarchy (as mentioned in Paragraph 118 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance) as follows:

Avoidance – Significant harm to wildlife species and habitats should be avoided through design.

Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design, or by the use of effective mitigation measures that can be secured by, for example, conditions or planning obligations.

Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, this should be properly compensated for by measures to provide for an equivalent value of biodiversity.

Appropriate measures to avoid and/or minimise the significant negative effects on the important ecological features have been identified. These mitigation measures aim firstly to avoid the overall effect/impact, or for those that cannot be avoided, reduce their overall effect value. It is not always possible to fully mitigate an adverse effect to neutral levels.

Under the National Planning Policy Framework, NPPF, (HM Government, 2019) local planning policies and decisions should 'contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) 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;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) 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
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

[Taken from NPPF 2019, Section 15. Conserving and enhancing the natural environment, paragraph 170, p49]

Thus, the mitigation hierarchy should be applied when considering the impacts of developments and local planning decisions on the natural environment, with the protection of important wildlife sites, habitats, species and ecosystem services; the avoidance of impacts, mitigating these impacts where appropriate, and then achieving biodiversity net gain through enhancements.

Section 15 of the NPPF 2019 goes on to state that 'when determining planning applications, local planning authorities should apply the following principles:

- a) 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;
- b) 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;
- c) 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
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around



developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'

[Taken from NPPF 2019, Section 15. Conserving and enhancing the natural environment, paragraph 175, p50]

The aim of development should be to deliver biodiversity net gain on site as well as limiting damage to important ecological features. Using the information gained during the desktop survey and the extended Phase 1 habitat survey, and the ecological requirements of habitats, species and local environmental conditions, biodiversity enhancements for the Site have been considered, providing opportunities to increase the diversity of habitats and species on site.

6. Results/Baseline Ecological Conditions

This section presents the findings from the site survey and desktop study. The information is presented in three distinct sections:

- Designated sites
- Habitats
- Species

6.1 Designated Sites

Designated sites of international, national and local importance are listed below, along with their approximate distance from the proposed development.

Table 1 Designated/Non-Statutory Sites

Designation	Name (if applicable)	Distance
Statutory Sites		
Special Area of Conservation (SAC):	None Found	N/A
Special Protection Area (SPA):	None Found	N/A
RAMSAR:	None Found	N/A
World Heritage Site:	None Found	N/A
Site of Special Scientific Interest (SSSI):	None Found	N/A
Areas of Outstanding Natural Beauty (AONB):	None Found	N/A
National Nature Reserve (NNR):	None Found	N/A
Local Nature Reserve (LNR):	None Found	N/A
Non-statutory Sites		
County Wildlife Site (CWS):	Unknown	N/A
County Geology Site (CGS):	Unknown	N/A

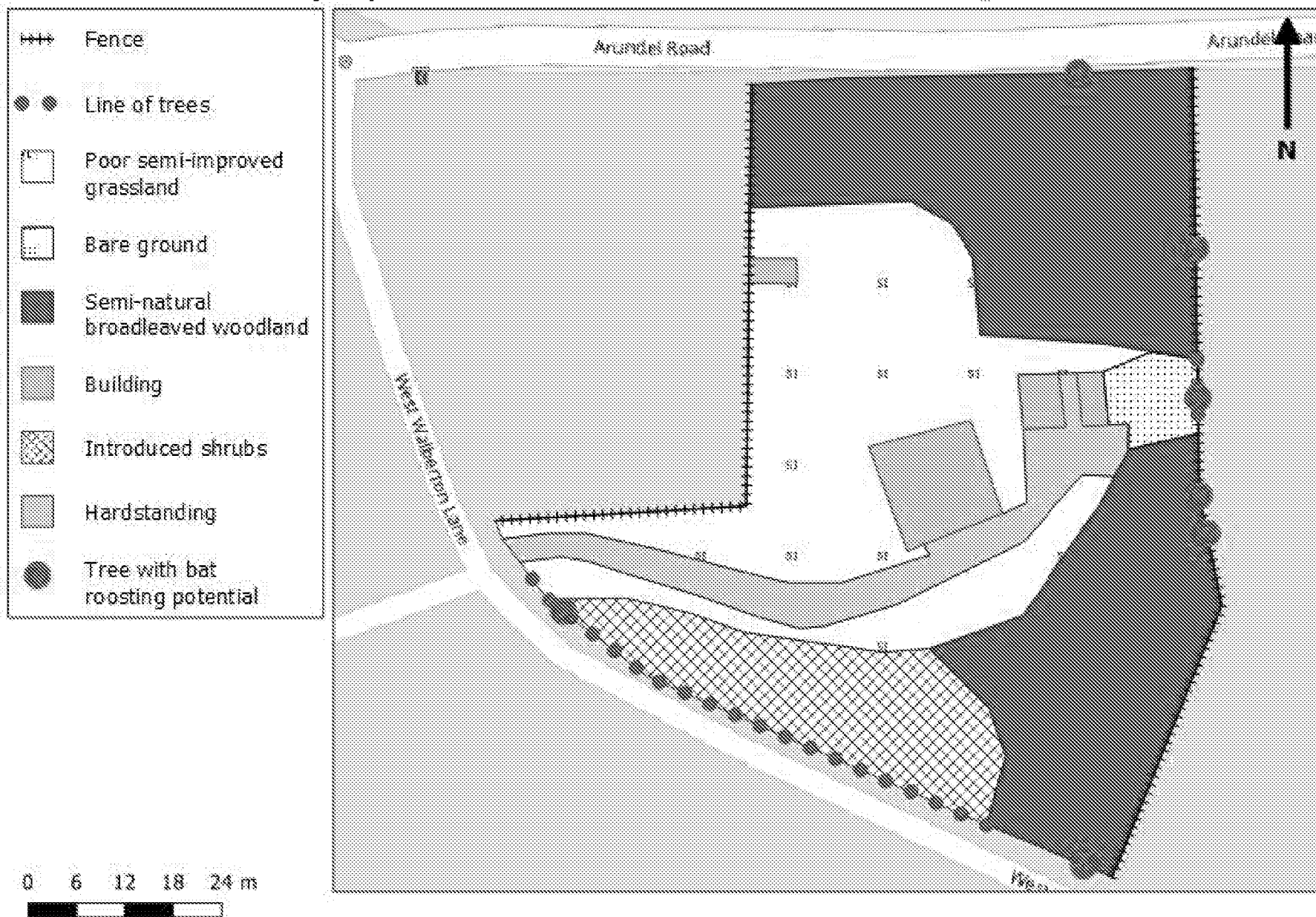
The Site does not lie within a SSSI Impact Risk Zone.

A **'Habitats Regulation Assessment' (HRA)** is unlikely to be required on this site. Refer to [Appendix G. Habitats Regulation Assessment \(HRA\)](#) for details.

Designated sites considered Important Ecological Features with respect to the proposed development:	None
--	------



6.2 Extended Phase 1 Habitat Survey Map



6.3 Habitats

This section details the habitats present on the Site and recorded during the Extended Phase 1 Habitat Survey, along with important habitats within the vicinity of the site.

Semi-natural Broadleaved Woodland



Woodland along the northern boundary of the site.

Much of the garden is composed of woodland. This is predominantly oak and sweet chestnut with hazel, ash, holly, yew, and sycamore also present. The understory varies across the site from completely bare ground to dense bramble scrub. Trees within the woodland are typically young-mature. This habitat is ecologically valuable and has the potential to support a variety of protected species, including nesting birds, dormice, foraging bats, and great crested newts. A number of trees along the boundaries also have potential to support roosting bats, some of which (sweet chestnuts along the eastern boundary) are likely to be removed as part of the proposed development.

Ancient woodland indicator species were recorded on site, with butchers broom abundant in places. Although few veteran/ancient trees were on site a number of large tree stumps were present. It has also been noted by The Woodland Trust in planning comments on this application (Nicole Hillier, 20/05/2019) that the woodland appears on 1st edition OS maps from the 1800s and therefore could be ancient woodland. Contact with Natural England was recommended. It is not known if this has been carried out.

