



Preliminary Ecological Survey

PEA



Site Location

Minstrels, Main Road,
Otterbourne, Winchester,
Hampshire
SO21 2EQ

GR: SU 45967 22961

February 2022

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1. Contract Details

Preliminary Ecological Appraisal: Extended Phase 1 Ecology Survey	
Grid Reference:	SU 45967 22961
Client:	Julian Karnik
Architect/Planning Consultant:	Not known
Date of Survey:	08/02/2022
Date of Report:	09/03/2022
Report Reference:	PEA_Minstreles_Karnik_February_2022
Associated Reports Reference:	BaselineBNG_2022 ASR_Minstreles_Karnik_February_2022 with TPP/TCP
Workflow Number	PEA2022109
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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 (EcIA) should one be required; and
- identify the opportunities offered by a project to deliver ecological enhancement.

[CIEEM, 2017a]

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

Many PEA's are written in a form which might not be accepted by the LPA as it might lack sufficient detail. Our report is written in a manner to support smaller scale developments, or developments taking place in locations which are not of high biodiversity value, without upgrading to a full EcIA.

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 EcIA to ensure its acceptance by the LPA.

2. Non-technical Summary

<p>Purpose of the report:</p>	<p>To present the results of the Extended Phase 1 Habitat Survey undertaken at Minstreles, 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.</p>
<p>Project Description</p>	<p>The construction of 3-5 residential dwellings with associated parking and gardens in the rear garden of Minstreles.</p>
<p>Efficacy of the PEA Report</p>	<p>This report, along with the associated Arboricultural Report is considered sufficient for the size and scale of predicted impacts as a result of the proposal.</p>
<p>The following may or will be required in association with this PEA</p>	<p>The proposed design of the development might impact on habitats suited to protected species habitation. Depending on the proposal, which has not yet been provided, further survey work might be required.</p> <p>Phase 2 Surveys</p> <ul style="list-style-type: none"> - Bat Emergence Survey (required if any of the three buildings or the tree (T1) with potential roosting features are to be removed or altered in any way)
<p>Habitat Regulation Assessment (HRA) likely?</p>	<ul style="list-style-type: none"> - It is considered possible that the LPA might request an HRA and we advise urgent consultation with the LPA to clarify if this is a requirement.
<p><u>Important Ecological Features (IEF)</u></p> <p>IEF Designated sites</p> <p>IEF Habitats</p>	<p>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.</p> <p>Onsite:</p> <ul style="list-style-type: none"> - None <p>Offsite:</p> <ul style="list-style-type: none"> - None <p>Onsite:</p> <ul style="list-style-type: none"> - Buildings (Outbuilding/Summerhouse offer roosting opportunities for bats) Minstreles – not assessed. - Free-standing tree – T1. – offers bat roosting opportunities - Shrubs along SE & SW – offers connectivity/corridors to deciduous woodland. <p>Offsite:</p> <ul style="list-style-type: none"> - Deciduous woodland (immediately adjacent)

<p>IEF Species</p>	<p>Onsite:</p> <ul style="list-style-type: none"> - Bats (potential for roosting, foraging and commuting) - West European hedgehog (potential) - Birds (potential for protected and nesting birds) <p>Offsite:</p> <ul style="list-style-type: none"> - None
<p>Invasive Non-native Species (Schedule 9 species) If present, a legal obligation exists to avoid spreading these plants into the wider environment.</p>	<p>On site: None recorded</p> <p>In the immediate vicinity:</p> <ul style="list-style-type: none"> - Himalyan balsam (<i>Impatiens glandulifera</i>),
<p>Avoidance Measures Avoidance – Significant harm to wildlife species and habitats should be avoided through the design.</p>	<p>Avoid impacts to the following habitats:</p> <ul style="list-style-type: none"> - Buildings – potential roosting features. - Root area/limbs/trunk of T1 located in parking area – offers roosting potential - Shrubs along SE and SW boundaries – offer connectivity to adjacent woodland.
<p>Mitigation Measures 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.</p>	<ul style="list-style-type: none"> - Timing constraints for clearance of woody species (if undertaken) - Replacement native plantings for any cleared shrubs (ornamental cherry) and tree – eucalyptus. - Permanent shrub buffer of three metres along SE and SW boundaries, gaps infilled with native shrubs and small trees - Keep grass mown short to prevent habitation from potential offsite reptiles - Lawn/urban garden creation - Artificial Lighting Strategy to protect hedgerows onsite and woodland offsite - Covered trenching / suitably positioned plank to permit escape and capped pipework at night - Impact Avoidance during the Construction Phases - Provision of wildlife access (150mm x 150mm) at base of any site/garden fences
<p>Enhancement Measures Ecological enhancement measures are those that improve the ecological condition of the development site (or an alternative site) after the development is complete. Ecological enhancement measures must, therefore, be over and above any avoidance, mitigation and</p>	<ul style="list-style-type: none"> - Installation of gully pot mesh ladders - Hedgerow creation - Inclusion of built-in bat provision in half of new dwellings - A built-in solitary bee brick in each new dwelling - Built in bird boxes - Landscaping to Benefit Wildlife

compensation measures required to neutralise the impacts of the development on wildlife.	
Landscape and Ecological Management Plan (LEMP)	<ul style="list-style-type: none"> - Not recommended for this site. - 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.
Baseline Biodiversity Habitat Calculation (Biodiversity Metric 3.0)	<p>Some local authorities require Biodiversity Net Gain to be achieved onsite.</p> <p>The site's baseline habitat value has been calculated using the latest 3.0 DEFRA Biodiversity Net Gain Metric (BNG).</p>

