



Preliminary Ecological Appraisal (PEA)



Alderbrook House

Union Lane

Kingsclere

Hampshire

RG20 4SS

Grid reference: SU 52874 59654

May 2023

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1. Contract Details

Preliminary Ecological Appraisal: Extended Phase 1 Ecology Survey	
Grid Reference:	SU 52874 59654
Client:	Georgina Goldsbrough
Architect/Planning Consultant:	Lasseter Downie
Date of Survey:	03/04/2023
Date of Report:	24/05/2023
Report Reference:	PEA_AlderbrookHouse_Goldsbrough_May2023
Associated Reports Reference:	n/a
Workflow Number	PEA2023126/BNG2023126
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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. 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 (EclA) 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 (EclA).

Many PEAs 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, or developments taking place in locations which are not of high biodiversity value, without upgrading to a full EclA.

Please Note: if the PEA reveals the presence of protected / priority species and / or habitats or the potential for the proposal to impact upon protected sites, it may be necessary to upgrade the PEA into an EclA to ensure its acceptance by the LPA.

2. Non-technical Summary

Proposed development:	Construction of one dwelling with associated driveway and parking, in an existing garden.
Purpose of the report:	To present the results of the Extended Phase 1 Habitat Survey undertaken at Alderbrook House, Union Lane, Kingsclere, Hampshire, hereafter referred to as 'the 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 its own to submit with a planning application, or does it require upgrading to an Ecological Impact Assessment (EcIA)?	This report is NOT considered sufficient for the size and scale of predicted impacts as a result of the proposal – see <i>Further Survey Work</i> section

Further Survey Work	<ul style="list-style-type: none"> - eDNA great crested newt survey in nearby pond (1 April – 15 June) – Now Completed - Phase 2 common dormouse survey if more than 10m of hedgerow being removed
Further Assessment or Mitigation Method Statements	<ul style="list-style-type: none"> - Pending outcome of eDNA great crested newt survey - The results of the eDNA analysis produced negative results. A report will be provided to evidence this.
Habitat Regulation Assessment (HRA) likely?	<ul style="list-style-type: none"> - It is considered unlikely that an HRA will be requested by the Local Planning Authority (LPA) – albeit that this is not our decision to make.
Important Ecological Features (IEFs)	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	<p>Onsite:</p> <ul style="list-style-type: none"> - None <p>Offsite:</p> <ul style="list-style-type: none"> - None
IEF Habitats	<p>Onsite:</p> <ul style="list-style-type: none"> - Free-standing trees: provide potential habitat for protected species such as nesting birds and foraging and commuting bats - Native species-poor hedgerow: provides potential habitat for protected species such as nesting birds,

IEF Species	<p>foraging and commuting bats, common dormouse and West European hedgehog</p> <p>Offsite:</p> <ul style="list-style-type: none"> - Lowland mixed deciduous woodland Habitat of Principal Importance (adjacent to eastern site boundary) - Running water: river (provides potential habitat for protected species such as foraging bats, European water vole and commuting Eurasian otter) - Standing water: ponds (provides potential habitat for protected species such as foraging bats and great crested newt) <p>Onsite:</p> <ul style="list-style-type: none"> - Bats: potential for foraging and commuting - Common dormouse (<i>Muscardinus avellanarius</i>): potentially onsite - West European hedgehog (<i>Erinaceus europaeus</i>): potentially onsite - Nesting birds: potentially onsite - Reptiles: potentially onsite - Amphibians including great crested newt (<i>Triturus cristatus</i>): potentially onsite <p>Offsite:</p> <ul style="list-style-type: none"> - Eurasian otter (<i>Lutra lutra</i>) - European water vole (<i>Arvicola amphibius</i>)
<p>Invasive Non-native Species (Schedule 9 species)</p> <p>If present, you have a legal obligation to avoid spreading these plants into the wider environment</p>	<ul style="list-style-type: none"> - On site: None recorded - In the immediate vicinity: None
Avoidance Measures	<p>You must avoid impacts to the following habitats:</p> <ul style="list-style-type: none"> - Longer grass margins along northern and western boundaries (potential for reptiles) - Lowland mixed deciduous woodland (adjacent offsite) - Running water: river (adjacent offsite) - Standing water: ponds (adjacent offsite)
Mitigation Measures	<ul style="list-style-type: none"> - Construction Inclusion Zone to contain construction and works area and protect adjacent habitats - No development within 10m (minimum) of the adjacent river and ditches

	<ul style="list-style-type: none"> - Appropriate timing of removal and cutting back of trees (undertaken between October and February) - Staged clearance of hedgerow removal to protect common dormouse - Replacement tree planting - Replacement hedgerow planting - Artificial Lighting Strategy - Covered trenching and capped pipework - Access for wildlife including mammals and reptiles across developed site - General good practice during groundworks and construction phases <p>Further mitigation measures may be required pending outcome of eDNA great crested newt survey</p>
<p>Enhancement Measures The LPA have an obligation to ensure that all developments result in a 'net biodiversity gain'. Consequently, even if there are no perceived negative biodiversity impacts, you will still have to provide some form of biodiversity enhancement.</p>	<ul style="list-style-type: none"> - Management of hedgerows for wildlife - Maintenance of longer grass margins along northern and western boundaries - The inclusion of one built-in bird box and one bat tube in the new dwelling - Inclusion of a solitary bee brick into a wall of the new dwelling - Landscaping to benefit wildlife <p>Further enhancement measures may be required pending outcome of eDNA great crested newt survey</p>
<p>Landscape and Ecological Management Plan (LEMP) A LEMP clarifies the timings and process which must be followed to ensure the biodiversity protection and enhancement of the site, during and post-development, as well as landscape considerations.</p>	<ul style="list-style-type: none"> - Not recommended for this site.
<p>Biodiversity Auditing and Accounting (Biodiversity Metric 4.0)</p>	<ul style="list-style-type: none"> - Habitat Units net change: -0.18 (representing a loss of 10.75%). - Hedgerow Units net change: +1.58 (representing a gain of 4293.35%).
<p>Important Advisory</p>	<p>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</p>

	be discovered on site, all works in the vicinity must cease immediately and ecological advice sought urgently.
Other relevant information / advice	<ul style="list-style-type: none"> - The LPA should ensure that any mitigation and compensation measures identified in this report, together with enhancement recommendations are either 'conditioned' where appropriate, or that full permission is withheld pending the agreement of mitigation, compensation (where necessary) and enhancement measures.

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. Ecological Surveys Ltd has **not** been informed of any previous surveys undertaken on this site that need to inform this report.

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 the western section of garden at Alderbrook House, along Union Lane, approximately 500m north of Kingsclere. It is situated in a rural location with arable fields to the immediate west and north, with a tree-lined tributary of the River Enborne located adjacent to a section of the eastern site boundary.

The area surveyed is approximately 0.5ha in extent and the Site location is shown in Figure 3.1.

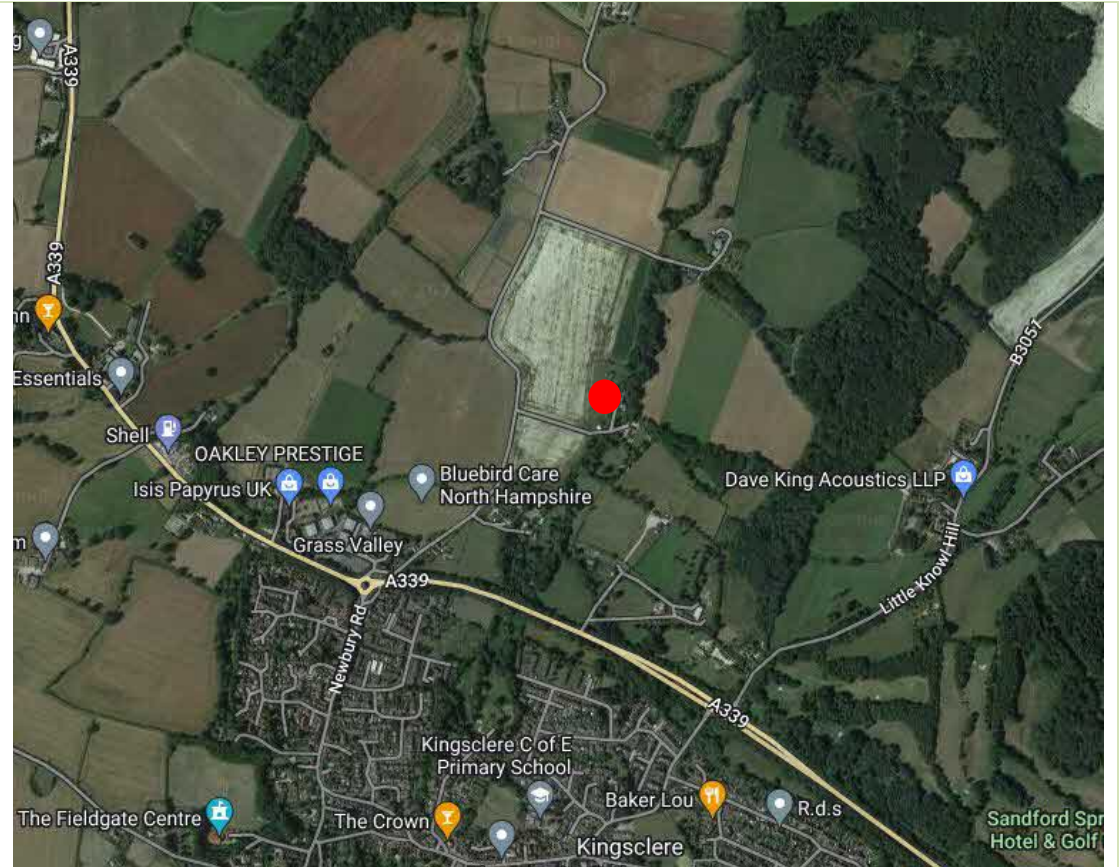
3.3 Proposed Development

The proposed development comprises the construction of one dwelling with associated driveway, parking and gardens. The layout of the proposed development is given in Figure 3.2.