Given the current design of the proposed development, it seems most of the woodland will be lost, with only small sections along the north and south boundaries retained.

Area of woodland on site	~2400m ²
Legal Constraints	The woodland on site is considered to be a Habitat of Principle Importance under the NERC Act 2006 (lowland mixed deciduous woodland). The woodland may be ancient woodland, clarification from Natural England is recommended. The woodland also offers habitat for protected species.

Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 Dormouse Presence/Absence Survey required. Phase 2 Bat Emergence Surveys required.
Avoidance Measures	Pending the results of Phase 2 Surveys.
Mitigation Measures	Mitigation will be required for the loss of woodland on site. The extent of this mitigation is pending the results of the Phase 2 surveys required.
Biodiversity Enhancement Measures	Pending the results of Phase 2 Surveys.
Habitat loss/gain	Loss of most woodland on site.

Poor Semi-improved Grassland



Mown rear garden of the property.

Short sward poor semi-improved grassland exists on site along the entrance drive and at the rear of the existing property. This habitat is predominantly perennial rye-grass, Yorkshire fog, and bent grass, with herbaceous species including cats ear, dandelion, and broadleaved dock also present. There is some potential for reptiles and/or great crested newts to be present where the grassland is more tussocky at the boundaries to the woodland, but this is unlikely to support considerable populations. Overall, this habitat is of limited ecological value.

Area of grassland on site	~1700m ²
Legal Constraints	The grassland offers habitat for protected species.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None required.
Mitigation Measures	Required as follows: - Reptile and Amphibian Mitigation Strategy (RAMS).
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	No net loss

Introduced Shrubs



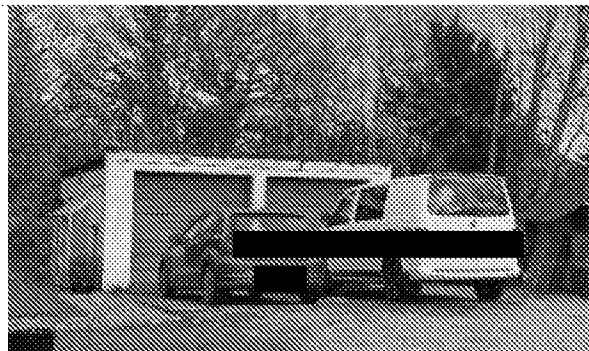
An area of dense cherry laurel, rhododendron, camelia, and bramble exists in the south of the site. Although this habitat is of little ecological value in itself, given the high value woodland surrounding it, it has potential to support nesting birds and occasional passing dormice and great crested newts.

Area of introduced shrubs on site	~650m ²
Legal Constraints	The introduced shrubs offer habitat for protected species.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 Dormouse Presence/Absence Survey required.
Avoidance Measures	Pending the results of Phase 2 Surveys.
Mitigation Measures	Required as follows: - Appropriate timing of woody species removal - Reptile and Amphibian Mitigation Strategy (RAMS) Further Mitigation may be required pending the results of the Phase 2 surveys.
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	Loss of most habitat on site.

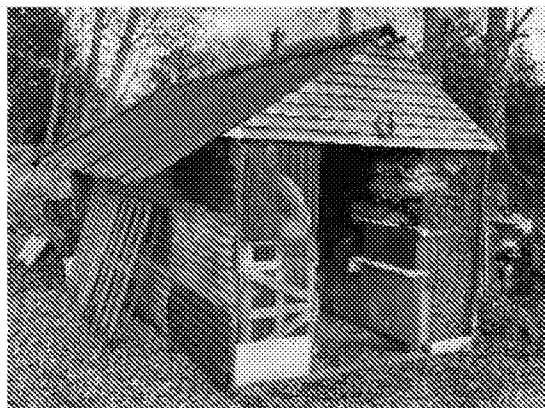
Buildings



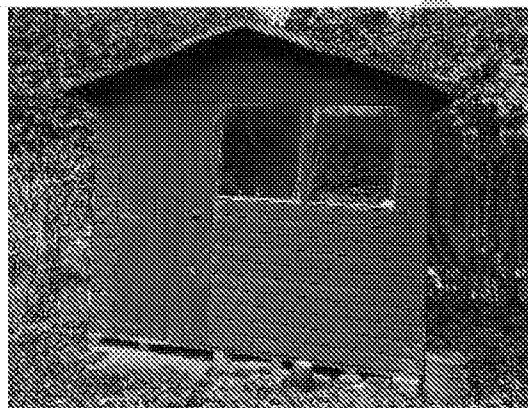
House



Garage



Outbuilding



Shed

Four structures are present on site, a house, a flat roofed garage, a corrugated metal outbuilding, and a wooden shed. The garage, outbuilding, and shed have no ecological value and are unsuitable for bat roosting. Bat droppings were, however, present in the loft void of the house. The presence of bat droppings within the loft indicates a confirmed bat roost. As the house is set to be demolished, **Bat Emergence Surveys are required.**

Area of buildings on site

~250m²

Legal Constraints

There is a bat roost present in the house; all bats and their roosts are protected by law.

Important Ecological Feature (IEF)

Yes

Further Survey Work

Phase 2 Bat Emergence Surveys required.

Avoidance Measures

Pending the results of the Bat Emergence Surveys

Mitigation Measures

Pending the results of the Bat Emergence Surveys

Biodiversity Enhancement Measures

Required as follows:

- One bat tube built within every property built (6 total)
- One bird brick built within every property built (6 total)
- One solitary bee brick built within every property built (6 total)

Habitat loss/gain

Net gain in providing nest boxes, roost boxes and bee boxes.

Hardstanding & Bare Ground



Existing Entrance drive

A gravelled entrance drive and bare ground parking area exist on site. These habitats have no ecological value.

Area of hardstanding & bare ground on site	~500m ²
Legal Constraints	None
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None required.
Mitigation Measures	None required.
Biodiversity Enhancement Measures	None required.
Habitat loss/gain	N/A

Line of Trees



TPO oak in the south of the site



Sweet chestnut trees along the eastern boundary between the northern and southern areas of woodland

Two distinct lines of trees exist on site, one between the northern and southern areas of woodland on site and the other along the southern boundary. It is likely that these were once part of a larger area of woodland on site which has since been cleared and/or outcompeted by planted non-native cherry laurel, rhododendron, and camelia. As with the woodland, these trees have potential to support dormice, bats, and nesting birds.

Without a topographical survey It is not clear which trees will be removed, although given the current plans it is likely that the trees along the eastern boundary will be removed, while those along the southern boundary will be retained.

Legal Constraints	Several trees onsite are covered with Tree Protection Orders and cannot be felled, topped, lopped, uprooted, damaged or destroyed without LPA permission. The trees on site also offer habitat for protected species.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 Dormouse Presence/Absence Survey required. Phase 2 Bat Emergence Surveys required.
Avoidance Measures	Pending the results of Phase 2 Surveys.
Mitigation Measures	Mitigation will be required for the loss of trees on site. The extent of this mitigation is pending the results of the Phase 2 surveys required.
Biodiversity Enhancement Measures	Pending the results of Phase 2 Surveys.
Habitat loss/gain	Unknown

Fence

Fencing exists along the eastern and western boundary, dividing the site from neighbouring properties. This feature has no ecological value.	
Legal Constraints	None
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None
Mitigation Measures	Not required.
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	Likely increase in length of fencing on site.

6.4 Species

This section includes details concerning the species recorded on site during the Extended Phase 1 Habitat Survey, as well as legally protected and/or notable species recorded within a 2km radius of the development site. The potential for the presence of legally protected and/or notable species on site has also been included, based on the habitats recorded on site and adjacent land.

Where there is no potential for a species or species group to be present within the site, they have been scoped out at this stage.