On-site baseline	<i>Habitat units</i>	0.47
	<i>Hedgerow units</i>	0.15
	<i>River units</i>	0.00

Summary: - The biodiversity calculation of this site has been calculated as following:

- **Area:** Total Habitat Units (modified grassland + introduced shrub + developed land, sealed surface) = 0.47
- **Linear:** Hedgerow Units (ornamental non-native) = 0.15
- To achieve a net gain of 10% or above, specific mitigation and enhancement of the site will be required.
- An overview of mitigation requirements is provided within this report.
- An overview of general onsite Enhancement features is also provided within the report.

Specific Enhancement measures to increase the biodiversity value of the site's area and linear habitats to achieve the expected % net gain can only be provided where accurate area and linear feature measurements and an Illustrated Proposal have been provided.

Where BNG is a requirement for the site – this will be provided in a separate Biodiversity Net Gain Calculation document.

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 Description

The site is located on the southern edge of Otterbourne, which is situated approximately ten kilometres north of central Southampton. The site location is given in Figure 3.1.

The site comprises of a single detached dwelling, an outbuilding and a summerhouse. There is a large rear garden to the east which is the proposed site of the new dwellings. The main habitats comprise of amenity grassland and ornamental shrubs and hedging. Deciduous woodland is located immediately offsite to the east. Local habitats are residential to the north and west, with agricultural fields and woodland to the east and south.

The area surveyed is approximately 0.287 hectares in extent.

3.3 Proposed Development

No specific design regarding the location, orientation and form of works for the proposed development have been provided to inform this report. The outline proposal includes the construction of 3-5 residential detached and semi-detached properties, with associated parking and gardens in the rear garden of Minstrels. New access is to be created along the north-eastern boundary of the site.

An overview only is given here. The LPA should satisfy themselves that the associated planning documents submitted with this report reflect the understanding of the impact of the works.

Figure 3.1 Location of Proposed Development



Location map of the site
(Red line boundary = area surveyed)



Wider landscape location map to put site in context
(Site as indicated and 2km radius)

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 two-kilometre radius:

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

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

In light of the habitats present within the site, a biological records search was not commissioned as it was not considered appropriate for the scale and probable impact of the proposed development.

4.2 Field Survey

A field survey was undertaken by the cited ecologist. 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. It being accepted that some LPA's now expect a survey to be updated after twelve months.

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, 2021) 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.

In line with Defra recommendations, developments will be monitored for up to 30 years to ensure that they accord with their biodiversity obligations to mitigate losses and achieve biodiversity gain; these obligations will be secured by way of planning conditions.

4.5 Biodiversity Impact Assessment: Biodiversity Losses and Gains

Biodiversity impact assessment calculations determine the biodiversity losses and gains associated with any proposed development. The calculations are determined using the DEFRA/Natural England Biodiversity Metric 3.0 Beta Version (Natural England, 2019a and 2019b).

The UK Government included biodiversity net gain within the Environment Act which received Royal Assent in 2021. This makes achieving biodiversity net gain for a proposed development mandatory.

Mandatory biodiversity net gain as set out in the [Environment Act 2021](#) applies in England only by amending the Town & Country Planning Act 1990 (as amended) and is likely to become law in 2023. The Act sets out the following key components to mandatory biodiversity net gain:

1. Minimum 10% gain required calculated using Biodiversity Metric and approval of net gain plan
2. Habitat secured for at least 30 years via obligations/ conservation covenant
3. Habitat can be delivered on-site, off-site or via statutory biodiversity credits
4. There will be a national register for net gain delivery sites
5. The mitigation hierarchy still applies of avoidance, mitigation and compensation for biodiversity loss
6. Will also apply to Nationally Significant Infrastructure Projects (NSIPs)
7. Does not apply to marine development
8. Does not change existing legal environmental and wildlife protections

To conduct a full BNG calculation suitable for submission with a planning application, accurate area and linear dimensions of the finished, developed site must be provided. This report only includes baseline calculations of the current habitats on site, which were identified during the Phase 1 habitat survey.

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):	River Itchen	860m to the SE
Special Protection Area (SPA):	None	n/a
RAMSAR:	None	n/a
World Heritage Site:	None	n/a
Site of Special Scientific Interest (SSSI):	River Itchen	800m to the SE
Areas of Outstanding Natural Beauty (AONB):	None	n/a
National Nature Reserve (NNR):	None	n/a
Local Nature Reserve (LNR):	Shawford Down	1.8km to the NE
Non-statutory Sites within 2km		
Sites of Importance for Nature Conservation (SINC):	Otterbourne School Meadow Long Mead Great Moorlands Copse Otterbourne Hill Common Otterbourne Wood Oakwood Copse Sparrowgrove Copse Pitmore Copse Lincolns Copse Allbrook Clay Pit Wells Row Shawford Down	

Natural England Consultation

The site lies within a SSSI Impact Risk Zone, but the type of development (residential) is less than 100 units, therefore consultation with Natural England is not required.