Figure 3.1 Location of Proposed Development

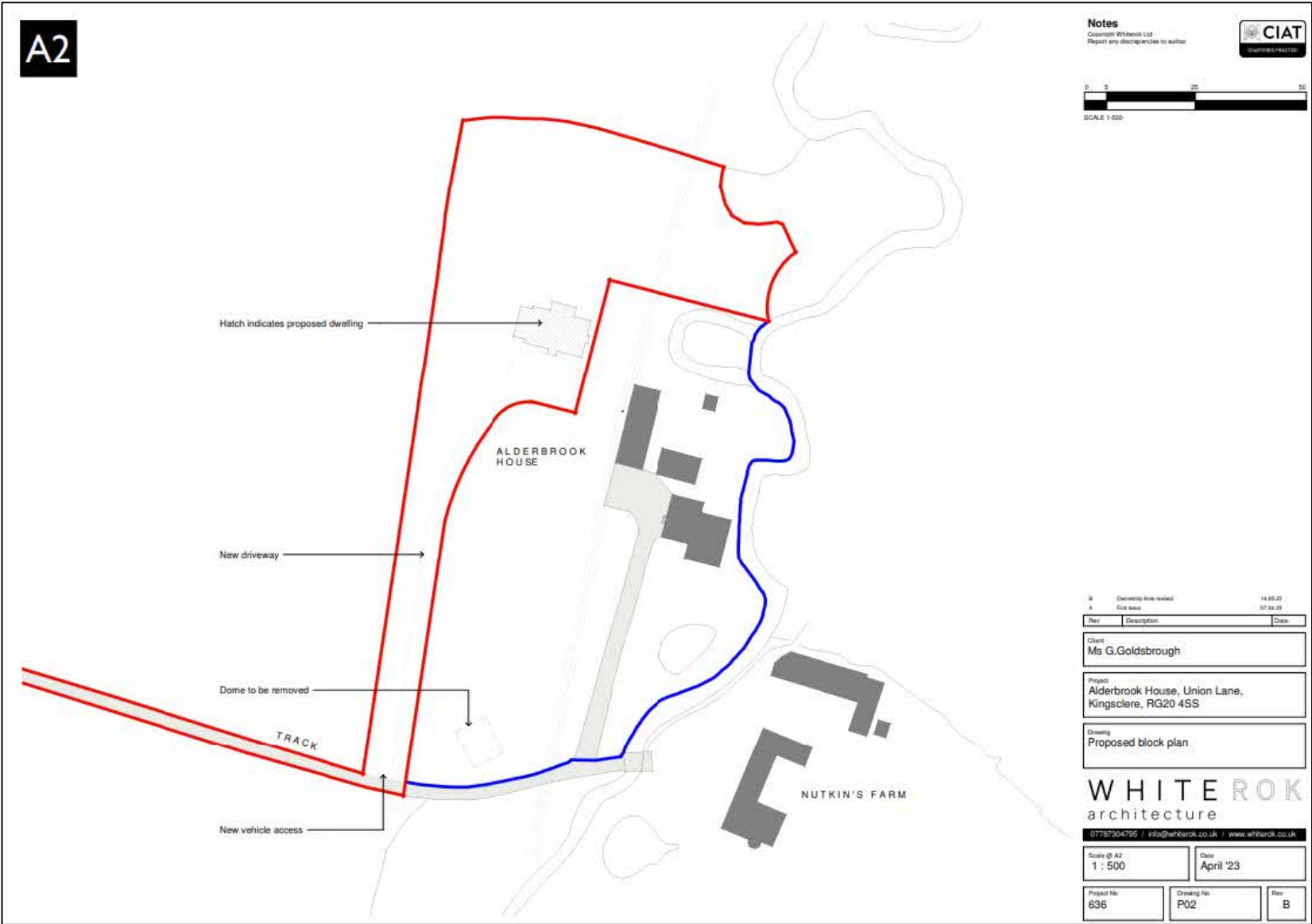


Location of the site



Wider landscape location to put site in context

Figure 3.2 Proposed Site Layout



4. 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.

4.1 Desktop Survey

A desk-top survey was undertaken, collating existing data for the following relating to both the Site itself and the area within a 2km 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](#)).

A biological records search was commissioned from the Hampshire Biodiversity Information Centre (HBIC) and where appropriate details are included within this report.

4.2 Field Survey

A field survey was undertaken by Paul Diamond RHS Cert (Hort), BSc (Hons), MSc, MCIEEM, MArborA on 3 April 2023 and the weather was dry and sunny with good visibility.

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 Himalyan 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.

4.3 Survey Constraints

All areas of the Site were readily accessible and the time spent on site was 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.

4.4 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 175 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, 2021a) 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 2021, Section 15. Conserving and enhancing the natural environment, paragraph 174]

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 2021 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 integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'

[Taken from NPPF 2021, Section 15. Conserving and enhancing the natural environment, paragraph 180]

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.

4.5 Biodiversity Impact Assessment: Biodiversity Losses and Gains

The biodiversity impact assessment calculations, to determine the biodiversity losses and gains associated with the proposed development have been undertaken using the Department for Environment, Food and Rural Affairs (Defra)/Natural England Biodiversity Metric 4.0. This metric uses habitat to describe biodiversity, which is converted into measurable 'biodiversity units' according to the area of each type of habitat. The metric scores different habitat types (e.g. woodland, grassland) according to their relative biodiversity value and adjusts this according to the condition and location of the habitat. Where new habitat is created or existing habitat is enhanced then the associated risks of doing so are factored into the metric.

The metric can be used as an auditing tool to quantify the biodiversity value of habitats on a patch of land and it can be used to calculate the losses and gains in biodiversity from actions such as development or from positive conservation management.

It should be noted that the metric for biodiversity offsetting only considers habitats, both those currently present on site and those proposed as mitigation and biodiversity enhancements for the proposed development. The metric does not take account of species onsite, or enhancements proposed to delivery biodiversity gain for species (except where they equate to gain in semi-natural habitats).

5. 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

5.1 Designated Sites

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

Designation	Name (if applicable)	Distance
Statutory Sites		
Special Area of Conservation (SAC):	None within 2km	n/a
Special Protection Area (SPA):	None within 2km	n/a
RAMSAR:	None within 2km	n/a
World Heritage Site:	None within 2km	n/a
Site of Special Scientific Interest (SSSI):	None within 2km	n/a
Areas of Outstanding Natural Beauty (AONB):	North Wessex Downs	1.2km to the south-west
National Nature Reserve (NNR):	None within 2km	n/a
Local Nature Reserve (LNR):	None within 2km	n/a
Non-statutory Sites		
Sites of Importance for Nature Conservation (SINCs)	Strokins Farm Alder Grove & Fen	~130m to the east
	Haughboys Moor/Maggotty Moor Copses	~400m to the east
	Longcroft Road Fen	~430m to the south
	Strokins Road Fen	~460m to the south
	Parsons Grove	~610m to the north-west
	George Street Fen	~660m to the south-east
	Birchwood Copse	~830m to the north-west
	Sandford Wood West	~930m to the south-east
	Alder Strip at Upper House Farm	~930m to the north
	St Mary's Churchyard, Kingsclere	~970m to the south
	Norley & Summer Copses	~1.0km to the east
	Skittle Hill Copse & The Herrent	~1.2km to the north-east
Upper House Farm Copse	~1.2km to the north	

Water Close Copse	~1.2km to the north-west
Pitchorn Copse	~1.2km to the north-west
Morrell's & Clinker's Copses	~1.3km to the east
Northwood Copse Remnants	~1.3km to the west
Broom Close Copse Complex	~1.4km to the north-east
Kingsclere Recreation Ground	~1.4km to the south
Skittle Hill	~1.5km to the north-east
Summer's Copse Meadow	~1.5km to the east
Fox's Lane Field Path, Kingsclere	~1.5km to the south-west
Catt's & Redlands Copses	~1.6km to the north-west
Frobury Park Copse	~1.7km to the west
Northwood Copse	~1.9km to the north-west

The Site lies within a SSSI Impact Risk Zone, but the type of development (rural residential) does not require Natural England to be consulted.

A Habitats Regulations Assessment (HRA) is unlikely to be required on this site due to the distance to the nearest European Site; Kennet and Lambourn Special Area of Conservation (SAC) is the closest, lying approximately 6.8km to the north-west of the Site. This SAC is unlikely to be impacted by the proposed development. Refer to [Appendix G. Habitats Regulation Assessment \(HRA\)](#) for details.