Bats



Numerous bat droppings in the loft of the house

Confirmed bat roosting has been recorded in the loft of the house. Numerous droppings, likely from brown long-eared bats, were found on fibreglass insulation and wooden boarding under the ridge line. Bat Emergence Surveys on the house are therefore required in order to obtain a European Protected Species Licence (EPSL) to legally destroy the roost. Further roosting potential exists in trees along the boundary of the site. Should any of these be removed (which given the current plan a number of sweet chestnut trees along the eastern boundary likely will be) Bat Emergence Surveys will also be required for trees.

Much of the site is composed of woodland, potentially ancient woodland. This habitat is of high ecological value for navigating and foraging bats. This is further increased by the presence of several areas of nearby ancient woodland, including Wandleys Copse (~300m to the south) and Slindon Woods (~400m to the north). Both of these woodlands are known to support foraging bats, including rarer bats such as Barbastelles.

Legal Constraints	Legally protected and/or notable bat species are present on site: legal protection under The Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 Bat Emergence Surveys required.

Avoidance Measures	Pending the results of the Bat Emergence Surveys
Mitigation Measures	Required as follows: - Artificial Lighting Strategy Further Mitigation will be required for the loss of a bat roost and foraging habitat. The extent of this mitigation is pending the results of the Phase 2 surveys.
Biodiversity Enhancement Measures	Required as follows: - One bat tube built within every property built (6 total) - Landscaping for the Benefit of Wildlife

Common Dormouse (*Muscardinus avellanarius*)

Dormice are arboreal and are found within species-rich hedgerows and fruiting woody shrubs. The woodland on site contains fruiting hazel and other fruiting woody shrubs and scrub, with linkage out to the wider countryside. Dormice have been recorded within 200m of the site and given the amount of suitable habitat, it is likely that dormice are present on site. As woodland habitat will be removed to facilitate the development, a **Dormouse Presence/Absence Survey is required** to access the presence or absence of dormice on site and advise any mitigation and/or European Protected Species Licence required.

Legal Constraints	Habitats on site have been assessed as capable of supporting common dormouse: - legal constraints apply: legal protection under The Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 Dormouse Presence/Absence Survey required.
Avoidance Measures	Pending the results of the Dormouse Presence/Absence Survey
Mitigation Measures	Pending the results of the Dormouse Presence/Absence Survey
Biodiversity Enhancement Measures	Pending the results of the Dormouse Presence/Absence Survey

Birds



Bird nesting within sweet chestnut trees on the eastern boundary

Introduced Shrubs, Trees, and Woodland on site are likely to support nesting birds. Several unidentified nests were present during the survey at the tops of trees.

All bird species are protected whilst nesting, breeding and rearing young. The hedgerows / trees / scrub / woodland onsite are likely to support nesting birds.

Legal Constraints	Habitats on site have been assessed as capable of supporting bird nesting: - legal constraints apply: legal protection under the Wildlife and Countryside Act 1981 (as amended).
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	Not required.
Mitigation Measures	Required as follows: - Construction Exclusion Zones (CEZs) - Appropriate timing for woody species removal Further Mitigation will be required for the loss of a bird nesting habitat. The extent of this mitigation is pending the results of the Phase 2 surveys.
Biodiversity Enhancement Measures	Required as follows: - One bird brick built within every property built (6 total) - Landscaping for the Benefit of Wildlife

Reptiles

Although the grassland on site is generally too short for reptiles, areas of longer more tussocky grassland exist along the boundary between the woodland and lawn area. A precautionary mitigation strategy is required for clearing this habitat.

Legal Constraints	Habitat on site has been assessed as capable of supporting protected reptile species: - legal constraints apply: legal protection under The Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	Not required.
Mitigation Measures	Required as follows: - Reptile and Amphibian Mitigation Strategy (RAMS).
Biodiversity Enhancement Measures	Not required.

Amphibians

Whilst no ponds exist on site or in the immediate vicinity, Great Crested Newts (GCN) have been recorded in the surrounding area. Data searches found the nearest to be a pond ~400m to the south. Habitats on site, particularly the woodland and areas of more tussocky grassland have potential to support terrestrial phases of amphibians. A precautionary mitigation strategy is required for clearing these habitats.

Legal Constraints	Habitats on site have been assessed as capable of supporting protected amphibian species: - legal constraints apply: legal protection under The Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	Not required.
Mitigation Measures	Required as follows: - Reptile and Amphibian Mitigation Strategy (RAMS).
Biodiversity Enhancement Measures	Not required.

7. Biodiversity Mitigation and Enhancement Details

The ecological mitigation measures and biodiversity enhancements required for the Site have been listed in Section 6 above, against the particular habitat, species and species group for which they are required. This section provides the specific details for each of the mitigation measures and enhancements mentioned.

Enhancement (measures that improve the biodiversity/ecological condition) of all sites post development is a planning requirement. The law, central government planning policy and local planning policy point towards the enhancement of a site's biodiversity as part of the development process.

Ecological enhancement measures must be over and above any avoidance, mitigation and compensation measures required to neutralise the impacts of the development on wildlife. An increased need for effective Enhancement has been reinforced by recent research conducted by a United Nations-backed panel called the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) stating up to million plant and animal species face extinction. Whilst we in the UK are not directly responsible for all of this loss, we can try to protect the threatened species within the UK.

Consequently, enhancement requirements within this report should be seen as the minimum expectations and we would urge all clients to carefully consider how they are able to make positive contributions to protecting and enhancing our natural environment within their planning submissions.

As further Phase 2 Surveys for Dormice and Bats are required, it is not possible to assess the appropriate level of mitigation required. Nonetheless, further mitigation will be required for the loss of woodland and a bat roost on site, with further mitigation for dormice possible required. The extent of this mitigation is pending the results of the Phase 2 surveys required.

Further Enhancements may also be required to ensure the development achieves a net gain in ecological value.

7.1 Construction Exclusion Zones / Buffer Zones

Areas that are being retained should be protected from damage during the groundworks and construction phase of the development by erecting Heras (or similar) fencing around these features. As the existing plan is not clear on which habitats will be retained or cleared it is not possible to give exact locations.

Construction Exclusion Zones reflecting the Root Protection Area (RPA) of individual standard trees will also need to be put in place. RPAs are calculated as an area equivalent to a circle with a radius 12 times the stem diameter of the tree. RPAs are capped at 707m², represented by circle with a radius of 15 metres where the tree is at the centre.

Temporary fencing (Heras or similar) with appropriate signage will be erected at the appropriate distance(s) (as mentioned above). The only exception to this is at existing access points. Heras fencing is not intended to restrict the access of species to other areas of the site, therefore, mindful procedure by site workers and visitors to the site is always necessary.

No development work should be undertaken within the CEZs and no materials, machinery,

chemicals etc. should be stored within these zones. No development or any associated works should be located within these Construction Exclusion Zones. Appropriate signs should be placed at regular intervals along the fencing to ensure everyone on site is aware of the CEZ and understands its relevance (for example CONSTRUCTION EXCLUSION ZONE – NO ACCESS).

Any areas proposed for planting post-development should also be fenced off where possible to prevent compaction of the soil through vehicle movements.

7.2 Appropriate timing for woody species removal

Removal of any woody species/trees within hedgerows or individual trees should be done outside of the bird nesting season of March – September (inclusive). If removal is not possible during this period, careful checks of the hedgerows to ensure no bird nesting is taking place must be conducted by a suitably experienced ecologist prior to works commencing. If breeding birds are found or suspected, clearance work will not be permitted until an ecologist is satisfied that breeding is complete, which may be as late as August or September.

This applies specifically to the removal of woodland, trees, and introduced shrubs on site.

7.3 Artificial Lighting Strategy

Lighting must be kept to the minimum level permissible. LED and/or low-pressure sodium lamps with glass glazing should be utilised instead of mercury or metal halide lamps. This type of lighting can be utilised more directionally and will reduce the range of light wavelengths emitted thus significantly reducing the levels of UV light which may attract increased levels of invertebrate bat prey items. Avoid artificial lights shining on known or potential bat roosts, their access points and their flight paths.