Habitats Regulation Assessment (HRA)

The site is situated 860m from the River Itchen Special Area of Conservation (SAC).

Dependent on the type and scale of proposal, the developers could be required to provide a shadow screening assessment to the local planning authority (LPA) to aid in its Habitats Regulations Assessment of the likely impact on the River Itchen SAC; consultation with the LPA is recommended.

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

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

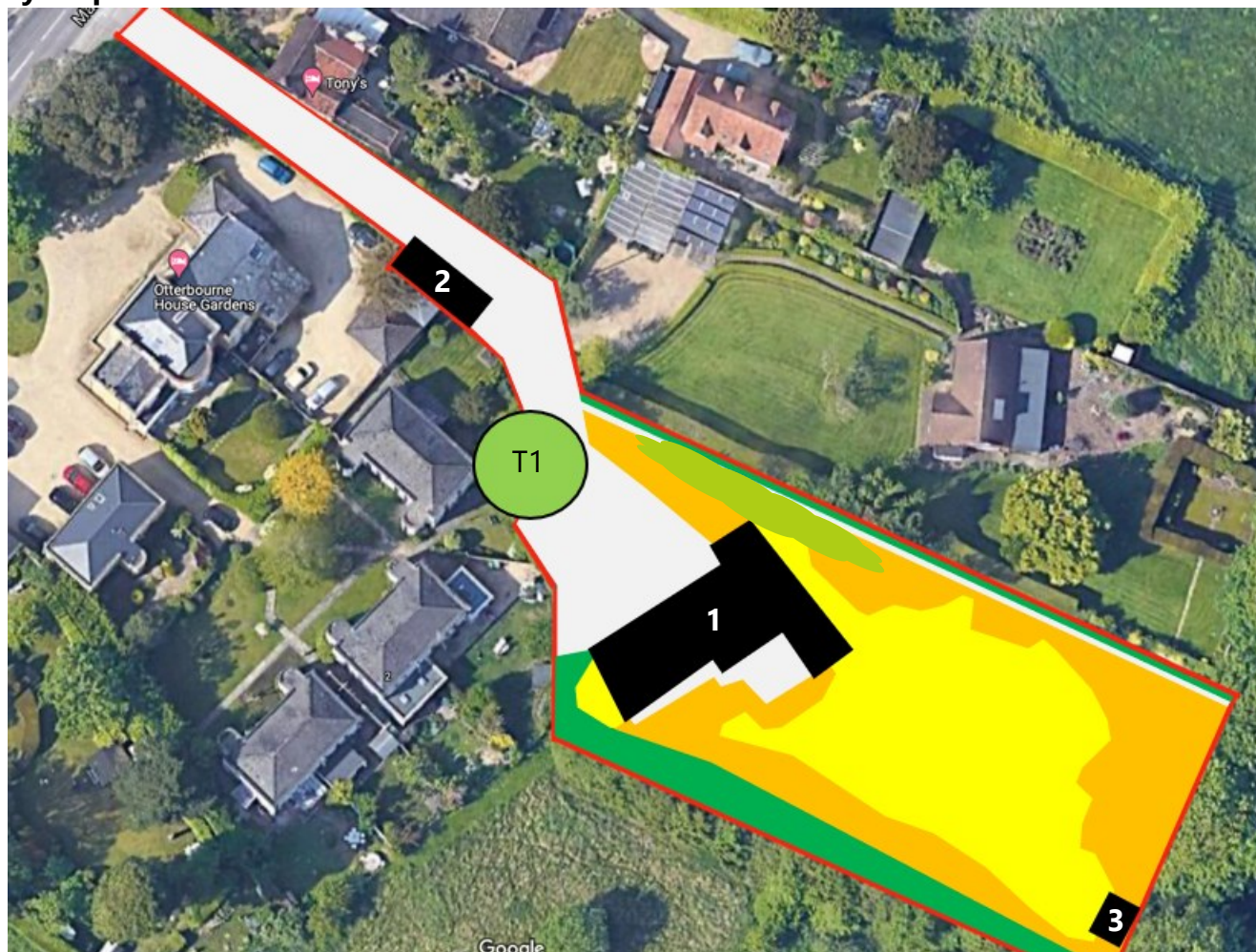
This section details the habitats present on the Site and recorded during the Extended Phase 1 Habitat Survey, along with important habitats within the vicinity of the site. Figure 5.1 maps the Phase 1 habitats recorded onsite during the field survey and Table 5.1 summarises the area of each of these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

Table 5.1. Phase 1 habitats associated with the site

Phase 1 Habitat Type - Area	Area (ha)
Hardstanding	0.095
Ornamental shrubs	0.086
Amenity grassland	0.075
Buildings	0.031
T1	N/A
Habitat Type – Linear	Length (m)
Ornamental hedgerows	150

Figure 5.1 Extended Phase 1 Habitat Survey Map

Habitat Key	
Survey boundary	
Amenity grass	
Ornamental shrubs	
Ornamental cherry & eucalyptus.	
Buildings	
1 – House	
2 – Outbuilding	
3 - Summerhouse	
Hardstanding	
Ornamental hedgerow	
T1 with bat roost potential	



Buildings



Minstrels – not surveyed



Outbuilding



Gaps at dry verges



Summerhouse



Missing tiles

Onsite

There are three buildings on site; Minstrels house, an outbuilding and a summerhouse. It is understood that all three buildings will remain in situ. The house was not surveyed.