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

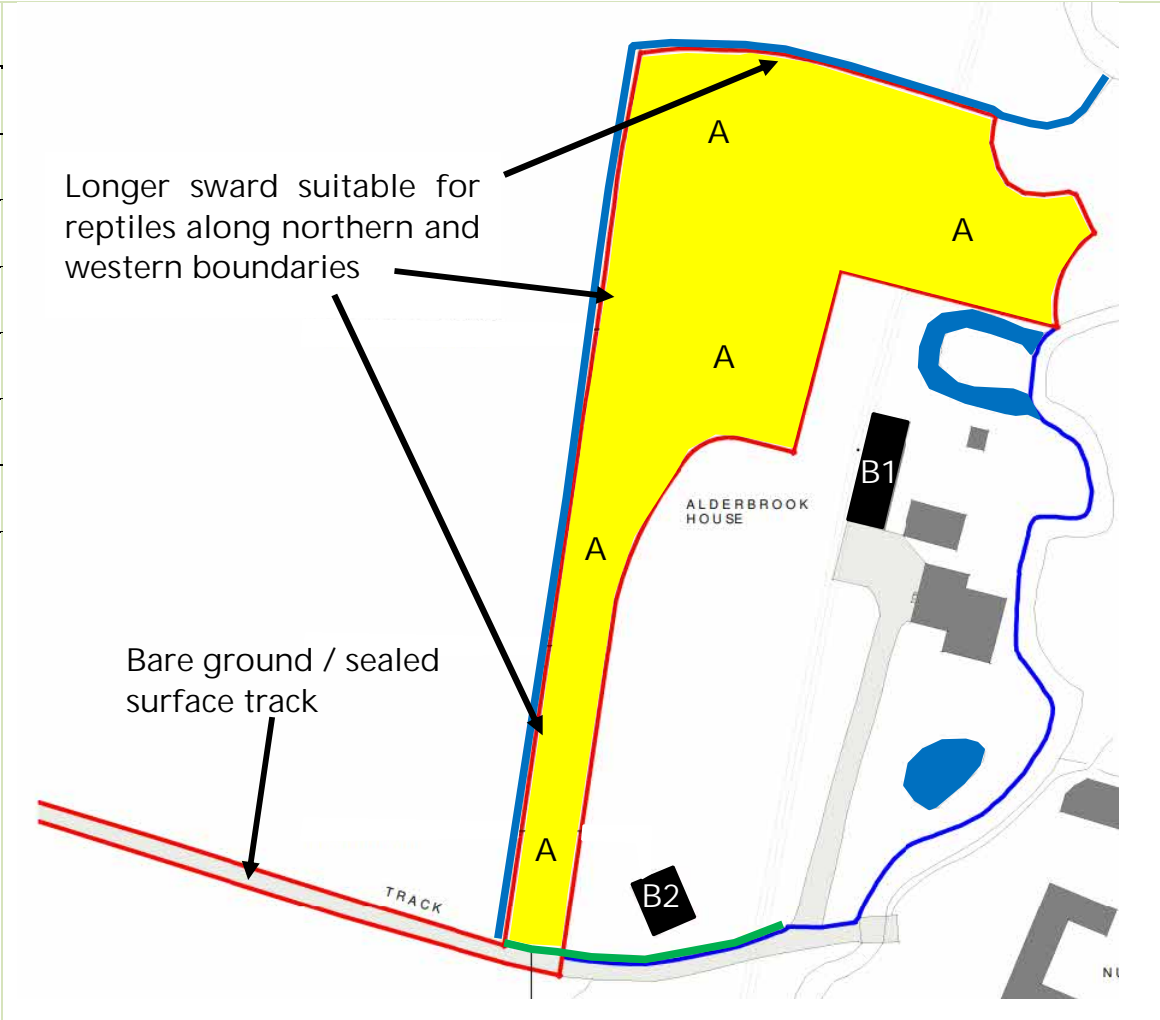
This section details the habitats present on the Site and recorded during the Extended Phase 1 Habitat Survey, along with important habitats within the vicinity of the site. Figure 5.1 maps the Phase 1 habitats recorded onsite during the field survey and Table 5.1 summarises the area of each of these habitats.

Table 5.1. Phase 1 habitats associated with the site, their extent and value in a geographical context.

Phase 1 habitat type	Area (ha) or length (km)
Amenity grassland with scattered trees (approximately 22 trees)	0.443ha
Bare ground / sealed surface	0.052ha
Native species-poor hedgerow	0.008km

Figure 5.1 Extended Phase 1 Habitat Survey Map

Key	
Site boundary	
Building / Structure	
Amenity grassland with scattered trees	
Standing water (pond)	
Native species-poor hedgerow	
Ditch	



Semi-natural Broadleaved Woodland

Onsite	There is no woodland on site.
Area of semi-natural broadleaved woodland on site	0ha
Offsite	<p>The area in the vicinity of the Site is well wooded; large areas of woodland lie to the east, with smaller blocks to the west and strips along watercourses. Many of these woodlands have been designated as lowland mixed deciduous woodland, a Habitat of Principal Importance under the NERC Act 2006, the closest of which lies adjacent to the eastern boundary of the Site.</p> <p>A further woodland Habitat of Principal Importance that lies with a 2km radius of the site is wet woodland, lying approximately 220m to the south-east, within Strokens Farm Alder Grove & Fen SINC.</p>
Legal Constraints	Woodland designated as a Habitat of Principal Importance under the NERC Act 2006 lies adjacent to the site (lowland mixed deciduous woodland).
Important Ecological Feature (IEF)	Yes
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	Mitigation measures must be put in place to avoid damage (see below).
Mitigation Measures	<p>Required as follows:</p> <ol style="list-style-type: none"> 1. Artificial Lighting Strategy
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	0ha

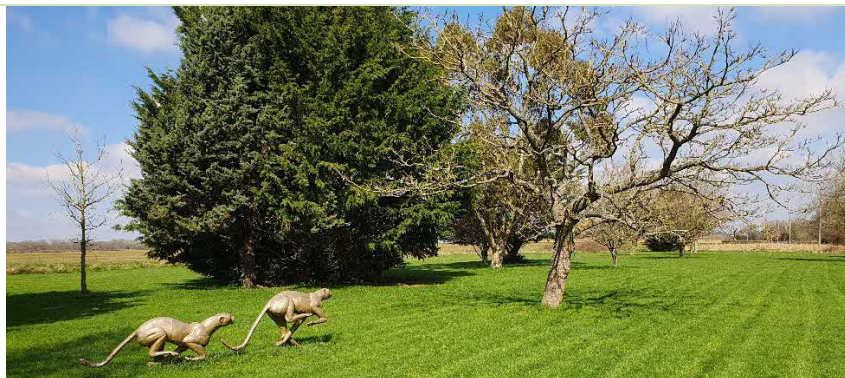
Amenity Grassland



Amenity grassland across the majority of the Site

Onsite	Amenity grassland forms the dominant habitat on site, being part of the garden of Alderbrook House. It was close mown, with longer sward along the western and northern site boundaries, 1m and 1.5m wide strips respectively. Species recorded within these margins include cock's-foot (<i>Dactylus glomerata</i>), lesser celandine (<i>Ficaria verna</i>), cow parsley (<i>Anthriscus sylvestris</i>), dog's mercury (<i>Mercurialis perennis</i>), lords-and-ladies (<i>Arum maculatum</i>) and woundwort (<i>Stachys</i> spp.). Primrose (<i>Primula vulgaris</i>) and bramble (<i>Rubus fruticosus</i> agg.) are also found within the northern field margin.
Area of amenity grassland on site	0.443ha
Offsite	Amenity grassland is restricted to a few residential gardens within the area.
Legal Constraints	None.
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None required.
Mitigation Measures	Not required.
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	Loss of 0.066ha

Free-standing Trees



Apple tree

Group of free-standing trees

Onsite	<p>There are a number of free-standing trees within the amenity grassland. Species include cedar (<i>Cedrus</i> sp.), larch (<i>Larix</i> sp.), ash (<i>Fraxinus excelsior</i>), cypress (<i>Cupressus</i> sp.), tulip tree (<i>Liriodendron tulipifera</i>), <i>Lawsonia</i> and eucalyptus (<i>Eucalyptus</i> sp.), along with a group of fruit trees at the northern end.</p> <p>The trees onsite are important for several animal species and provide habitat for potential protected species such as nesting birds and foraging bats.</p>
Area of trees on site	N/a
Offsite	Trees are a significant feature of the surrounding landscape, predominantly within woodlands and along watercourses.
Legal Constraints	The free-standing trees offer potential habitat for protected species.
Important Ecological Feature (IEF)	Yes – for protected species
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	All trees on site should be retained where possible and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	<p>Required as follows:</p> <ol style="list-style-type: none"> 1. Construction Inclusion Zone (CIZ) 2. Appropriate timing of tree removal/cutting back, outside of bird nesting season 3. Replacement tree planting 4. Artificial Lighting Strategy

Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	Loss of 7 trees but gain of 15, therefore overall gain of 8 trees

Bare Ground

Onsite	The entrance lane comprises bare ground / sealed surface.
Area of bare ground on site	0.052ha
Offsite	Bare ground / sealed surface exists as roads, lanes and tracks.
Legal Constraints	None.
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None required.
Mitigation Measures	Not required.
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	No loss but gain of 0.052ha with new driveway (gravel)

Running Water

Onsite	There is no running water onsite.
Area of running water on site	0km
Offsite	<p>A ditch runs along the western and northern site boundaries. It was dry at the time of survey but is likely to hold water during periods of heavy rain.</p> <p>A tributary of the River Enborne is located adjacent to a section of the eastern boundary of the proposed development site (near the north-eastern corner of the Site).</p>
Legal Constraints	The adjacent river offers habitat for protected species.
Important Ecological Feature (IEF)	Yes

Further Survey Work	Phase 2 survey not required.
Avoidance Measures	All running water must be retained and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	Required as follows: 1. Construction Inclusion Zone (CIZ) 2. No development works within 10m of the river and ditches 3. Artificial Lighting Strategy
Biodiversity Enhancement Measures	Not required.
Habitat loss/gain	0km

Standing Water



Northern pond (offsite)

Southern pond (offsite)

Onsite	There is no standing water onsite.
Area of standing water on site	0ha
Offsite	Two ponds lie within 60m of the Site, both within the grounds of Alderbrook House, with one adjacent to the north-eastern corner of the Site (northern pond) and the other some 55m to the east of the proposed driveway (southern pond). These ponds provide potential habitat for breeding amphibians including great crested newt (<i>Triturus cristatus</i>).
Legal Constraints	The offsite ponds may offer potential habitat for protected species such as great crested newt (<i>Triturus cristatus</i>).
Important Ecological Feature (IEF)	Yes

Further Survey Work	Phase 2 survey is required – eDNA survey of the pond for great crested newt is recommended – Completed: Negative
Avoidance Measures	N/A
Mitigation Measures	N/A
Biodiversity Enhancement Measures	N/A
Habitat loss/gain	0ha

Hedgerow

Onsite	<p>An intact species-poor hedgerow forms the southern boundary of the Site. It is dominated by hazel (<i>Corylus avellana</i>), with some field maple (<i>Acer campestre</i>). The ground flora is sparse as it has been mown to the edge of the hedge.</p> <p>Hedgerows and hedge-bank onsite are important for several animal species and provide habitat for potential protected species such as: reptiles, small mammals, birds. They are an important biodiversity feature providing an area of semi-natural habitat for a range of species, and corridors through the landscape for the dispersal of small animals.</p>
Length of hedgerow on site	0.008km
Offsite	Hedgerows are a feature of the surrounding landscape and connect the site to habitats within the wider landscape, particularly to the wooded river valleys to the east.
Legal Constraints	The hedgerow offer habitat for protected species.
Important Ecological Feature (IEF)	Yes – for protected species
Further Survey Work	Phase 2 survey not required as long as no more than 10m of hedgerow is being removed
Avoidance Measures	Mitigation measures are required (see below).
Mitigation Measures	<p>Required as follows:</p> <ol style="list-style-type: none"> 1. Appropriate timing of woody species/hedgerow removal/cutting back 2. Staged clearance method of hedgerow removal to protect common dormouse