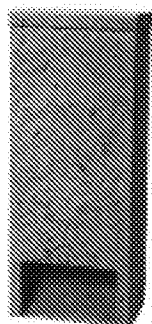
- Light ONLY when and where it is needed for health and safety.
- Prevent light-spill and spread: eliminate bare bulbs, upward pointing lights, keep light near to or below the horizontal. E.g. flat cut-off lanterns. Such light should be positioned to only illuminate the required areas, limiting light spill, both horizontally and vertically. Additionally, hoods, cowls, louvers and/or shields may be utilised to further direct any lighting.
- Decrease light intensity, avoid the UV spectrum: attracting insects is NOT an aim.
- Reduce height of lighting columns. Or allow for lower main beam angles to reduce glare.
- When external lighting is needed for safety reasons, dynamic lighting schemes that are switched on only when needed should be considered. Dynamic lighting schemes are usually triggered via motion sensors by a pedestrian, bicyclist or cars.
- Timer switch on any proposed outdoor lighting to facilitate dark periods.
- For pedestrian lighting, use low level directional light below 3lux with preference at below 1lux.
- Increase spacing between lanterns

It is becoming increasingly common for LPA's to request an independent site lighting strategy and expect it to be submitted as early as the outline stage. Consideration should be given to this prior to submission particularly on larger sites or those with important bat / dormouse habitat / corridors, rather than wait to be compelled to do so.

7.4 Bat Roosting Provision

Bat tubes must be built into all new properties, with one tube for every new property. A total of 6 bat tubes and should therefore be included. Bat tubes/boxes erected on properties offer potential bat roosts and augment the natural roosting opportunities. These tubes/boxes should be erected not less than 3m high and ideally 4m plus.

- Bat tubes must be built into the fabric of the building, ideally on the southern and western aspects, and not bolted on to the outside and are therefore only suited to structures, not trees. A choice of styles is sometimes available, and the most suitable style can be agreed with the LPA.
- Where bat-tubes are unsuited owing to the type of construction of the proposed structures, other bat boxes or specifically designed bat habitation of an equally durable condition may be substituted for bat-tubes (subject to LPA approval)
- Where enhancement recommends bat tubes or bat boxes on structures, aspects of the Artificial Lighting Strategy must be followed to ensure artificial lighting does not shine on the access points /boxes or flight paths.

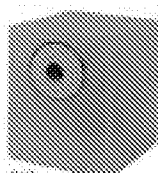


Bat Tube

7.5 Bird Nesting Provision

Bird bricks must be built into all new properties, with one tube for every new property. A total of 6 bird bricks and should therefore be included. In-built bird bricks provide a long-lasting solution. Fixing to trees or external wall mountings will only last as long as the nail / screw or branch lasts. Often this is less than ten years. Built in features are likely to last as long as the structure they are built into which might be hundreds of years. Obviously, there may be occasions where built in solutions are not applicable. LPA approval of external mounted boxes is generally required.

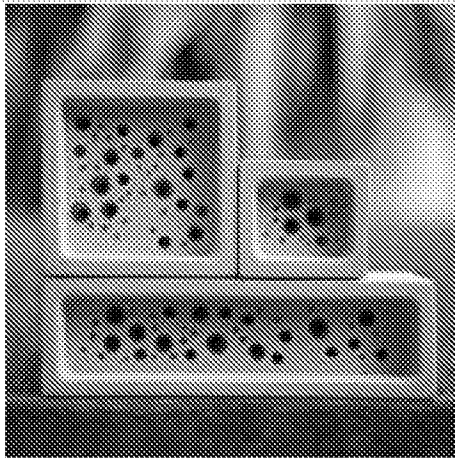
- Only boxes of robust or permanent construction are suitable. Some account must be taken of the potential need to maintain and replace boxes after a number of years in use.
- Boxes/bricks should be positioned with orientation preferably between north and east with external positions of not less than 3m high to avoid cat predation and vandalism.
- Site nest boxes in locations that are accessible for maintenance, but away from bird feeders. Ideally boxes should be a discrete distance away from other nest boxes.



Bird brick 24, 25, 26 to suit
varying bird sizes

7.6 Solitary Bee Provision

One solitary bee brick should be built into every property. Solitary bee bricks can be built into buildings, walls and other structures. Each bee brick provides multiple cavities for solitary bees to lay their eggs. The bricks should ideally be built into south-facing, sunny walls, at between one and two metres above ground level and with nectar sources nearby.



Solitary bee bricks

7.7 Reptile and Amphibian Mitigation Strategy (RAMS).

A precautionary reptile and amphibian mitigation strategy is required to ensure no negative impacts to reptiles or amphibians as a result of the proposed development.

7.8 Landscaping for the Benefit of Wildlife

Landscaping in sympathy with the needs of native wildlife is relevant to all important wildlife species. It helps to support birds by providing plant species which carry seeds, fruits, nuts, and/or support insects (nectar and pollen) upon which birds feed and supports bats by attracting insects to the garden.

The list below is not exhaustive, neither is it prescriptive, and recommendations can be applied with discretion. The implementation of a combination of recommendations here fulfils the obligation of the client/agent to leave the site in an enhanced state.

- ✓ The landscape architect/or appointed person should plant a variety of flowering plants, biased towards native and near-native species. Exotics are not required; however, a selection of exotics to extend the flowering season and potentially provide resources for specialist groups now and in the future, is becoming increasingly important owing to climatic changes, and should be given serious consideration by any with a view to protecting and sustaining present and future biodiversity. Plant holistically for biodiversity value: nectar rich plants/shrubs which yield fruits /nuts of benefit to a multitude of species.
- ✓ Where grass is planted, use a grass mix other than low amenity lawn grass. Plant mixes with diverse grass species support a wealth of insects when allowed to seed and flower before being cut back.
- ✓ Provide green corridors (hedges/trees/water features/lawns or mixed diversity species and beds) with attention to other neighbouring green spaces. The garden itself, when taken as one of many within the neighbourhood, will become part of a wider green corridor.
- ✓ Select a variety of plants that will produce foods in different seasons. For winter residents as well as migrants that return early in spring, plants that hold their fruits throughout the winter ("winter-persistent" plants) are a vital food source.
- ✓ Leave rough areas of vegetation and native trees and shrubs around the vicinity of any replacement building will also maintain nesting opportunities.
- ✓ Avoid pesticide and insecticide use.
- ✓ For garden areas: improve the area of green habitat within the garden wherever feasible and where paved spaces and balconies must be used also consider:
 - Planters and raised beds
 - Courtyard trees, low level shrubs, hedges
 - Planting climbers and creepers.
- Include features such as bird tables and feeders raised up or protected at the base from squirrel or cat ascent.
- Provide shelter using low shrubs, thickets or hedges where birds can nest, perch, and escape from predators.
- Leave tree stumps, dead wood (where safe to do so) tree limbs, leaf piles and compost to encourage insects and worms for birds to feed on.
- Keep a lid on any water butts.
- Appropriate aftercare and management should ensure that these areas are maintained to give optimum benefit to wildlife.

7.9 General Good Practice for Construction Sites

All activities on site should bear in mind the potential for wildlife or the environment being harmed through the process of development from inception to end, with a proactive approach occurring for lawful protection of wildlife and the environment regarding use of materials, machines, chemicals, and human activity on site.

- ✓ Contractors must ensure that no harm can come to wildlife by maintaining the site efficiently, clearing away any material such as wire in which animals can become entangled and preventing access to toxic substances.
- ✓ Any large bore pipes should be capped at the end of the day to reduce the potential for badgers and other wildlife entering and becoming trapped.
- ✓ If there is a substantial delay before development commences, the site should be maintained in a way that would prevent wildlife colonising it and causing constraints in the future. Such management should include mowing grassland at least twice a year and preventing scrub encroachment.
- ✓ Piles of brush wood and or log piles should be carefully inspected for signs of wildlife prior to their removal. This is especially crucial during the period March – September (inclusive) as some species of bird choose such sites to construct their nests. Ideally removal of such features should be done outside of the nesting season. If this is not possible, it is recommended that these features are covered in such a way as to exclude / prevent birds and / or reptiles taking up residence. If nesting birds or reptiles are discovered, work must cease immediately, and ecological advice sought.
- ✓ Erection of signage to inform of any Health and Safety considerations during development and post development for the benefit of residents.
- ✓ If any species is discovered during any stage of the works, any vegetation, materials etc. should be replaced to re-establish a level of cover allowing the animal to move away of its own accord. If required further advice should be sought from Ecological Surveys Ltd (Tel: 01503 240846 or 07736 458609) or Natural England.