There were no perceived constraints to the survey of the two other buildings, with all internal and external surfaces inspected and assessment made of the roof structure.

External features:

Outbuilding: Brick construction under an interlocking tile roof.

Summerhouse: Brick construction under a clay tile roof. There are several raised and missing tiles on the roof. The summerhouse is located adjacent to deciduous woodland.

Internal Features:

Outbuilding: Presence of cavity wall, insulation and lining: not known. No void present in the open section of the building.

Summerhouse: Presence of cavity wall, insulation and lining: not known. A small, inaccessible roof void is likely to be present within the roof structure.

Value for protected species:

The building exteriors were searched visually using binoculars or a close range monocular and photographed with a digital zoom camera for field evidence of bats or birds, with particular attention being paid to sheltered areas such as window ledges and pipes where bat/bird droppings might lie undisturbed from the weather and areas hidden from sight. No evidence of bat roosting or bird nesting was observed.

The interior spaces were checked for light ingress and access points for bats and birds. Bat droppings, 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 was considered.

Bird droppings, whitewash, pellets, nesting materials, birds, dead or alive, and potential for nesting was considered, including areas hidden from sight.

No physical evidence of bat roosting or bird nesting was observed in the Summerhouse and Outbuilding. However, potential for roosting bats exists.

Roost Assessment: -

Outbuilding: Assessed as low potential for roosting bats and nesting birds.

Summerhouse: Assessed as moderate potential for roosting bats and low potential for nesting birds.

Building Area Onsite	0.031 hectares
Offsite	There are a number of buildings surrounding the site to the north and west.
Legal Constraints	<p>Bats: The outbuilding offers low value for roosting bats. The summerhouse offers moderate value for roosting bats. All bats and their roosts are protected by law.</p> <p>Birds: No nests are present but low potential exists. All nesting birds and their eggs are protected by law from disturbance, harm or death. The structure must be retained where nesting and fledging is occurring, usually between March and September, but bird specific.</p>

Important Ecological Feature	Yes
Further Survey Work	<p>Outbuilding and Summerhouse</p> <p>Bat Emergence Surveys are required if works/future works are proposed to those features assessed as offering potential for bat roosts.</p> <p>A preliminary bat Survey will be a requirement if works/future works are proposed to features associated with the roof at Minstrels House.</p>
Avoidance Measures	The buildings are not to be altered or removed, until further survey works have been commissioned and mitigation provided.
Mitigation Measures	Avoidance of Impact
Enhancement Measures	Not required

Amenity Grassland



Amenity grassland

Onsite	<p>The amenity grassland forms a large area in the rear garden of Minstrels. The grassland is species poor and mown short, offering low value to wildlife, and negligible value to protected species.</p>
Area of Amenity Grass Onsite	0.075 hectares
Offsite	The surrounding gardens to the north and west comprise similar amenity grassland.
Legal Constraints	None
Important Ecological Feature	No
Further Survey Work	Not required

Avoidance Measures	None required
Mitigation Measures	<ul style="list-style-type: none"> - Keep grass mown short to prevent habitation from potential offsite reptiles - Lawn / urban garden creation
Enhancement Measures	Not required

Ornamental Shrubs



Mature shrubs along south-eastern boundary

Onsite	<p>A wide variety of mature shrub species are located around the perimeter of the grassland to the boundaries. The shrubs offer nesting opportunities to birds, and foraging opportunities to invertebrates.</p> <p>The proposal is likely to include the removal of some of the ornamental shrubs, including ornamental cherry trees. However, apart from offering nesting value, the majority of shrubs to the north aspect are of low ecological value.</p> <p>The shrubs to the SE & SW offer greater value as they provide connectivity to adjacent woodland.</p>
Area of Shrubs Onsite	0.086 hectares
Offsite	Residential gardens are located in the local vicinity
Legal Constraints	The shrubs offer habitat to nesting birds and connectivity to offsite woodland.
Important Ecological Feature	Yes – birds/connectivity.
Further Survey Work	Not required.
Avoidance Measures	Avoid artificial lighting spill to SE and SW aspect onto offsite woodland.

	Avoid shrub clearance in nesting season where birds are actively nesting.
Mitigation Measures	<ul style="list-style-type: none"> - Replacement shrub plantings, where felled, along the SW and SE boundary to infill boundary hedge. Native cherry recommended. - Seasonal constraints of woody species clearance to avoid active nesting/fledging seasons. - Maintain and enhance shrub buffers
Enhancement Measures	Not required.