	3. Replacement hedgerow planting
Biodiversity Enhancement Measures	Required as follows: 1. Management of hedgerows for wildlife
Habitat loss/gain	Loss of 0.008km but gain of 0.21km so overall gain of 0.202km

Buildings



Building 1: garage (offsite)

Onsite	There are no buildings onsite.
Area of habitat formed by the building on site	0ha
Offsite	<p>There are a couple of buildings in the vicinity of the site associated with residential dwellings and a farm. The two closest comprise a double garage (building 1) and a polytunnel (building 2). The timber garage is close boarded and has a number of windows, making it light and unsuitable for roosting bats. It has negligible bird nesting potential. The polytunnel near the southern boundary hedgerow has no potential for either roosting bats or nesting birds.</p> <p>The garage will remain, whilst the polytunnel will be removed.</p>
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	Required as follows: 1. One bat tube, one bird brick and one bee brick built within the structure of the new property
Habitat loss/gain	Gain of 0.014ha

Other Habitats

Several grasslands designated as Habitats of Principal Importance under the NERC Act 2006 lie with a 2km radius of the site. A small area of lowland fen lies approximately 150m to the south-east of the Site, within Strokens Farm Alder Grove and Fen SINC. Lowland meadows are found some 690m to the north-west and 950m to the south (within St Mary's Churchyard, Kingsclere SINC). An area of purple moor-grass and rush pasture lies approximately 1.5km to the east of the Site, within Summer's Copse Meadow SINC. Coastal and floodplain grazing marsh is found to the north of the Site, the closest area of such habitat being approximately 940m away.

5.3 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

Onsite	[The use of any buildings/structures on site by bats has been included in section <i>6.2 Habitats</i> above, in the <i>Buildings</i> section.] None of the trees onsite offer potential for roosting bats. However, they do offer foraging habitat. The hedgerow along the southern boundary connect to the tree-lined river, ponds and other hedgerows offering commuting routes for bats through the landscape.
Offsite	The area immediately surrounding the site is bisected with watercourses and woodlands, providing commuting routes for bats across the landscape. There are also numerous woodlands connected by the hedgerow network, making the surrounding area suitable for commuting, foraging and roosting bats. All bat species are legally protected; the following bat species have been recorded having roosts within a 2km radius of the site since the year 2000: brown long-eared bat (<i>Plecotus auritus</i>) and common pipistrelle (<i>Pipistrellus pipistrellus</i>). There are also

	incidental records of western barbastelle (<i>Barbastella barbastellus</i>), Leisler's bat (<i>Nyctalus leisleri</i>), noctule (<i>N. noctula</i>), serotine (<i>Eptesicus serotinus</i>) and soprano pipistrelle (<i>Pipistrellus pygmaeus</i>).
Legal Constraints	The habitat has been assessed as capable of supporting protected bat 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	All habitat on site that supports / with the potential to support legally protected and/or notable bat species should be retained and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	Required as follows: <ol style="list-style-type: none"> 1. Replacement tree planting 2. Replacement hedgerow planting 3. Artificial Lighting Strategy
Biodiversity Enhancement Measures	Required as follows: <ol style="list-style-type: none"> 1. One bat tube built within the structure of the new property

European Badger (*Meles meles*)

Onsite	No signs of European badger (<i>Meles meles</i>) were recorded on site during the field survey. No snuffle holes, latrines nor badger tracks were present.
Offsite	European badger has been recorded within a 2km radius of the site since the year 2000; all records relate to locations over 1.5km away.
Legal Constraints	None
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None required.

Mitigation Measures	Not required.
Biodiversity Enhancement Measures	Not required.

Common Dormouse (*Muscardinus avellanarius*)

Onsite	Dormice are arboreal and are found within species-rich hedgerows and fruiting woody shrubs. The hedgerow along the southern site boundary offers limited potential habitat for common dormouse, with linkage out to the wider countryside.
Offsite	Broadleaved woodland and hedgerows in the vicinity of the Site offer potential habitat for common dormouse.
Legal Constraints	The habitat has 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 survey not required, provided no more than 10m of hedgerow is removed
Avoidance Measures	All habitat on site with the potential to support common dormouse should be retained and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	Required as follows: <ol style="list-style-type: none"> 1. Staged clearance method of hedgerow removal to protect common dormouse 2. Replacement hedgerow planting 3. Covered trenching and capped pipework at night 4. Artificial Lighting Strategy
Biodiversity Enhancement Measures	Not required.

Eurasian Otter (*Lutra lutra*)

Onsite	No suitable habitat for otter exists on site.
Offsite	The offsite stream is connected to a wider network of waterways, offering potential habitat for otter to commute through the landscape. Otter has been recorded within the River Enborne catchment (Environment Agency Survey 1995-2021 obtained via the NBN Atlas) but has not been recorded within a 2km radius of the Site since 2000.
Legal Constraints	Adjacent (offsite) habitat has been assessed as capable of supporting otter: - 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 (offsite)
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	Mitigation measures must be put in place to avoid damage (see below).
Mitigation Measures	Required as follows: 1. Construction Inclusion Zone (CIZ) 2. No development works within 10m of the river and ditches 3. Covered trenching and capped pipework at night 4. Artificial Lighting Strategy
Biodiversity Enhancement Measures	Not required.

European Water Vole (*Arvicola amphibius*)

Onsite	No signs of European water vole (<i>Arvicola amphibius</i>) using the Site were recorded during the field survey. The habitats present onsite are not suitable for supporting water voles.
Offsite	There are watercourses within the vicinity of the site with the potential to support water voles. Water vole has not been recorded within a 2km radius of the site since the year 2000 but there is a record from 1998 just to the south of the Site.

Legal Constraints	Habitat in the vicinity of the Site has been assessed as capable of supporting water vole: - legal constraints apply: legal protection under the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.
Important Ecological Feature (IEF)	Yes (offsite)
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	Mitigation measures must be put in place to avoid damage (see below).
Mitigation Measures	Required as follows: <ol style="list-style-type: none"> 1. Construction Inclusion Zone (CIZ) 2. No development works within 10m of the river and ditches 3. Covered trenching and capped pipework at night 4. Artificial Lighting Strategy
Biodiversity Enhancement Measures	Not required.

Other Mammals

Onsite	Signs of other mammals were not recorded on site during the field survey. The hedgerow and field margins onsite offer potential habitat for West European hedgehog (<i>Erinaceus europaeus</i>).
Offsite	The following legally protected and/or notable mammal species (other than those mentioned in the preceding sections) have been recorded within a 2km radius of the Site since 2000: West European hedgehog and brown hare (<i>Lepus europaeus</i>) / harvest mouse (<i>Micromys minutus</i>) / red squirrel (<i>Sciurus vulgaris</i>).
Legal Constraints	The habitat has been assessed as capable of supporting protected mammal species: - legal constraints apply: legal protection under the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.
Important Ecological Feature (IEF)	Yes – West European hedgehog
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	All habitat on site with the potential to support legally protected and/or notable mammal species should be retained and mitigation measures put in place to avoid damage (see below).

Mitigation Measures	<p>Required as follows:</p> <ol style="list-style-type: none"> 1. Construction Inclusion Zone (CIZ) 2. Artificial Lighting Strategy 3. Covered trenching and capped pipework at night 4. Replacement hedgerow planting 5. Access for wildlife across developed site
Biodiversity Enhancement Measures	<p>Required as follows:</p> <ol style="list-style-type: none"> 1. One hedgehog box/house placed onsite

Birds

Onsite	<p>Habitats at this site are likely to support common and widespread birds. No legally protected and/or notable birds have been recorded on site.</p> <p>However, all bird species are protected whilst nesting, breeding and rearing young. The hedgerow and trees onsite are likely to support nesting birds.</p>
Offsite	<p>A number of legally protected and/or notable birds have been recorded within a 2km radius of the site since the year 2000. These include woodland/scrub species such as lesser redpoll (<i>Acanthis cabaret</i>), spotted flycatcher (<i>Muscicapa stricta</i>), nightjar (<i>Caprimulgus europaeus</i>), lesser spotted woodpecker (<i>Dryobates minor</i>) and hawfinch (<i>Coccothraustes coccothraustes</i>), and birds of waterbodies including grey wagtail (<i>Motacilla flava</i>) and kingfisher (<i>Alauda arvensis</i>). However, species such as house sparrow (<i>Passer domesticus</i>), bullfinch (<i>Pyrrhula pyrrhula</i>), starling (<i>Sturnus vulgaris</i>), song thrush (<i>Turdus philomelos</i>) and other thrush species may be using the hedgerow and trees for nesting and/or feeding.</p>
Legal Constraints	<p>The habitat has been assessed as capable of supporting protected bird species: - legal constraints apply: legal protection under the Wildlife and Countryside Act 1981 (as amended) and the NERC Act 2006.</p>
Important Ecological Feature (IEF)	<p>Yes – nesting birds</p>
Further Survey Work	<p>Phase 2 survey not required.</p>

Avoidance Measures	All habitat on site with the potential to support legally protected and/or notable bird must be retained and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	Required as follows: <ol style="list-style-type: none"> 1. Construction Inclusion Zone (CIZ) 2. Appropriate timing of woody species/hedgerow removal/cutting back 3. Replacement hedgerow planting 4. Replacement tree planting
Biodiversity Enhancement Measures	Required as follows: <ol style="list-style-type: none"> 1. Provision of one bird brick built within the structure of the new property