8. Conclusions

The proposed development site is considered to be of moderate ecological value with a confirmed bat roost and potential for foraging bats, nesting birds, reptiles, dormice, and great crested newts to be present.

Further information is required regarding the bat roosting in the house and dormouse potential within the woodland on site before it is possible to adequately assess the impact of the proposed development. **Further survey work is therefore required.**

Phase 2 Dormouse Presence/Absence and Bat Emergence Surveys are required.

Mitigation measures have been set out to avoid and reduce the effects/impacts of the development where possible on the important ecological features and the local environment as a whole. However, further mitigation for the loss of woodland (potentially supporting dormice) and a bat roost will be required, with the extent of such mitigation pending the results of the Phase 2 surveys.

Enhancement measures for biodiversity have also been set out and detailed in Section 7.

It is the responsibility of all those involved with the proposed development works at this site to ensure that wildlife protection and nature conservation legislation is complied with throughout the lifespan of the development, at every stage. Care should therefore be taken during all stages of the development and if any protected are discovered they must not be handled; works must stop immediately, and advice sought from a licensed ecologist.

9. References

- AA Route planner. www.theaa.com/route-planner/classic/planner_main.jsp
- Bat Conservation Trust (2009) *Bats and lighting in the UK – Version 3, May 2009*, The Bat Conservation Trust, London.
- Bat Conservation Trust (BCT) "[Landscape and Urban Design for Bats and Biodiversity](#)," by Kelly Gunnell, Gary Grant and Dr. Carol Williams
- Bright P., Morris P., and Mitchell-Jones, A. (2006) *The dormouse conservation handbook*, second edition, English Nature, Peterborough.
- Bright, P., Morris, P. and Mitchell-Jones, T. (2006) *The Dormouse Conservation Handbook*, 2nd Edition. English Nature, Peterborough.
- British Standards Institute (2013) *Biodiversity – Code of practice for planning and development. BS42020: 2013*. BSI Standards Limited, London.
- Chanin and Woods (2003) *Surveying dormice using nest tubes: results and experiences from the South West Dormouse Project*. English Nature Research Report No 524. Peterborough: English Nature.
- CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester. www.cieem.net
- CIEEM (2017a) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2017b) *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.)*. The Bat Conservation Trust, London.
- Cornwall Biodiversity Initiative (CBI) (2011) *Cornwall Biodiversity Action Plan Volume 4: Priority Projects*. CBI, Truro.
- Cornwall Council (2017) *Accommodating swallows, swifts and house martins: Guidance for developers, builders, surveyors, architects and householders*. Cornwall Council, Truro. <https://www.cornwall.gov.uk/media/3626630/Accommodating-swallows-swifts-and-house-martins.pdf>
- Countryside & Rights of Way Act 2000. HMSO.
- DEFRA (2007a) *Securing a Healthy Natural Environment: an action plan for embedding an ecosystems approach*. PB12853. DEFRA, London.
- DEFRA (2007b) *An Introductory Guide to Valuing Ecosystem Services*. PB12852. DEFRA, London.
- Department of the Environment (1997) *The Hedgerows Regulations 1997: A guide to the law and good practice*. Department of the Environment, London.
- English Nature (2001) *Great crested newt mitigation guidelines*. English Nature, Peterborough, ISBN 1 85716 568 3.
- English Nature (2004) *Bat Mitigation Guidelines*, English Nature, Peterborough.
- English Nature (2005) *Reptiles: guidelines for development* English Nature, Peterborough.
- Froglife Advice Sheet 10 (1999) *Reptile survey methods*, Herpetological Conservation Trust, Peterborough.
- Gent, T., and Gibson, S. (2003) *Herpetofauna Workers Manual*, JNCC, Peterborough.

- HM Government (1981) *The Wildlife and Countryside Act 1981*. HMSO, London.
- HM Government (1991) *The Wildlife and Countryside (Amendment) Act*. HMSO, London.
- HM Government (1992a) *Statutory Instrument 1992 No. 2350* [Variations to Schedules 5 and 8 of the Wildlife and Countryside Act]. HMSO, London
- HM Government (1992b) *Protection of Badgers Act 1992*. HMSO, London.
- HM Government (1994) *The Conservation (Natural Habitats, & C) Regulation 1994*. HMSO, London.
- HM Government (1997) *The Hedgerow Regulations 1997*. HMSO, London.
- HM Government (1998) *Statutory Instrument 1998 No. 878* [Variations to Schedules 5 and 8 of the Wildlife and Countryside Act]. HMSO, London.
- HM Government (2000) *The Countryside and Rights of Way Act 2000*. HMSO, London.
- HM Government (2006) *Natural Environment and Rural Communities Act 2006*. HMSO, London.
- HM Government (2010) *The Conservation of Habitats and Species Regulations 2010*. HMSO, London.
- HM Government (2019) *National Planning Policy Framework: February 2019*. HMSO. www.gov.uk/government/publications
- Institute of Environmental Assessment (IEA), 1995. *Guidelines for Baseline Ecological Assessment*, Institute of Environmental Assessment. E&FN Spon, aJn Imprint of Chapman and Hall. London.
- Joint Nature Conservation Committee (2004) *Bat Workers Manual*, Joint Nature Conservation Committee, Peterborough.
- Joint Nature Conservation Committee (JNCC) (1993) *Handbook for Phase 1 Habitat Survey*. JNCC Peterborough.
- Joint Nature Conservation Committee, 2010. *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*. Reprinted by JNCC, Peterborough
- JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. *UK Post-2010 Biodiversity Framework*. July 2012.
- Menneer, Robin (2008a). *Building hedges in Cornwall: How to build a Cornish hedge*. Guild of Cornish Hedgers.
- Menneer, Robin (2008b). *How to look after a Cornish Hedge*. Guild of Cornish Hedgers.
- Morris, P.A., Bright, P.W. & Woods, D. (1990). Use of nest boxes by the dormouse *Muscardinus avellanarius*. *Biological Conservation*. 51: 1-13
- Natural England (2007) *Badgers and Development; A guide to best practice and licensing*. Natural England, Peterborough.
- Natural England (2009) *Protection of Badgers Act (1992) as amended: Interpretation of 'Disturbance' in relation to Badgers occupying a sett*, Natural England, Peterborough.
- Nature crisis: Humans 'threaten 1m species with extinction' (2019) Matt McGrath accessed 06/05/2019 <https://www.bbc.co.uk/news/science-environment-48169783>
- Russ, J. & Montgomery, W. (2002) Habitat associations of bats in Northern Ireland: Implications for conservation. *Biological Conservation* 108: 49-58.
- Stace, C. (2009) *New Flora of the British Isles, Fourth edition*. C & M Floristics, Suffolk.
- The British Standards Institution (2013) *Biodiversity – Code of practice for planning and development. BS42020:2013*. The British Standards Institution Limited.

- The British Standards Institution (2012) *Trees in relation to design, demolition and construction – Recommendations. BS5837:2012*. The British Standards Institution Limited.
- Voigt, C.C. *et al* (2018): *Guidelines for consideration of bats in lighting projects*. EUROBATS Publications Series No. 8. UNEP/EUROBATS Secretariat, Bonn, Germany, 62pp.
- Wildlife & Countryside Act 1981, as amended HMSO
- Williams, C. (2010) *Biodiversity for Low and Zero Carbon Buildings: a technical guide for new build*, RIBA Publishing, London.
www.chaninweb.co.uk/Chanin%20&%20Gubert2012_Lutra_55_1_LOWRES.pdf

Data Search Websites

- Barn Owl Trust www.barnowltrust.org.uk
- Multi Agency Geographical Information for the countryside: www.magic.defra.gov.uk
- National Biodiversity Network Atlas: www.nbnatlas.org
- UK Biodiversity Action Plan: - www.ukbap.org.uk/NewPriorityList.aspx
- Prevent the spread of harmful invasive plants: www.gov.uk/prevent-the-spread-of-harmful-invasive-and-non-native-plants
- <https://freshwaterhabitats.org.uk/projects/million-ponds/pond-creation-toolkit/#Core>

10. Appendices

Appendix A. Flora Species Recorded Onsite During Extended Phase 1 Habitat Survey

DAFOR scale: - Frequency of species on the site: **D**ominant-**A**bundant-**F**requent-**O**ccasional-**R**are.