Hardstanding



Hard standing parking area

Onsite	<p>There is an area of hardstanding to the west of Minstrels and along the long track, which continues past the outbuilding to Main Road. The hardstanding comprises of chippings, providing a permeable surface.</p> <p>This habitat is of negligible value to wildlife, however, it is providing protection to the root area of T1 to the west entrance.</p>
Area of Hardstanding Onsite	0.095 hectares
Offsite	Large areas of bare ground and hardstanding occur in the vicinity of the site.
Legal Constraints Important Ecological Feature	With regards to protecting T1 which offers potential roosting features for bats.
Further Survey Work	Reference the associated Arboricultural report for detail. Indirectly – if hardstanding is to be taken out in the vicinity of

	T1 root area, thereby negatively affecting the health of the tree, a Bat Emergence Survey will be a requirement.
Avoidance Measures	Avoid impacting root area of T1
Mitigation Measures	Reference ASR_Minstreles_Karnik_February_2022
Enhancement Measures	Not required

Trees (free-standing)



Tree with potential bat roosting features

Onsite

Reference ASR_Minstreles_Karnik_February_2022 and Tree Protection Plan/Tree Constraints Plan.

A eucalyptus is located to the NE boundary and likely to be felled. The client should ascertain there is no Tree Protection Order for this tree. The tree is young and of low value for biodiversity. Eucalyptus take substantial amounts of water from the environment. A native replacement planting will be of greater local benefit to wildlife and the habitat onsite.

A mature, non-native tree is located on the western side of the parking area outside Minstreles. The tree is surrounded by hardstanding with the root area presumed beneath.

This tree has several features suited to roosting bats.

It is understood that this tree will be protected throughout the development.

If the intention to retain and protect the tree changes, a Bat Emergence Survey will be a requirement before any works proceed on it. This is because any works which affect the tree health causing damage either to its root area or its limbs/trunk could indirectly cause the loss of a potential bat roosting site.

In this case, a Bat Emergence Survey would be required to ascertain the presence of bats (if present) and provide mitigation for their protection, if present, as per legislation for the protection of bats.

If no impacts are proposed, the tree should be protected from artificial lighting spill, to assume the presence of protected species and prevent harm.	
Offsite	Not known
Legal Constraints	The free-standing tree offers habitat for protected bat species
Important Ecological Feature	Yes – T1
Further Survey Work	Bat Emergence Survey required if T1 is to be impacted. Reference ASR_Minstrels_Karnik_February_2022
Avoidance Measures	Avoid impact to T1 – including avoidance of artificial light spill.
Mitigation Measures	<ul style="list-style-type: none"> - Artificial Lighting Strategy - Mitigation planting for felled eucalyptus – native tree to be planted onsite – on SE or SW boundary.
Enhancement Measures	Not required

Ornamental Hedgerows



Clipped hedgerow (NE boundary)



Unclipped hedgerow (SE boundary)

Onsite

Reference ASR_Minstrels_Karnik_February_2022

Ornamental leylandii hedgerows form the north-eastern and south-eastern boundaries. Both are mature, and the south-eastern hedgerow has not been clipped. Both hedgerows are of negligible ecological but offer habitat for nesting birds and are likely used by bats as commuting corridors.

It is understood that both hedgerows will not be directly impacted by the proposed works. A new access road will need to be constructed along the north-eastern boundary, but no hedgerow removal should be required.

Length of Hedgerows Onsite	Ornamental hedgerows: 150 metres
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Offsite	Hedgerows are a feature of the surrounding landscape and connect the site to habitats within the wider landscape.
Legal Constraints	The hedgerows offer habitat for nesting birds
Important Ecological Feature	Yes – where birds are nesting.
Further Survey Work	Reference ASR_Minstreels_Karnik_February_2022
Avoidance Measures	All hedgerows should be retained as an established buffer/ boundary to the site. If the hedgerows are taken out, replacement habitat will be a requirement.
Mitigation Measures	<ul style="list-style-type: none"> - Artificial Lighting Strategy - Appropriate timing of woody species removal - Maintain and enhance shrub buffers
Enhancement Measures	<ul style="list-style-type: none"> - Hedgerow creation

Offsite Habitats



End of garden immediately adjacent to deciduous woodland

Offsite	The eastern edge of the rear garden backs onto deciduous woodland. The woodland may offer habitat to protected species and is to be protected from any light spill created by the new properties.
Legal Constraints	The woodland offers habitat for protected species.
Important Ecological Feature	Yes - offsite
Further Survey Work	Not required
Avoidance Measures	None

Mitigation Measures	- Artificial Lighting Strategy
Enhancement Measures	Not required

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

Bats: Structures – this has been detailed in the Section on habitats.

Bats – Trees

The free-standing tree next to the parking area has been assessed as offering bat roosting potential of Category 1: Moderate Suitability. All other trees onsite have been assessed as Category 3: Negligible Suitability. Category descriptions are outlined below:

- 1* High Suitability: Trees with obviously suitable PRFs which are considered capable of supporting larger, established roosts of high conservation significance.
- 1 Moderate Suitability: Trees with potentially suitable PRFs but which are not likely to support roosts of high conservation status.
- 2 Low Suitability: Trees of sufficient size/age to exhibit PRFs but nonvisible from ground-level or features seen appear to offer limited potential.
- 3 Negligible Suitability: Trees with no /negligible potential to support bats.

Bats – Foraging and Commuting Habitat

An assessment was made of the suitability of the surveyed area and the surrounding landscape to support foraging and/or commuting bats. The assessment was based on the presence of key habitat features such as woodland, scrub, hedgerows, grassland and open water, which are highly attractive to bat species.