Reptiles

Onsite	The field margins offer potential to support reptiles, albeit low due to a lack of wider connectivity.
Offsite	The following legally protected and/or notable reptile species have been recorded within a 2km radius of the site since the year 2000: grass snake (<i>Natrix helvetica</i>).
Legal Constraints	The habitat 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	All habitat on site that supports / with the potential to support legally protected and/or notable reptile species must be retained and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	Required as follows: <ol style="list-style-type: none"> 1. Construction Inclusion Zone (CIZ) 2. Artificial Lighting Strategy 3. Covered trenching and capped pipework at night

	<p>4. No development within 10m (minimum) of the adjacent ditches</p> <p>5. Access for wildlife across developed site</p>
Biodiversity Enhancement Measures	<p>Required as follows:</p> <p>1. Maintenance of longer grass margins along ditches</p>

Amphibians

Onsite	<p>Two ponds lie within 60m of the Site, both within the grounds of Alderbrook House, with one adjacent to the north-eastern corner of the Site (northern pond) and the other some 55m to the east of the proposed driveway (southern pond). These ponds provide potential habitat for breeding amphibians including great crested newt (<i>Triturus cristatus</i>), although both have been assessed as 'below average' – see table below.</p> <p>ARGUK GCN HSI Calculator</p> <table border="1"> <thead> <tr> <th></th> <th>Pond Name Grid Ref</th> <th>Example</th> <th>Pond 1</th> <th>Pond 2</th> </tr> <tr> <th>SI No</th> <th>SI Description</th> <th>SI Value</th> <th>SI Value</th> <th>SI Value</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Geographic location</td> <td>0.50</td> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>Pond area</td> <td>1.00</td> <td>0.05</td> <td>0.05</td> </tr> <tr> <td>3</td> <td>Pond permanence</td> <td>0.90</td> <td>1</td> <td>1</td> </tr> <tr> <td>4</td> <td>Water quality</td> <td>1.00</td> <td>0.67</td> <td>0.33</td> </tr> <tr> <td>5</td> <td>Shade</td> <td>1.00</td> <td>1</td> <td>1</td> </tr> <tr> <td>6</td> <td>Water fowl effect</td> <td>0.67</td> <td>1</td> <td>0.67</td> </tr> <tr> <td>7</td> <td>Fish presence</td> <td>0.00</td> <td>1</td> <td>1</td> </tr> <tr> <td>8</td> <td>Pond Density</td> <td>0.60</td> <td>0.4</td> <td>0.4</td> </tr> <tr> <td>9</td> <td>Terrestrial habitat</td> <td>0.67</td> <td>0.67</td> <td>0.67</td> </tr> <tr> <td>10</td> <td>Macrophyte cover</td> <td>0.30</td> <td>0.6</td> <td>0.9</td> </tr> <tr> <td colspan="2">HSI Score</td> <td>0.00</td> <td>0.59</td> <td>0.55</td> </tr> <tr> <td colspan="2">Pond suitability (see below)</td> <td>Poor</td> <td>Below average</td> <td>Below average</td> </tr> </tbody> </table> <p>Categorisation of HSI Score by Paul Diamond</p> <table border="1"> <thead> <tr> <th>HSI Score</th> <th>Pond Suitability</th> </tr> </thead> <tbody> <tr> <td>< 0.50</td> <td>Poor</td> </tr> <tr> <td>0.50 - 0.59</td> <td>Below average</td> </tr> <tr> <td>0.60 - 0.69</td> <td>Average</td> </tr> <tr> <td>0.70 - 0.79</td> <td>Good</td> </tr> <tr> <td>> 0.80</td> <td>Excellent</td> </tr> </tbody> </table> <p>Based on ARGUK advice note 5 - Great Crested Newt Habitat Suitability Index</p> <p>Although the habitats onsite are not suitable for breeding amphibians, potential for amphibians traversing the site and using the site during the terrestrial part of their lifecycle, exists due to the close proximity of the ponds. This includes the longer sward along the northern and western site boundaries (along the ditches) and the base of the hedgerow.</p>		Pond Name Grid Ref	Example	Pond 1	Pond 2	SI No	SI Description	SI Value	SI Value	SI Value	1	Geographic location	0.50	1	1	2	Pond area	1.00	0.05	0.05	3	Pond permanence	0.90	1	1	4	Water quality	1.00	0.67	0.33	5	Shade	1.00	1	1	6	Water fowl effect	0.67	1	0.67	7	Fish presence	0.00	1	1	8	Pond Density	0.60	0.4	0.4	9	Terrestrial habitat	0.67	0.67	0.67	10	Macrophyte cover	0.30	0.6	0.9	HSI Score		0.00	0.59	0.55	Pond suitability (see below)		Poor	Below average	Below average	HSI Score	Pond Suitability	< 0.50	Poor	0.50 - 0.59	Below average	0.60 - 0.69	Average	0.70 - 0.79	Good	> 0.80	Excellent
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Offsite	<p>The nearby offsite ponds may offer potential habitat for protected amphibians such as great crested newt.</p> <p>The following legally protected and/or notable amphibian species have been recorded within a 2km radius of the site since the year 2000: common toad (<i>Bufo bufo</i>).</p>
Legal Constraints	Habitat may be 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 is required – eDNA survey of the pond for great crested newt is recommended – Completed: Negative
Avoidance Measures	N/A
Mitigation Measures	N/A
Biodiversity Enhancement Measures	N/A

Invertebrates

Onsite	Habitats at this site are likely to support common and widespread invertebrates. There are unlikely to be any legally protected and/or notable invertebrates present as the habitat is a vegetated garden.
Offsite	A number of legally protected and/or notable invertebrates have been recorded within a 2km radius of the site since the year 2000. These include the butterflies, purple emperor (<i>Apatura irus</i>), small heath (<i>Coenonympha pamphilus</i>), small blue (<i>Cupido minimus</i>) and white admiral (<i>Limenitis camilla</i>); and the moths, mottled rustic (<i>Caradrina morpheus</i>), double dart (<i>Graphiphora augur</i>), dot moth (<i>Melanchra persicariae</i>), common wainscot (<i>Mythimna pallens</i>) and blood-vein (<i>Timandra comae</i>). The habitats onsite are unlikely to support these species.
Legal Constraints	None
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.

Avoidance Measures	None required.
Mitigation Measures	Not required.
Biodiversity Enhancement Measures	Required as follows: 1. Provision of one bee brick built within the structure of the new property

Vascular Plants

Onsite	<p>The site has a low floral diversity, focused within the margins along the northern and western boundaries. A list of plants recorded on site during the Extended Phase 1 Habitat Survey is set out in Appendix A.</p> <p>No legally protected and/or notable vascular plant species were recorded on site during the field survey and there are unlikely to be any present as the habitat is predominantly a vegetated garden.</p>
Offsite	The following legally protected and/or notable plants have been recorded within a 2km radius of the site since the year 2000: white helleborine (<i>Cephalanthera damasonium</i>), dwarf spurge (<i>Euphorbia exigua</i>), corn spurrey (<i>Spergula arvensis</i>) and spreading hedge-parsley (<i>Torilis arvensis</i>). None of these have been recorded onsite, are likely to be found onsite or are in the immediate vicinity.
Legal Constraints	None
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	None required.
Mitigation Measures	Not required.
Biodiversity Enhancement Measures	Not required.

Invasive Non-native Species

Onsite	No invasive non-native species were recorded during the field survey.
Offsite	The following invasive non-native species have been recorded within a 2km radius of the site since the year 2000: Himalayan

	balsam (<i>Impatiens glandulifera</i>), variegated yellow archangel (<i>Lamium galeobdolon</i> subsp. <i>argentatum</i>) and rhododendron (<i>Rhododendron ponticum</i>). None appear to be in the immediate vicinity.
Legal Constraints	None
Important Ecological Feature (IEF)	No
Further Survey Work	Phase 2 survey not required.
Avoidance Measures	n/a
Mitigation Measures	n/a
Biodiversity Enhancement Measures	n/a

6. Biodiversity Mitigation and Enhancement Details

The ecological mitigation measures and biodiversity enhancements required for the residential development at Alderbrook House, Union Lane, Kingsclere, have been listed in Section 5 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. These are mapped in the Ecological Constraints and Opportunities Plan (ECOP) set out in Appendix H at the end of this report.

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.

The implementation of the mitigation and biodiversity enhancement measures should be overseen by an Ecological Clerk of Works or a suitably experienced ecologist.

An eDNA survey of the two ponds to the immediate east of the proposed development site (within the curtilage of Alderbrook House) is required to determine the presence/absence of great crested newt prior to the submission of the planning application. A further GCN eDNA survey report will be provided to evidence Negative survey results

It should also be noted that if more than 10m of hedgerow is to be removed, Phase 2 Dormouse Surveys will be required prior to planning permission being sought and prior to any works associated with the proposed development commencing.

Construction Inclusion Zone

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. A Construction Inclusion Zone (CIZ) will therefore be set up around the development footprint which will also include all areas required for materials and equipment storage during the groundworks and construction phases. This CIZ will be at least 10m away from the river and ditches along the northern and western site boundaries (offsite). This will therefore protect the reptile habitat onsite.

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 will be undertaken outside the CIZ and no materials, machinery, chemicals etc. will be stored outside of the CIZ. Appropriate signs should be placed at regular intervals along the fencing to ensure everyone on site is aware of the CIZ and understands its relevance.

Staged Clearance of Hedgerow for Common Dormouse

It appears that the new site entrance will require the removal of approximately 8m of species-poor hedgerow along the southern site boundary. The standard dormouse hedgerow removal protocol is required and should be overseen by a suitably experienced ecologist. The removal of the hedgerow should be preceded by a check for nesting birds and common dormouse, and then reduced in height initially. A few days should then be allowed to pass before the base is removed.

Please note that if more than 10m of hedgerow are required to be removed, then a Phase 2 Dormouse Survey will be required prior to submission of the planning application.

Removal of Trees at Appropriate Time

The removal of any trees will be done outside of the bird nesting season of March – September (inclusive). If removal is not possible during this period, careful checks of the **trees** 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.