Seasonal constraints may mean specific species were not identifiable and may be on site but not found.

DAFOR	Common Name	Scientific Name
R	Ash	<i>Fraxinus excelsior</i>
R	Beech	<i>Fagus sylvatica</i>
O	Bent	<i>Agrostis sp.</i>
F	Bramble	<i>Rubus fruticosus</i>
O	Broadleaf dock	<i>Rumex obtusifolius</i>
F	Butchers broom	<i>Ruscus aculeatus</i>
A	Camellia	<i>Camellia japonica</i>
A	Cherry Laurel	<i>Prunus laurocerasus</i>
O	Cocksfoot	<i>Dactylis glomerata</i>
F	Creeping buttercup	<i>Ranunculus repens</i>
F	Cyclamen	<i>Cyclamen persicum</i>
O	Daisy	<i>Bellis perennis</i>
O	Dandelion	<i>Taraxacum sp.</i>
F	Ground ivy	<i>Glechoma hederacea</i>
O	Hazel	<i>Corylus avellana</i>
R	Herb Robert	<i>Geranium robertianum</i>
O	Holly	<i>Ilex aquifolium</i>
R	Iris	<i>Iris sp.</i>
A	Ivy	<i>Hedera helix</i>
R	Lungwort	<i>Pulmonaria officinalis</i>
O	Male fern	<i>Dryopteris filix-mas</i>
O	Mouse ear	<i>Cerastium fontanum</i>
R	Mullein	<i>Verbascum thapsus</i>
F	Nettle	<i>Urtica dioica</i>
O	Oak	<i>Quercus robur</i>
A	Perennial rye-grass	<i>Lolium perenne</i>
R	Petty spurge	<i>Euphorbia peplus</i>
R	Ragwort	<i>Senecio jacobaea</i>
A	Rhododendron	<i>Rhododendron sp.</i>

O	Snow drop	<i>Galanthus nivalis</i>
O	Springy turf moss	<i>Rhytidiadelphus squarrosus</i>
F	Sweet chestnut	<i>Castanea sativa</i>
O	Sycamore	<i>Acer pseudoplatanus</i>
O	Vetch	<i>Vicia sativa</i>
R	Willowherb	<i>Epilobium sp.</i>
O	Wood avens	<i>Geum urbanum</i>
O	Wood sedge	<i>Carex sylvatica</i>
R	Yew	<i>Taxus baccata</i>
O	Yorkshire fog	<i>Holcus lanatus</i>

Appendix B. Summary of the Legislation and Policy relating to Habitats and Species

European Council Birds Directive (CEC, 1979)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. An important part of this Directive is the identification and classification of Special Protected Areas (SPAs) to protected vulnerable bird species listed in Annex 1 of the Directive and regularly occurring migrating species.

European Habitats and Species Directive (CEC, 1992)

The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance.

European Red Data lists (IUCN, 2000)

International Union for Conservation of Nature (IUCN) and the European Commission have been working together on an initiative to assess around 6,000 European species according to IUCN regional Red Listing Guidelines. Through this process they have produced a European Red List identifying those species which are threatened with extinction at the European level so that appropriate conservation action can be taken to improve their status.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

This Act is the primary legislation that protects animals, plants and certain habitats in the UK. It is the means by which the Bern Convention and the Birds Directive and Habitats Directive are implemented in Britain. Protected birds, animals and plants are listed in Schedules 1, 5 and 8 respectively of the Wildlife and Countryside Act.

Schedule 1 Part 1 – Birds which are protected by special penalties at all times from being intentionally killed, injured, or taken and whose eggs, nests or dependent young are also protected from being disturbed.

Schedule 5 Section 9 Part 1 (killing/injuring) – Animals which are protected from being intentionally killed or injured.

Schedule 5 Section 9 Part 1 (taking) – Animals which are protected from being taken.

Schedule 5 Section 9 Part 4a – Animals which are protected from intentional damage to, destruction of, or obstruction of access to any structure or place used for shelter or protection.

Schedule 5 Section 9 Part 4b – Animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection.

Schedule 5 Section 9 Part 4c – Animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed.

Schedule 6 – Animals which are protected from being killed or taken by certain methods under Section 11(1). The methods listed are: self-locking snares, bows, crossbows, explosives (other than ammunition for a firearm), or live decoys.

Schedule 8 – Plants and fungi which, subject to exceptions, are protected from: intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

Schedule 9 – Plant and animal species that are prohibited from introducing into the wild as they may cause ecological or environmental harm or where they pose a threat to the native habitats and species. Under Schedule 9 of the Wildlife & Countryside Act 1981 (as amended)

it is a criminal offence to cause any of 48 non-native plant species (6/4/2010) and (non-native animals) to spread into the wild where they cause damage to the environment/economy/health/lifestyle.

The site owner has a responsibility to:

- Prevent invasive, non-native plants on their land spreading into the wild and causing a nuisance.
- Prevent harmful weeds on their land spreading onto a neighbour's property

The owner of the site must not plant in the wild or cause certain invasive and non-native plants to grow in the wild. This can include moving contaminated soil or plant cuttings. If this occurs there is a fine or prison term for up to 2 years. The site owner is not legally obliged to remove these plants or to control them on site. However, at the point of change: **development, mulching, earth moving operations**: it is important that they are identified, and their spread controlled in the most appropriate way.

Environmental Protection Act 1990

Environmental Protection Act 1990 allows for the potential classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed with the result that waste containing this species must be disposed of in accordance with the duty of care set out in section 34 of the Act. The Environment Agency have issued guidance which will be of use in complying with the duty of care.

In addition:

- Any Schedule 9 plant material, or soil containing root or rhizome fragments, may be classified as 'controlled waste' under the Environmental Protection Act 1990 (EPA).
- In addition to a criminal prosecution under the Wildlife & Countryside Act, infringement of the EPA can result in an *unlimited fine*.
- The owner may also be held liable for costs incurred from the spread into adjacent properties and for disposal of contaminated soil off site during development, which later leads to the spread on another site.

Protection of Badgers Act 1992

Both badgers and their setts are protected, making it illegal to kill, injure or take, possess or cruelly ill-treat badgers or to interfere with a badger sett (including blocking tunnels or damaging the sett in any way).

The Hedgerow Regulations 1997

Any hedgerows classified as 'important' under the 1997 Hedgerows Regulations cannot be removed without a Hedgerow Removal Notice issued by the relevant Local Authority unless previously approved as part of a planning permission. The UK Biodiversity Action Plan (BAP) now classifies any native hedge over 20m in length as a priority habitat feature. Priority hedgerows should be those comprising 80% or more cover of any native tree/shrub species. The Local Authority is the arbiter as to classification of hedgerows.

The Countryside and Rights of Way (CROW) Act 2000

This Act increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation.

Natural Environment and Rural Communities Act 2006

The Act made amendments to the both the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way (CROW) Act 2000. For example, it extended the CROW biodiversity duty to public bodies and statutory undertakers. The Act also makes provisions in respect of pesticides harmful to wildlife, the protection of birds, and in respect of invasive non-native species, and also alters enforcement powers in connection with wildlife protection, and extends time limits for prosecuting certain wildlife offences.