Of importance, is the presence of unlit semi-natural vegetation and habitat linkage between the site and the surrounding landscape such that the site may form an integral part of landscape-scale habitat for bats. The presence of optimal habitat features nearby including woodland, hedgerows, grassland and open water improve the probability of this site being utilised by commuting bats.

The habitat is assessed as being of moderate quality due to its proximity to deciduous woodland and the records of nearly all bat species being present within a 2km radius of the site. Key habitat features onsite include the grassland, shrubs and hedgerows. The free-standing trees and buildings may also provide roosting habitat.

<p>European Protected Species Licences within a 2km radius of the site listed the presence of the following species: brown long-eared (<i>Plecotus auritus</i>), common pipistrelle (<i>Pipistrellus pipistrellus</i>), lesser horseshoe (<i>Rhinolophus hipposideros</i>), greater horseshoe (<i>Rhinolophus ferrumequinum</i>), whiskered (<i>Myotis mystacinus</i>), Brandt's (<i>Myotis brandtii</i>), Daubenton's (<i>Myotis daubentonii</i>), Natterer's (<i>Myotis natterei</i>), noctule (<i>Nyctalus noctula</i>), soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), serotine (<i>Eptesicus serotinus</i>), western barbastelle (<i>Barbastella barbastellus</i>) and Alcaethoe (<i>Myotis alcathoe</i>).</p>	
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	Yes (potential for roosting, foraging and commuting)
Further Survey Work	Bat Emergence Surveys – required where present/future works include the Summerhouse and the Outbuilding, and the Category 1 Tree. Preliminary Roost Assessment required if works are proposed to Minstrels, which could affect roofing features, or any features associated with bat ingress/roosting.
Avoidance Measures	All habitat on site that supports / with the potential to support legally protected and/or notable bat species must be retained and mitigation measures put in place to avoid damage (see below).
Mitigation Measures	<ul style="list-style-type: none"> - Artificial Lighting Strategy - Maintain and enhance shrub buffers
Enhancement Measures	<ul style="list-style-type: none"> - 1 x in-built bat roosting provision in half of new units

West European Hedgehog

Onsite	
<p>No evidence of west European hedgehog (<i>Erinaceus europaeus</i>) was recorded on site during the field survey. The habitats onsite have been assessed as having moderate capacity to support hedgehogs. This species may utilise the grassland and use the cover of the shrubs and hedgerows.</p>	
Offsite	The woodland immediately adjacent to the site has the potential to support West European hedgehog.

	West European hedgehogs have been recorded within a 2km radius of the site since 2000 (Mammal Mapper, www.nbnatlas.org).
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	Yes
Further Survey Work	Phase 2 survey not required
Avoidance Measures	None required
Mitigation Measures	<ul style="list-style-type: none"> - Artificial Lighting Strategy - Covered trenching / suitably positioned plank to permit escape and capped pipework at night - Maintain and enhance shrub buffers - Access for mammals across developed site
Enhancement Measures	Not required

Birds

Onsite	Habitats such as the shrubs and hedgerows at this site are likely to support common and widespread birds, including nesting birds. Due to the size and quiet location of the garden on the edge of the woodland, protected and/or notable birds might also visit the site.
Offsite	The site has habitats suitable for the following legally protected and/or notable birds; house sparrow (<i>Passer domesticus</i>), dunnock (<i>Prunella modularis</i>), greenfinch (<i>Chloris chloris</i>) and bullfinch (<i>Pyrrhula pyrrhula</i>), which have all been recorded within a 2km radius of the site since the year 2000 [Dataset: BTO/JNCC/RSPB Partnership at www.nbnatlas.org].
Legal Constraints	All bird species are protected whilst nesting, breeding and rearing young. 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.
Important Ecological Feature	Yes (protected/notable birds and nesting birds)
Further Survey Work	Phase 2 survey not required
Avoidance Measures	None required

Mitigation Measures	<ul style="list-style-type: none"> - Where birds are actively nesting/fledgling in a habitat – works to the habitat are prohibited. - Appropriate timing for woody species removal - Maintain and enhance shrub buffers
Enhancement Measures	<ul style="list-style-type: none"> - In-built bird provision in each new dwelling - Hedgerow creation

Great Crested Newt

Onsite	
The onsite habitats are not suitable for great crested newt (<i>Triturus cristatus</i>).	
Offsite	<p>There are no Great Crested Newt Survey Returns or Pond Survey Results within a 2km radius of the site (www.magic.gov.uk) or local records of this species (www.nbnatlas.org).</p> <p>The desk study shows the presence of a small pond within the neighbours garden . The condition of this pond and its capacity to support great crested newts and other amphibians is not known.</p>
Legal Constraints	None
Important Ecological Feature	No
Further Survey Work	Not required
Avoidance Measures	None required
Mitigation Measures	Not required
Enhancement Measures	Not required

Invasive Non-native Species

Onsite	
No invasive, non-native species were recorded during the walkover survey.	
Offsite	The following invasive, non-native species have been recorded within a 2km radius of the site; Himalayan balsam (<i>Impatiens glandulifera</i>) [Dataset Vascular Plant Records, I-Record, www.nbnatlas.org]
Legal Constraints	None
Important Ecological Feature	No
Further Survey Work	Phase 2 survey not required

Avoidance Measures	n/a
Mitigation Measures	n/a
Enhancement Measures	n/a

Further Species Considerations

Onsite

Habitats were assessed for the presence of the following species, or group of species:

- European badger
- Eurasian otter
- European water vole
- Brown hare
- Harvest mouse
- Hazel dormouse
- Reptiles
- Amphibians
- Rare/notable invertebrates

Major habitat components that would sustain these species are absent and it is highly unlikely they are on site.