Covered Trenching and Capped Pipework

Trenches or large excavations should be covered overnight to prevent wildlife such as amphibians, badgers or hedgehogs falling in and failing to escape. If this is not possible then a strategically placed plank may provide a means of escape.

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.

Artificial Lighting Strategy

No external artificial lighting will be introduced to the site during the groundworks and construction phases of the development. External artificial lighting during the operational phase will comprise lights above external doors.

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.

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.

Where planting to block lighting, use temporary fencing to shield light spill until vegetation has matured.

Replacement Hedgerow Planting

A species-rich hedgerow will be planted to form the northern and eastern boundaries of the Site, separating the Site from Alderbrook House itself, as indicated in the ECOP (reference Appendix H).

- The hedgerow should be created from planting native species ideally of local provenance. Suggested species include hawthorn (*Crataegus monogyna*) for its flowers and berries; hazel (*Corylus avellana*) for its nuts and attracting insects; blackthorn (*Prunus spinosa*); field maple (*Acer campestre*), pedunculate oak (*Quercus robur*), crab apple (*Malus sylvestris*), holly (*Ilex aquifolium*), wild privet (*Ligustrum vulgare*), dogwood (*Cornus sanguinea*), guelder-rose (*Viburnum opulus*) and wayfaring-tree (*Viburnum lantana*).
- Use two-year-old pot grown shrubs planted in a double, staggered row at a rate of at least four plants per metre.
- Apply a layer mulch to a depth of 75mm around shrub base to suppress weeds.
- Spiral guards will be used to protect new shrubs from rabbits (and removed after a maximum of five years).
- Plan a monitoring programme during first year of growth. Any saplings which fail to thrive should be re-planted in order to prevent the development of gaps.
- Trim lightly during the first three years.
- Approximately three years following planting, an appropriate management scheme should be established to ensure that it develops into a dense hedgerow which is optimal for protected species. Refer to section below for hedgerow management advice.

Replacement Tree Planting

Replace lost trees on-site with one for every one lost. These should be native species, ideally of local provenance, giving the equivalent or greater biodiversity, high in yields of fruit, nectar or nut. Tree species suitable for planting on site include pedunculate oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*), beech (*Fagus sylvatica*), silver birch (*Betula pendula*), hornbeam (*Carpinus betulus*) and alder (*Alnus glutinosa*).

Fences allowing Wildlife Access

Any fences onsite post-construction will allow the movement of animals through/across the site unimpeded by either being raised at least 150mm above ground level or by having small square holes at least 130mm x 130mm in size cut into them. This fencing will be erected at the end of the construction phase and will ensure the above is undertaken to allow wildlife access across the site.

Bat Roosting Provision

One bat tube/box should be built into the new property. 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.



Bird Nesting Provision

One bird brick should be built into the structure of the new property. 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.

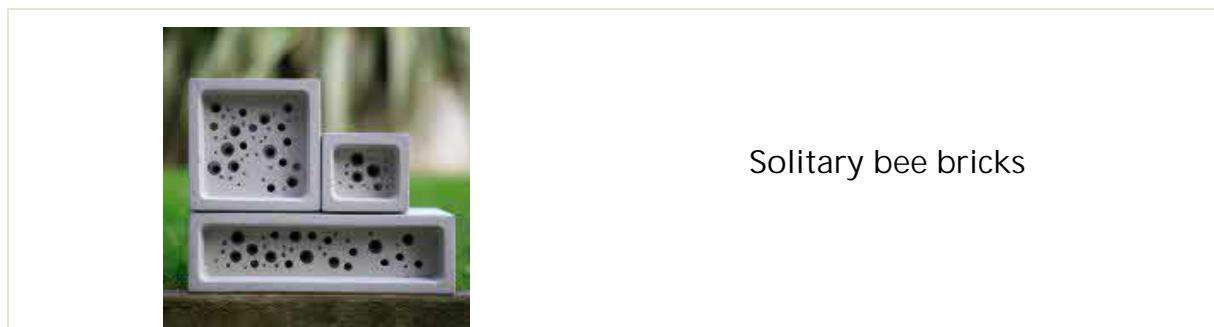
- Only boxes of robust or permanent construction are suitable. Some account must be taken of the potential need to maintain and replace boxes after a number of years in use.

- 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, except for house sparrows, as they like to nest in colonies.



Solitary Bee Provision

One solitary bee brick should be built into the new 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.



Hedgehog Provision

Hedgehogs are partial to piles of garden paraphernalia including wood, leaves/compost and shrubs. If anything is to be removed by burning, piles of material will be restacked prior to lighting and hedgehogs should be considered and looked for.

One hedgehog box should be placed in the north-eastern corner of the Site.

- Hedgehog boxes, set amongst hedgerows or shrubs, will provide hedgehogs with permanent nesting sites.
- Garden fences should permit the free movement of hedgehogs between gardens and the surrounding countryside. This means raising a fence up 150mm or allowing a section gap of 150mm² on the base of the fence.
-



Hedgerow Management

Hedgerows should be trimmed only every three years (or less frequently if possible) and maintained at a height of at least 3m and preferably 4m. It is important not to cut all hedgerows in an area at the same time, so that some heavily fruiting hedgerows are always present. As a guide, it is suggested that cutting only 10 to 30 per cent in any one year is advisable. Gaps in any of the hedgerows should be infilled with native species. Hedgerow management for dormice is given below.

Hedgerow Management Good Practice, for the Benefit of Dormice and Hedgerow Biodiversity Ref: <i>The Dormouse Conservation Handbook Second Edition</i> .	
1	Except where road safety or access, preclude it, hedgerows should be trimmed only every three years (or less frequently if possible) and maintained at a height of at least three, and preferably four metres.
2	Ideally, about one third of hedgerows should be left to grow for 7 to 10 years.
3	It is important not to cut all hedgerows in an area at once, so that some heavily fruiting hedgerows are always present. As a guide, we suggest cutting only 10 to 30 per cent in any one year.
4	In some places, it may be feasible to cut only one side of the hedge, cutting the other a year or two later, thus not removing all the food sources at once and allowing some regrowth before further cutting takes place. If possible, flails should not be used to manage hedgerows.
5	Coppicing or, even better, laying should be used to manage hedgerows that become gappy or lack dense branches at their base. Fencing may be needed to prevent stock from causing damage before new growth has become established.
6	If hedgerow size needs to be reduced, it is better to avoid cutting the top and to cut one side only.
7	When creating new hedgerows, or plugging gaps in existing ones, at least five and preferably seven different shrub/tree species should be planted. The best species to plant are hawthorn (for its flowers and berries) and hazel (nuts and insects); with a diversity of other species to offer flowers insects and fruits at different times Bramble would make a valuable addition but may arrive naturally.

8

Where new roads or other developments cut across hedges, the 'loose ends' should be linked up by suitable plantings. Mixtures of hawthorn and hazel are the preferred species where early results are needed.

Management of Northern and Western Margins

The northern and western margins along the ditches (offsite) should be maintained with a longer, 'rougher' sward to allow wildlife to pass along and live within the ditches and adjacent habitats.

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.

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 in italics 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.

Leaving rough areas of vegetation, native trees and shrubs around the vicinity of any replacement buildings 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. Biodiversity Impact Assessment: Losses and Gains

The biodiversity impact assessment calculations to determine the biodiversity losses and gains associated with the proposed development have been undertaken using the Department for Environment, Food and Rural Affairs (Defra)/Natural England Biodiversity Metric 4.0. The ecological information regarding the habitats present on site prior to development commencing has been obtained from the Extended Phase 1 Habitat Map (Figure 5.1), with the habitats shown as per the habitat type used by the Biodiversity Metric 4.0 set out in Figure 7.1. The proposed habitats present on site post-development have been obtained from the proposed site layout produced by WhiteRok Architecture (drawing reference PO2 April '23 Rev B) as per Figure 3.2. Figure 7.2 shows the post-development habitats as per the habitat type used in the Biodiversity Metric 4.0.

The Mitigation Hierarchy has been followed, seeking to firstly avoid, minimise, restore and enhance existing habitats onsite, and then compensate for those habitats lost. There are no irreplaceable habitats onsite or adjacent to the site and therefore there is no loss or impact on any such habitats. The greatest extent of habitat of site is amenity grassland (vegetated grassland). Measures to avoid and minimise biodiversity loss and to rehabilitate/restore biodiversity affected by the project are presented in section 6 above. An area of vegetated garden will be retained, along with the entrance lane (developed land; sealed surface) and 15 of the existing 22 trees onsite. The loss of some amenity grassland (vegetated garden) will be to the creation of a new driveway (artificial, unvegetated, unsealed surface) and the new dwelling (developed land, sealed surface). 15 new small trees will be planted across the site.

The native hedge along the southern site boundary will be removed to create new access onto the site, with new lengths of native species-rich hedgerow being planted along the northern and eastern boundaries.

Table 7.1 below sets out the habitats recorded on site, along with their condition and spatial extent, with Table 7.2 outlining the habitats to be retained and Table 7.3 those being created.

Table 7.1 Existing habitats recorded on site, their coverage and condition.