Section 41 of the Act requires that the Secretary of State publishes a list of species of flora and fauna considered to be of principal importance for the purpose of conserving biodiversity in England. The list is intended to be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

The UK BAP list of 1149 species, published in 2007, was used to draw up a list of 938 species, also known as the 'England Biodiversity List', comprising those species found in England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the list because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

The list of species of principal importance was first published in 2002 by DEFRA under Section 74 of the Countryside and Rights of Way (CROW) Act 2000, and was identical to the UK BAP list at that time. The CROW Act Section 74 list has now been replaced by the Section 41 list.

Sixty-five (65) habitats are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these habitats to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. These habitats are the subject of National and Local Biodiversity Action Plans.

The Anti-social Behaviour, Crime and Policing Act 2014

Anti-social Behaviour, Crime and Policing Act 2014 enables community protection notices to be served by local authorities or the Police against individuals who are acting unreasonably and who persistently or continually act in a way that has a detrimental effect on the quality of life of those in the locality. These powers are designed to be flexible and could be used to address specific problems caused by widespread species such as Japanese knotweed.

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 consolidate and update the Conservation of Habitats and Species Regulations 2010, and transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive") and elements of Directive 2009/147/EC on the conservation of wild birds ("the Birds Directive") in England, Wales, and to limited extent, Scotland and Northern Ireland.

The objective of the Habitats Directive is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Directive lays down rules for the protection, management and exploitation of such habitats and species.

The Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species. These sites form a network termed Natura 2000 and include Special Areas of Conservation and Special Protection Areas.

Circular 06/2005 Biodiversity and geological conservation – statutory obligations and their impact within the planning system

This circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. It complements the national planning policy in the National Planning Policy Framework and the Planning Practice Guidance.

UK Post-2010 Biodiversity Framework, 2012

The 'UK Post-2010 Biodiversity Framework', published in July 2012, succeeds the UK BAP and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic thinking.

National Planning Policy Framework, 2019

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. It contains a number of policies relating to ecology including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures". Under NPPF, local planning authorities have an obligation to promote the preservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species as identified under the Natural Environment and Rural Communities Act (2006). Local Planning Authorities will seek to produce a net gain in biodiversity, by requiring developers to design wildlife into their plans and to ensure that any unavoidable impacts are appropriately mitigated for. The NPPF 2019 version replaces the first NPPF published in March 2012 and includes minor clarifications to the revised version published in July 2018.

The natural choice: securing the value of nature (2011) (Natural Environment White Paper)

This White Paper outlines the Government's vision for the future of landscape and ecosystem services.

Biodiversity 2020

This is a national strategy for England's wildlife and ecosystem services based on the White Paper.

Appendix C. Optimum Protected Species Survey Times

BATS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Bat Scoping												
Bat Emergence												
Bat Activity												
Bat Hibernation												

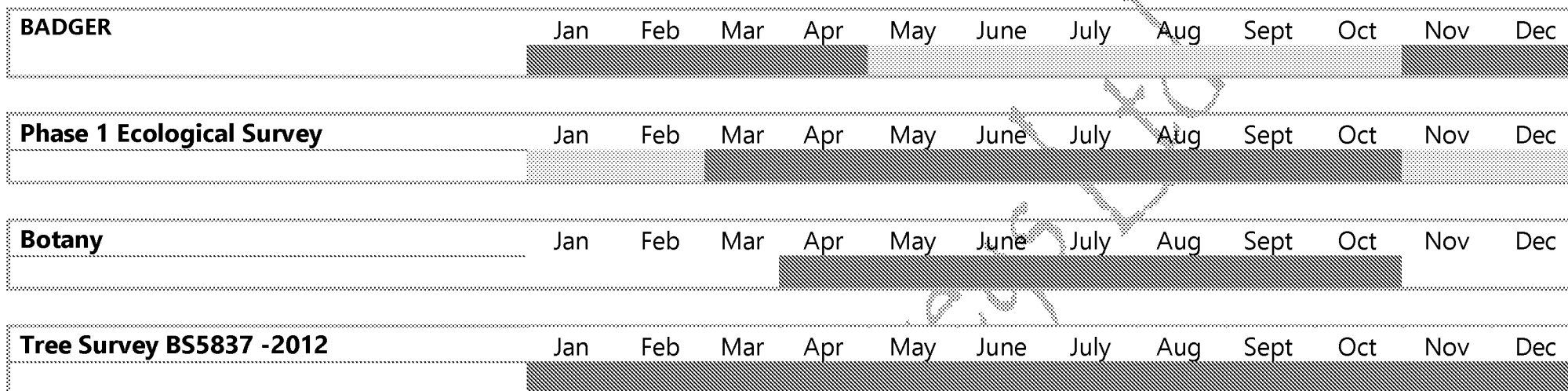
BIRDS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Birds Breeding												
Birds -Other												

GREAT CRESTED NEWTS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
GCN - Habitat Assessment												
GCN - Presence / Absence												
eDNA – Survey												

AQUATIC ANIMALS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Water Vole												
White Clawed Crayfish												
Otter												

DORMOUSE	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

REPTILE	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec



Dark Green = Approximate Optimal Survey Period  Light Green = Approximate Sub-Optimal Survey Period. 

Owing to the vagaries of the English climate and the seasonal variation between different parts of the Country, the optimal Survey period might vary by several weeks from this calendar. This should be borne in mind when determining Planning Applications

Appendix D. Assessing the Potential Value for Buildings for Roosting Bats

Survey Method of Buildings.

Where appropriate, the building exteriors and interiors are searched visually, using binoculars, for field evidence of bats, with particular attention being paid to sheltered areas such as window ledges and pipes where bat droppings might lie undisturbed from the weather, insect prey remains, urine stains, oil stains from bats repeatedly moving over a small area and polishing the surface, and the potential presence of bats either dead or alive.

Classification Criteria

It should be noted that the grading system below only reports on the situation at the time of survey; should bat activity levels change after the initial survey, or should the buildings be modified (for example if roof tiles are removed or fascia boards develop cracks), the category may need revision.

Category (Potential value)	Description
Please note: Intermediate categories (e.g. Low – Moderate value) may apply.	
No/Negligible value	Buildings with no or very few features capable of supporting roosting bats. Often buildings are of 'sound' well- sealed structure or have a single skin and no roof void. They tend to have high interior light-levels, and little or no insulation. Buildings without any roofs may also fall into this category.
Low value	Buildings of largely unsuitable construction, but with a few features of potential value to bats (e.g. gaps above windows, apparently shallow crevices). No supporting evidence (e.g. droppings / staining) found. Buildings may be surrounded by poor or sub-optimal bat foraging habitat, as is often the case in urban-centre locations.
Moderate value	Buildings usually of brick or stone construction with a number of features of obvious potential value to roosting bats e.g. loose roof / ridge tiles, gaps in brickwork, gaps under fascia boards, and/or warm sealed roof-spaces with under-felt.
High value	Buildings with a large number of features of obvious potential value to bats (as above). Bats may be suspected to roost within the building (at least at certain times of year), but no supporting evidence found.
Confirmed roost	Bats discovered roosting within the building or recorded emerging from / entering the building at dusk and / or dawn. Building found to contain conclusive evidence of occupation by bats, such as bat droppings. A confirmed record (as supplied by an established source such as the local bat group) would also apply to this category.

Appendix E. Bat Activity and Bat Emergence Survey Information

Survey Method of Buildings.

Where appropriate, the building exteriors and interiors are searched visually, using binoculars, for field evidence of bats, with particular attention being paid to sheltered areas such as window ledges and pipes where bat droppings might lie undisturbed from the weather, insect prey remains, urine stains, oil stains from bats repeatedly moving over a small area and polishing the surface, and the potential presence of bats either dead or alive.

BCT Tree Categories 2016

- **1*** - Tree with multiple, highly suitable features capable of supporting larger roosts.
- **1** - Tree with definite potential, supporting fewer suitable features than Category 1* trees or capable of supporting roosts for single/low numbers of bats.
- **2** - Tree with no obvious potential for roosting bats although due to its size and maturity the tree may support some features with limited potential to support bats.
- **3** - Tree with no roosting potential.