Legal Constraints	None
Important Ecological Feature	No
Further Survey Work	Phase 2 survey not required
Avoidance Measures	None required
Mitigation Measures	- Impact avoidance during the construction phases
Enhancement Measures	- Gully pot mesh ladders

6. Biodiversity Mitigation and Enhancement Details

The ecological mitigation measures and biodiversity enhancements required for the development 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) at the end of this report after the Conclusions.

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.

6.1 Further Phase 2 Surveys

This section provides recommendations for further ecological survey effort. The surveys/monitoring are considered justified in order to provide an up-to-date and robust baseline for a fully detailed assessment of potential impacts.

Providing the following habitats are not disturbed: Buildings and tree near parking area with potential roosting features, Phase 2 Surveys are not required.

Bat Emergence Surveys

Bat Emergence Surveys are required **if** any of the buildings are proposed for demolition or alteration, or if the tree with PRF's is to be impacted by the new development. It is the client's responsibility to ensure that these Bat Emergence/Re-entry Surveys are commissioned and are undertaken. Emergence/Re-entry Surveys can only be undertaken between May and August each year. It may be possible for surveys to extend into September too. It is never too soon to arrange emergence/re-entry surveys, even if they cannot be undertaken for several months. This is because the emergence survey season, in particular May and June, are usually exceptionally busy for bat surveyors.

Arboricultural Survey

Reference ASR_Minstrels_Karnik_February_2022

Two trees were assessed as onsite – T1 and a Eucalyptus. The eucalyptus will likely be felled and mitigation plantings made. A few ornamental cherries might be felled along with some leylandii. Native mitigation plantings must be made.

The BS5837 **tree survey**, looks at the age, health and potential growth of a **tree**/trees in a designated area. These are generally requested by local councils when applying for planning permission to inform of constraints and how a development might impact a tree/s or its root protection zone or which tree/s can be safely removed in order that the development can legally proceed without inadvertent harm to protected species.

6.2 Mitigation and Enhancements

This section provides general recommendations for mitigation and enhancement measures. The Ecological Constraints and Opportunities map (ECOPS) should be consulted for locations and area.

Removal of Woody Species

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

Covered Trenching and Capped Pipework

Trenches or large excavations should be covered overnight to prevent wildlife such as 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.

Gully Pot Mesh Ladders for Amphibians/Small Mammals

Install mesh / fixing simple free-standing mesh ladders in gully pots to permit amphibians and small mammals to escape; gully pots act as a pit-fall trap to small mammals and amphibians. This is an inexpensive but highly successful way to avoid unnecessary wildlife deaths and contributes high gain value to the development. See <https://www.thebhs.org/shop/the-bhs-amphibian-gully-pot-ladder>.



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 and street lighting.

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

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

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

Impact Avoidance During the Construction Phase - Overview

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.
- Trenches or large excavations should be covered overnight to prevent wildlife such as 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.
- 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 with ecological advice sought.

Hedgerow Creation

A new native hedgerow should be created to the east of Minstrels, to screen the new development and provide additional nesting habitat.

In addition, to further enhance the hedgerow and give an overall net gain to the site for wildlife, planting an EH1 Emorsgate mixture containing wild flowers and grasses that are tolerant of semi-shade, is suitable for sowing beneath newly planted or established hedges and on woodland edges, rides and glades.

- 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*); pedunculate oak (*Quercus robur*); crab apple (*Malus sylvestris*); holly (*Ilex aquifolium*); elder (*Sambucus nigra*); wild privet (*Ligustrum vulgare*); dogwood (*Cornus sanguinea*); guelder-rose (*Viburnum opulus*); wayfaring-tree (*Viburnum lantana*); grey willow (*Salix cinerea* agg.); goat willow (*Salix capraea*); hornbeam (*Carpinus betulus*).
- Use two-year-old pot grown shrubs planted in a double, staggered row at a rate of at least four plants per meter.
- 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.
- 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.

- Individual species should be selected at intervals of approximately 20m to remain uncut, allowing these individuals to develop into mature trees to attract potential invertebrate prey species.
- 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.