Habitat type	Area / Length	Condition
Area habitats		
Urban – Vegetated garden (Amenity grassland)	0.443ha	N/a
Urban – Developed land; sealed surface (bare ground / sealed surface track)	0.052ha	N/a
Individual trees – Urban tree: approximately 22 small trees	0.090ha (canopy)	Moderate
Linear habitats		
Native hedgerow (species-poor hedgerow)	0.008km	Moderate

Figure 7.1. Pre-development habitats, with habitat type as used in the Biodiversity Metric 4.0

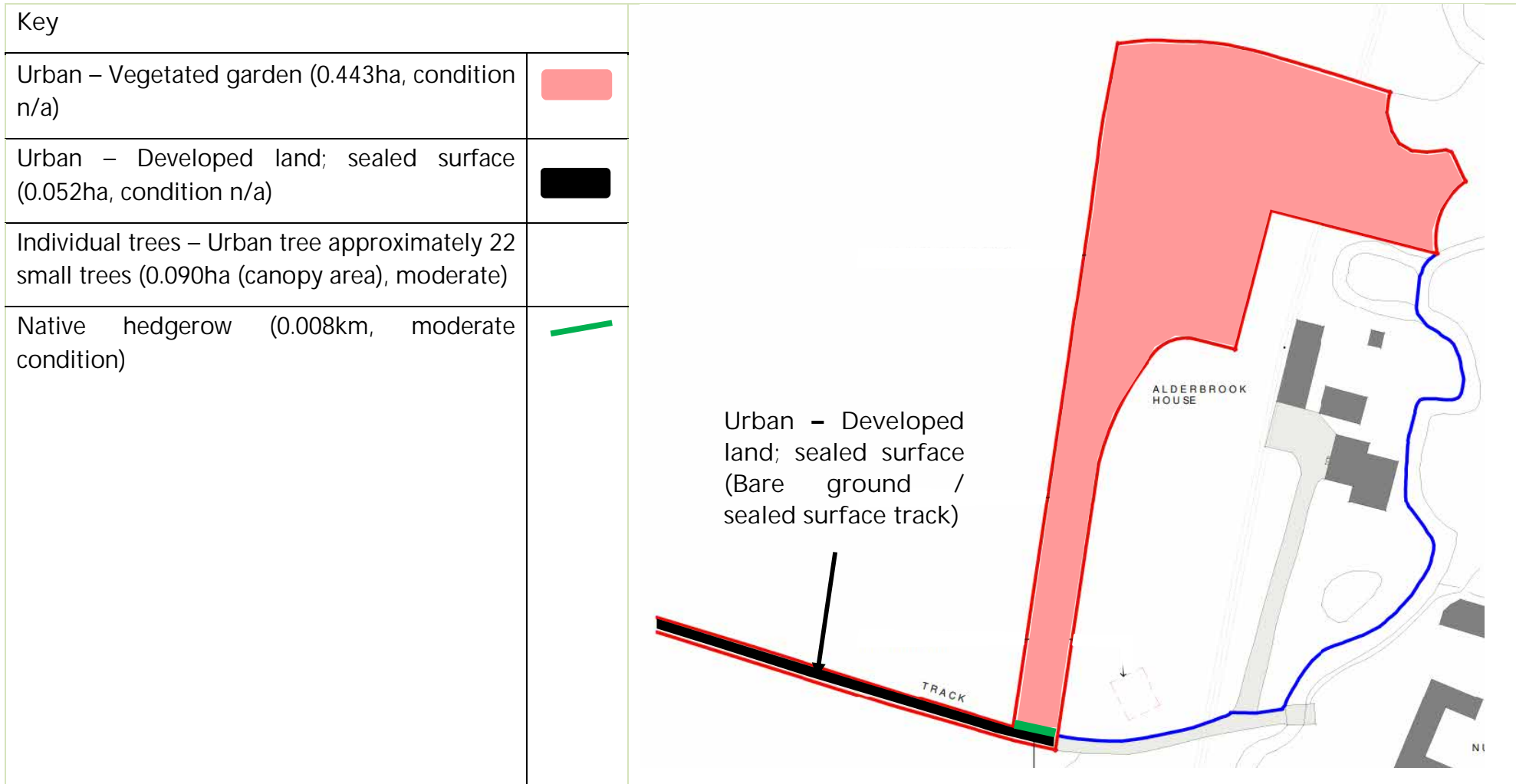


Figure 7.2. Post-development habitats, with habitat type as used in the Biodiversity Metric 4.0

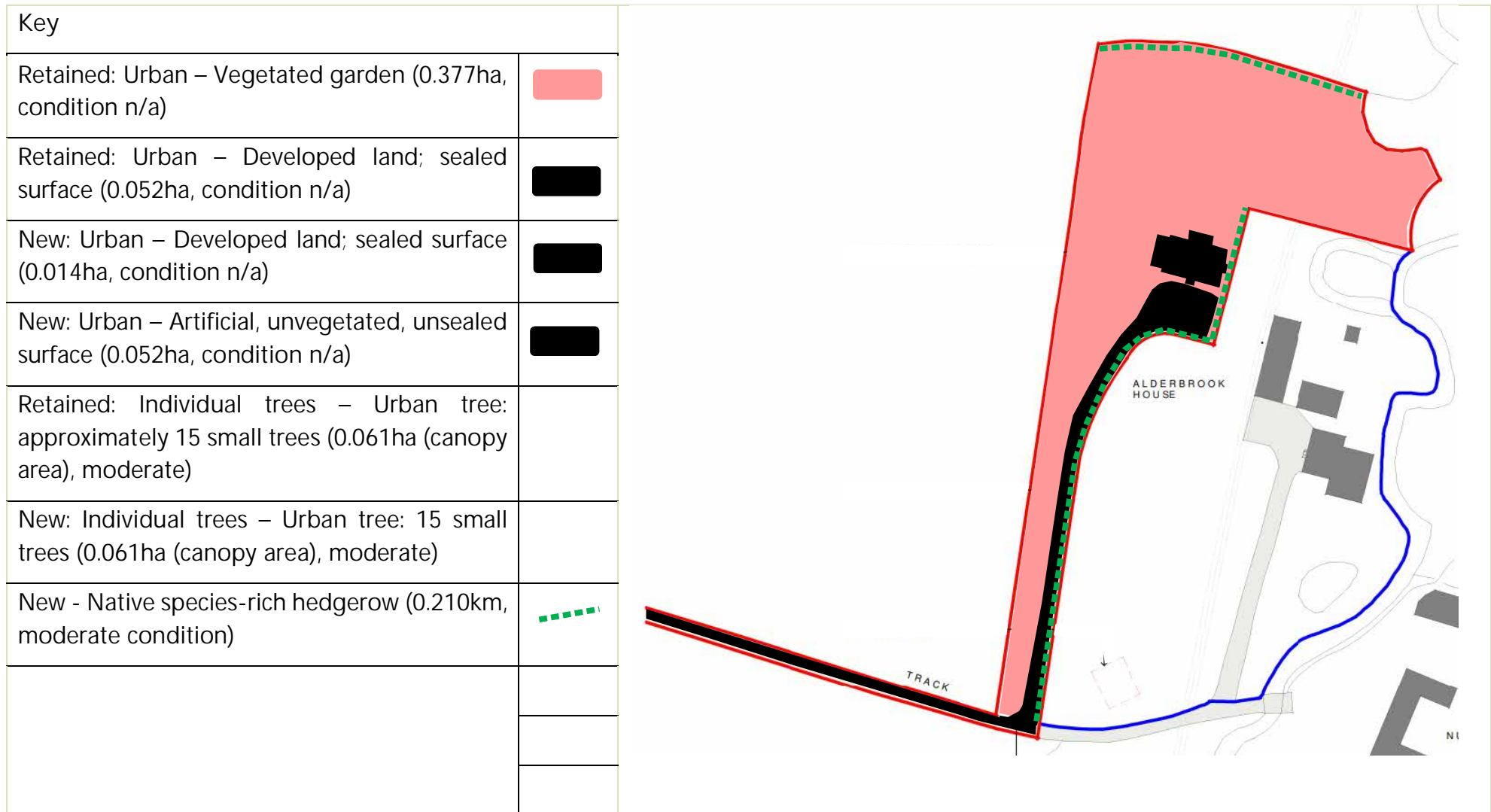


Table 7.2 Habitats being retained on site, along with their target condition.

Habitat type	Area / Length	Target condition
Area habitats		
Urban – Vegetated garden (Amenity grassland)	0.377ha	N/a
Urban – Developed land; sealed surface (bare ground / sealed surface track)	0.052ha	N/a
Individual trees – Urban tree: approximately 15 small trees	0.061ha (canopy)	Moderate
Linear habitats		
None	N/a	N/a

Table 7.3 Habitats being created on site, along with their target condition.

Habitat type	Area / Length	Target condition
Area habitats		
Urban – Developed land; sealed surface (new dwelling)	0014ha	N/a
Urban – Artificial, unvegetated, unsealed surface (new gravel driveway)	0052ha	N/a
Individual trees – Urban tree: 15 small trees	0.061ha (canopy)	Moderate
Linear habitats		
Native species-rich hedgerow	0.210km	Moderate

The Headline Results from the Biodiversity Metric 4.0 are given in Figure 7.3 below.

The onsite baseline score for habitat units is 1.71, with the score decreasing to 1.53 following the development (a total net unit change of -0.18). This post-development score takes into the habitats retained, enhanced and created onsite. This equates to a loss of 10.75% in habitat units.

The onsite baseline score for hedgerow units is 0.04, with the score increasing to 1.62 following the development (a total net unit change of +1.58). This post-development score takes into the hedgerows retained, enhanced and created onsite. This equates to a gain of 4293.35% in hedgerow units.

Therefore, the proposed development at Alderbrook House results is likely to result in an overall biodiversity net gain; however, there will be a loss of habitat units (10% loss) but a gain of over 4000% in hedgerow units.

Figure 7.3. Headline Results taken from the Biodiversity Metric 4.0

Alderbrook House, Union Lane, Kingsclere		Return to results menu		
Headline Results				
Scroll down for final results ▲				
On-site baseline	Habitat units	1.71		
	Hedgerow units	0.04		
	Watercourse units	0.00		
On-site post-intervention <small>(including habitat retention, creation & enhancement)</small>	Habitat units	1.53		
	Hedgerow units	1.62		
	Watercourse units	0.00		
On-site net change <small>(units & percentage)</small>	Habitat units	-0.18	-10.75%	
	Hedgerow units	1.58	4293.35%	
	Watercourse units	0.00	0.00%	
On-site net gain is less than target set A				
Off-site baseline	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention <small>(including habitat retention, creation & enhancement)</small>	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change <small>(units & percentage)</small>	Habitat units	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Combined net unit change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	-0.18		
	Hedgerow units	1.58		
	Watercourse units	0.00		
Spatial risk multiplier (SRM) deductions	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
FINAL RESULTS				
Total net unit change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	-0.18		
	Hedgerow units	1.58		
	Watercourse units	0.00		
Total net % change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	-10.75%	Total net gain achieved is less than target set A	
	Hedgerow units	4293.35%		
	Watercourse units	0.00%		
Trading rules satisfied?	No - Check Trading Summaries ▲			
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	1.71	1.89	0.36
Hedgerow units	10.00%	0.04	0.04	0.00
Watercourse units	10.00%	0.00	0.00	0.00
				Unit requirement met or surpassed ✓
				Unit requirement met or surpassed ✓

8. Conclusions

The Extended Phase 1 Habitat Survey that was undertaken on 3 April 2023, along with the desktop survey, are not considered to have collected enough information about the ecological condition of the site to have been able to adequately assess the impact of the proposed development – an eDNA survey of the two adjacent ponds, to determine the presence/absence of great crested newt, is required.