Development and Planning Trigger for Bat Surveys Bat Emergence

The Emergence Surveys are required to confirm the species, extent of use (in terms of numbers of bats), type of bat use (in terms of seasonality and functionality of use) and bat access points. These details are required to ascertain the requirement for a Natural England EPSL and to provide the information **required by Natural England should** an application prove necessary.

It is dependent upon the results of Emergence Surveys as to whether Natural England (NE) European Protected Species Licences (EPSL) will be required prior to any construction work commencing. Protected Species surveys, such as bat emergence surveys, cannot be conditioned by the LPA and must be completed prior to Planning Applications being determined. Bat Conservation Trust (BCT) guidelines recommend the level of Bat Emergence Surveys required for each circumstance.

Development and planning trigger list for bat surveys, which can be adapted to local circumstances, taken from the Association for Local Government Ecologists (ALGE) template for biodiversity and geological conservation validation checklists 2007, available from <http://alge.org.uk/publications/index.php>

- (1) **Conversion, modification, demolition or removal of buildings (including hotels, schools, hospitals, churches, commercial premises and derelict buildings) which are:**

- Agricultural buildings (e.g. farmhouses, barns and outbuildings) of traditional brick or stone construction and/or with exposed wooden beams;

- Buildings with weather boarding and/or hanging tiles that are within 200m of woodland and/or water;
- Pre-1960 detached buildings and structures within 200m of woodland and/or water;
- Pre-1914 buildings within 400m of woodland and/or water;
- Pre-1914 buildings with gable ends or slate roofs, regardless of location;
- Located within, or immediately adjacent to woodland and/or immediately adjacent to water;
- Dutch barns or livestock buildings with a single skin roof and board-and-gap or Yorkshire boarding if, following a preliminary roost assessment, the site appears to be particularly suited to bats.

(2) **Development affecting built structures:**

- Tunnels, mines, kilns, ice-houses, adits, military fortifications, air-raid shelters, cellars and similar underground ducts and structures; unused industrial chimneys that are unlined and brick/stone construction;
- Bridge structures, aqueducts and viaducts (especially over water and wet ground).

(3) **Floodlighting of**

- Churches and list buildings, green space (e.g. sports pitches) within 50m of woodland, water, field hedgerows or lines of trees with connectivity to woodland or water;
- Any building meeting the criteria listed in (1) above.

(4) **Felling, removal or lopping of:**

- Woodland;
- Field hedgerows and/or lines of trees with connectivity to woodland or water bodies;
- Old and veteran trees that are more than 100 years old;
- Mature trees with obvious holes, cracks or cavities, or that are covered with mature ivy (including large dead trees).

(5) **Proposals affecting water bodies:**

- In or within 200m of rivers, streams, canals, lakes, reed beds or other aquatic habitats.

(6) **Proposal located in or immediately adjacent to:**

- Quarries or gravel pits;
- Natural cliff faces and rock outcrops with crevices or caves and swallets.

(7) **Proposals for wind farm developments**

- of multiple wind turbines and single wind turbines (depending on the size and location) (NE TIN 051 – undergoing updates at the time of writing)

(8) **All proposals in sites where bats are known to be present¹**

- This may include proposed development affecting any type of buildings, structures, features or location.

Notes:

1. Where sites are of international importance to bats, they may be designated as SACs. Developers of large sites 5-10km away from such SACs may be required to undertake a HRA.

BCT Emergence and Activity Guidelines

Bat Emergence Survey Requirements

Extracted from - Table 7.3 & 7.1 BCT Recommended Minimum Survey **Effort**

Low Roost Suitability	Moderate Roost Suitability	High / Confirmed roost Suitability
One Survey visit – One dusk or dawn re-entry survey	Two separate survey visits – One dusk and one dawn re-entry survey	Three separate survey visits – at least one must be a dawn re-entry and one a dusk emergence, the other can be either.

Structures that have been categorized as low potential can be problematic and the number of surveys required should be judged on a case by case basis. If there is a possibility that quiet calling, late emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

Multiple survey visits should be spread out to sample as much of the recommended survey period as possible, it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

EMERGENCE – RE-ENTRY Survey Dates

May to August (structures) No further survey required (trees)	May to September with at least one between May and August	May to September with at least two, between May and August
--	---	--

September surveys are both weather and location dependent. Conditions may become unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. Multiple survey visits should be spread out as much as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse) if there is potential for a maternity colony then consideration must be given to detectability. A survey on 31st august followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Bat Activity Survey Requirements

Extracted from - Table 8.3. BCT Recommended Minimum Survey Effort.

Transect/spot count/timed search surveys		
Low Habitat Value	Moderate Habitat Value	High / Confirmed Habitat Value
One Survey visit per season (Spring- April/May, summer- June/July/August, autumn- September/October) in appropriate weather conditions for bats. Further surveys may be required if these survey visits reveal higher levels of bat activity than predicted by habitat alone.	One survey visit per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24 hr period.	Up to two survey visits per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24hr period.
Automatic / static bat detector surveys		
One location per transect, data to be collected on five consecutive nights per season (spring- April/May; summer- June/July/August; autumn- September/October) in appropriate weather conditions for bats.	Two locations per transect, data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats.	Three locations per transect; data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats)
Refer to BCT guidelines document Table 8.3 for further details and dependent conditions where the survey effort is not straightforward.		

Appendix F. Wildlife Crime

<http://www.nwcu.police.uk/what-is-wildlife-crime/>

In general, wildlife crime is any action which contravenes current legislation governing the protection of the UK's wild animals and plants.

A wildlife crime may also be reported and recorded where advice has been given regarding the potential or actual presence of a protected species within a habitat with that habitat then removed/impacted causing actual disturbance/harm/death to that species. Examples in relation to this report may be seasonally pertinent but could include cutting back or removal of a hedgerow where birds and dormice are nesting; removing or doing works to trees where bats roost; cutting grass where reptiles such as slow-worms are inhabiting; filling in or blocking access to badger setts. Specific legislation should be referred to regarding the protection of any animal species or habitat.

Ecological Surveys Ltd

Appendix G. Habitats Regulation Assessment (HRA)

Appropriate assessment (or 'Habitats Regulation Assessment', HRA) is one of the most powerful tools currently available to control the environmental impacts of development. Whereas sustainability appraisal is a decision-informing tool, appropriate assessment is often described as a decision-making tool because it has the potential to stop development.

Appropriate assessment tests whether a plan or a project is likely to have a significant negative impact on any:

- Special Protection Area (SPA) – a European designation which protects birds
- Special Area of Conservation (SAC) – a European designation which protects habitats
- RAMSAR site – a European designation which protects wetlands.

Jointly, these are called 'European sites'. Appropriate assessment does not apply to other designations, like Sites of Special Scientific Interest (SSSI) or Areas of Outstanding Natural Beauty (AONB).

If the proposed development has the potential to impact up on any of the European sites, the LPA can request an HRA be conducted. The responsibility for conducting such an HRA lies with the LPA, but they can insist that all relevant information is provided to them by the developer.

Proximity to a site is not the defining factor, potential 'impact' is, and for large projects this could be up to 15km from the site. The closer to a protected site, the more likely it is that an HRA will be required, even for a very small site.

Appendix H. Bat Roost Warning Sign

Please print off the below and attached it to any loft hatches or other human access points into a known bat roost.

Bat Conservation Trust

Tel: 0345 1300 228 www.bats.org.uk



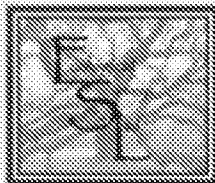
Natural England Tel: 0300 060 3900

<https://www.gov.uk/government/organisations/natural-england>

KNOWN BAT ROOST

ALL BATS AND THEIR ROOSTS ARE
PROTECTED BY LAW

**DO NOT ENTER UNLESS YOU ARE A BAT
LICENCE HOLDER or HAVE A BAT LICENCE
HOLDER PRESENT**



*This notice should be displayed prominently to prevent
unauthorised and illegal entry into a known bat roost*

A

Ecological Surveys Ltd