Also, if more than 10m of hedgerow is to be removed to create new access into the site, a Phase 2 Dormouse Survey will be required prior to planning permission being sought and prior to any works associated with the proposed development commencing.

Mitigation measures have been set out to avoid and reduce the effects/impacts of the development on the important ecological features and the local environment as a whole. These include Construction Inclusion Zone, staged clearance of hedgerow for common dormouse, Artificial Lighting Strategy, covered trenching and capped pipework and replacement hedgerow and tree planting. All measures should be included as a planning condition for the proposed development.

Enhancement measures for biodiversity have also been set out, including the provision of one in-built brick, one in-built bee brick and one in-built bat tube in the new dwelling. These enhancements should be included as a planning condition for the proposed development.

An Ecological Clerk of Works or a suitably experienced ecologist should oversee the implementation of the ecological mitigation measures and the enhancements for biodiversity.

If the recommendations within this PEA report are adhered to, it is envisaged that there will be an overall net gain in biodiversity within the proposed development site, with a loss in habitat units of 11% being offset by a net gain in hedgerow units of over 4000%.

It is the responsibility of all those involved with the proposed development works at Alderbrook House, Union Lane, Kingsclere, to ensure that wildlife protection and nature conservation legislation is complied with throughout the lifespan of the development, at every stage. Although no current evidence of protected species was found on site it cannot be assumed that they are not present when the development work commences. 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

- Baker, J., Hoskin, R. and Butterworth, T. (2019a) *Biodiversity net gain: Good practice principles for development. Part A: A practical guide. CIRIA, C776a, RP1048.* CIRIA, London.
- Baker, J., Hoskin, R. and Butterworth, T. (2019b) *Biodiversity net gain: Good practice principles for development. Part B: Case studies. CIRIA, C776b, RP1048.* CIRIA, London.
- Basingstoke and Deane Borough Council (2018) *Landscape, Biodiversity and Trees Supplementary Planning Document. December 2018.*
- 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.
- 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.
- CIEEM (2021) *Good Practice Requirements for Delivering Biodiversity Net Gain (On- and Off-site). July 2021.* 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 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 (2021a) *National Planning Policy Framework. July 2021*. HMSO. www.gov.uk/government/publications
- HM Government (2021b) *Environment Act 2021*.
- 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.
- JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. *UK Post-2010 Biodiversity Framework*. July 2012.
- 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.
- Natural England (2023) *The Biodiversity Metric 4.0 User Guide. First published March 2023*. Natural England Joint Publication JP039. Natural England.
- 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. (2019) *New Flora of the British Isles, Fourth edition*. C & M Floristics, Suffolk.
- The British Standards Institution (2012) *Trees in relation to design, demolition and construction – Recommendations. BS5837:2012*. BSI Standards Limited.

The British Standards Institution (2013) *Biodiversity – Code of practice for planning and development. BS42020:2013*. BSI Standards 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

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

Hampshire Biodiversity Action Plan:

- <http://www.hampshirebiodiversity.org.uk/action.html>

Hampshire and the Isle of Wight Wildlife Trust: - <http://www.hiwwt.org.uk/>

<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

Common Name	Scientific Name
Ash	<i>Fraxinus excelsior</i>
Bramble	<i>Rubus fruticosus</i> agg.
Cedar	<i>Cedrus</i> sp.
Cock's-foot	<i>Dactylus glomerata</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Cypress	<i>Cupressus</i> sp.
Dog's mercury	<i>Mercurialis perennis</i>
Eucalyptus	<i>Eucalyptus</i> sp.
Field maple	<i>Acer campestre</i>
Hazel	<i>Corylus avellana</i>
Larch	<i>Larix</i> sp.
Lawsonia	<i>Lawsonia</i> sp.
Lesser celandine	<i>Ficaria verna</i>
Lords-and-ladies	<i>Arum maculatum</i>
Primrose	<i>Primula vulgaris</i>
Tulip tree	<i>Liriodendron tulipifera</i>
Woundwort	<i>Stachys</i> sp.

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

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 (as amended)

[The Conservation of Habitats and Species Regulations 2017](#) (and as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019)) originally transposed the 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 Regulations is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Regulations set out the rules for the protection, management and exploitation of such habitats and species. They place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species. These sites are known generally as 'European sites' and in the UK form the national sites network (known in Europe as Natura 2000 sites). They include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Environment Act 2021

The Environment Act 2021 received Royal Assent on 9 November 2021. It only applies to England. Key elements of the Act include:

All new developments to deliver 10% increase in biodiversity (biodiversity net gains), to be managed for at least 30 years (reviewable by the Secretary of State), with a Biodiversity Gain Site Register to be implemented and maintained for at least 30 years after the site scheme has completed.

Introduction of Local Nature Recovery Strategies (LNRs) – new spatial strategies led by a "responsible authority" in each area. Statutory guidance to be given to Local Planning Authorities (LPAs) explaining how they should take account of the LNRs.

Introduction of a new Species Conservation Strategy which places a duty on LPAs to cooperate with Natural England and other LPAs etc. to safeguard the future of 'at risk' species.

LPAs to produce Biodiversity Reports every five years, describing action taken and the impact it has had on local biodiversity.

Establishment of the Office for Environmental Protection (OEP), a green 'watchdog' to ensure the enforcement of the environmental legislation in England and Northern Ireland.

Introduction of the five Principles to which organisations must have regard:

- (i) Integration (environmental protection should be integrated into the making of policies);
- (ii) Prevention (preventative action should be taken to avert environmental damage);
- (iii) Precautionary (a precautionary approach should be taken to the possibility of environmental harm);
- (iv) Rectification At Source (where possible any environmental harm should be rectified at source);
- (v) Polluter Pays (the person(s) who causes the harm must suffer the financial penalty both in terms of mitigation and compensation)

Long-term (at least 15 years, starting in 2022) legally binding targets on air quality, biodiversity, water, resource efficiency and waste reduction.

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.

National Planning Policy Framework, 2021

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 2021 version replaces the first NPPF published in March 2012 and includes minor clarifications to the revised versions published in 2018 and 2019.

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

This White Paper outlines the Governments vision for the future of landscape and ecosystem services.

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.

Biodiversity 2020

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

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.

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
	█											

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

Phase 1 Ecological Survey	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

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

Tree Survey BS5837 -2012	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.
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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;

	<p>Located within, or immediately adjacent to woodland and/or immediately adjacent to water;</p> <p>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.</p>
(2)	<p>Development affecting built structures:</p> <p>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;</p> <p>Bridge structures, aqueducts and viaducts (especially over water and wet ground).</p>
(3)	<p>Floodlighting of</p> <p>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;</p> <p>Any building meeting the criteria listed in (1) above.</p>
(4)	<p>Felling, removal or lopping of:</p> <p>Woodland;</p> <p>Field hedgerows and/or lines of trees with connectivity to woodland or water bodies;</p> <p>Old and veteran trees that are more than 100 years old;</p> <p>Mature trees with obvious holes, cracks or cavities, or that are covered with mature ivy (including large dead trees).</p>
(5)	<p>Proposals affecting water bodies:</p> <p>In or within 200m of rivers, streams, canals, lakes, reed beds or other aquatic habitats.</p>
(6)	<p>Proposal located in or immediately adjacent to:</p> <p>Quarries or gravel pits;</p> <p>Natural cliff faces and rock outcrops with crevices or caves and swallets.</p>
(7)	<p>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)</p>
(8)	<p>All proposals in sites where bats are known to be present¹</p> <p>This may include proposed development affecting any type of buildings, structures, features or location.</p>
<p>Notes:</p> <p>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.</p>	

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 31 st 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		

<p>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.</p>	<p>Two locations per transect, data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats.</p>	<p>Three locations per transect; data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats)</p>
<p>Refer to BCT guidelines document Table 8.3 for further details and dependent conditions where the survey effort is not straightforward.</p>		

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.

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 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. Ecological Constraints and Opportunities Plan

Key	
Ecological Constraints	
Scattered trees – foraging bats, nesting birds: Construction Inclusion Zone Removal/cutting back of trees outside of bird nesting season (not between March and September inclusive) Artificial Lighting Strategy Replacement tree planting	- - - - -
Habitat suitable for reptiles: Construction Inclusion Zone No development within 10m of ditches (includes suitable reptile habitat)	█
Standing water (pond): foraging bats, amphibians including great crested newt: eDNA survey for great crested newt REQUIRED Construction Inclusion Zone Artificial Lighting Strategy	█ - - - - -
Running water (river): foraging bats, Eurasian otter, European water vole: No development within 10m of the river Construction Inclusion Zone Artificial Lighting Strategy	- - - - -
Species-poor hedgerow: foraging bats, common dormouse, nesting birds: No more than 10m of hedgerow to be removed Staged clearance of hedgerow for common dormouse Removal/cutting back of hedgerow outside of bird nesting season (not between March and September inclusive) Construction Inclusion Zone Replacement hedgerow planting	- . - . - . - - - - - - . - . - .
<ul style="list-style-type: none"> - Covered trenching and capped pipework during groundworks and construction phases - Access for mammals, reptiles etc. across developed site i.e. raised fences or holes cut in fences at ground level 	
Ecological Opportunities	
Planting of native species-rich hedgerow (subsequently managed for wildlife)	- . - . - .
Bat box/tube	★
Bird box/brick	▲
Bee brick	✕
Hedgehog house/box	⬠