The EH1 Mixture comprises: Wildflowers

%	Latin name	Common name
0.5	<i>Achillea millefolium</i>	Yarrow
1.2	<i>Agrimonia eupatoria</i>	Agrimony
1.5	<i>Alliaria petiolata</i>	Garlic Mustard
0.4	<i>Arctium minus</i>	Lesser Burdock
0.5	<i>Betonica officinalis</i> - (<i>Stachys officinalis</i>)	Betony
1.5	<i>Centaurea nigra</i>	Common Knapweed
0.4	<i>Chaerophyllum temulum</i>	Rough Chervil
2	<i>Galium album</i> - (<i>Galium mollugo</i>)	Hedge Bedstraw
1	<i>Galium verum</i>	Lady's Bedstraw
0.3	<i>Geranium pyrenaicum</i>	Hedgerow Crane's-bill
0.6	<i>Hypericum perforatum</i>	Perforate St John's Wort
0.3	<i>Lathyrus sylvestris</i>	Narrow-leaved Everlasting-pea
0.8	<i>Leucanthemum vulgare</i>	Oxeye Daisy - (Moon Daisy)
0.5	<i>Origanum vulgare</i>	Wild Marjoram
0.7	<i>Plantago lanceolata</i>	Ribwort Plantain
1	<i>Primula veris</i>	Cowslip
2.5	<i>Silene dioica</i>	Red Champion
0.5	<i>Silene latifolia</i>	White Champion
2	<i>Torilis japonica</i>	Upright Hedge-parsley
0.5	<i>Verbascum thapsus</i>	Great Mullein
0.5	<i>Vicia cracca</i>	Tufted Vetch
0.8	<i>Vicia sativa</i> ssp. <i>segetalis</i>	Common Vetch

And grasses:

%	Latin name	Common name
10	<i>Agrostis capillaris</i>	Common Bent
2	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass (w)
7	<i>Brachypodium sylvaticum</i>	False Brome (w)
20	<i>Cynosurus cristatus</i>	Crested Dogstail
1	<i>Deschampsia cespitosa</i>	Tufted Hair-grass (w)
28	<i>Festuca rubra</i>	Slender-creeping Red-fescue
12	<i>Poa nemoralis</i>	Wood Meadow-grass

Permanent Shrub Buffers

Usually, grassland buffers around the perimeter of the site are recommended. However, in this case, a mixture of mature, flowering shrubs are already in place and these should remain in situ along the south-eastern and south-western boundaries to continue providing nesting habitat and foraging opportunities.

Permanent shrub buffers of three metre depth will be maintained along the hedgerows, and any gaps are to be infilled with native shrubs or small trees, such as rowan (*Sorbus aucuparia*); silver birch (*Betula pendula*); bird cherry (*Prunus padus*), as set out in the ECOP.

Lawn / Urban Garden Creation

When landscaping urban gardens, the floral mixture should be of greater diversity than that there originally. Mixture EL1 contains slow growing grasses with a selection of wildflowers that respond well to regular short mowing.

- No artificial inputs, such as artificial pesticides and fertilisers, should be applied on site. This helps to maintain and improve the floristic diversity.

EL1 mix comprises the following wildflowers and grasses:

%	Latin name	Common name
4	<i>Galium verum</i>	Lady's Bedstraw
0.5	<i>Leontodon hispidus</i>	Rough Hawkbit
1	<i>Leucanthemum vulgare</i>	Oxeye Daisy - (Moon Daisy)
3.7	<i>Lotus corniculatus</i>	Birdsfoot Trefoil
3	<i>Primula veris</i>	Cowslip
4	<i>Prunella vulgaris</i>	Selfheal
3.5	<i>Ranunculus acris</i>	Meadow Buttercup
0.3	<i>Trifolium pratense</i>	Wild Red Clover

%	Latin name	Common name
8	<i>Agrostis capillaris</i>	Common Bent
40	<i>Cynosurus cristatus</i>	Crested Dogstail
28	<i>Festuca rubra</i>	Slender-creeping Red-fescue
4	<i>Phleum bertolonii</i>	Smaller Cat's-tail

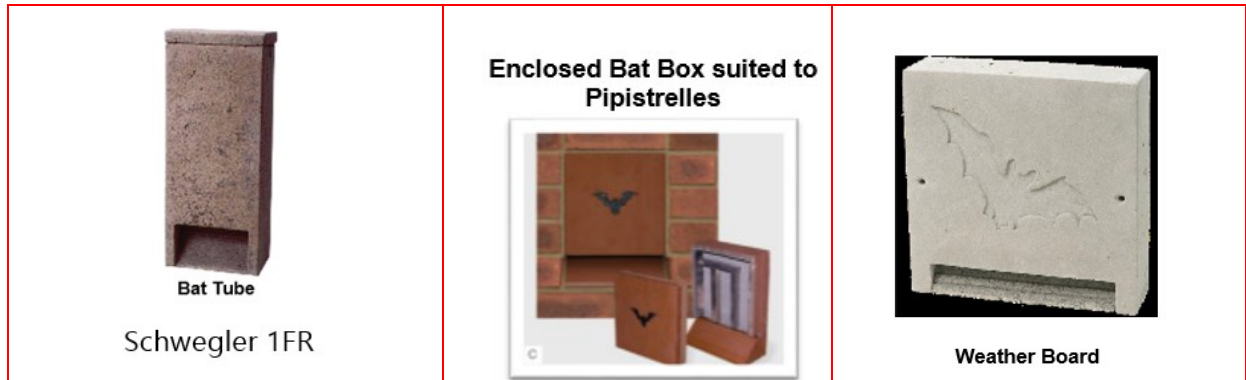
Bat Roosting Provision

Enhancement: One built in bat roosting provision per two dwellings of a type similar to that illustrated is required.

- 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.

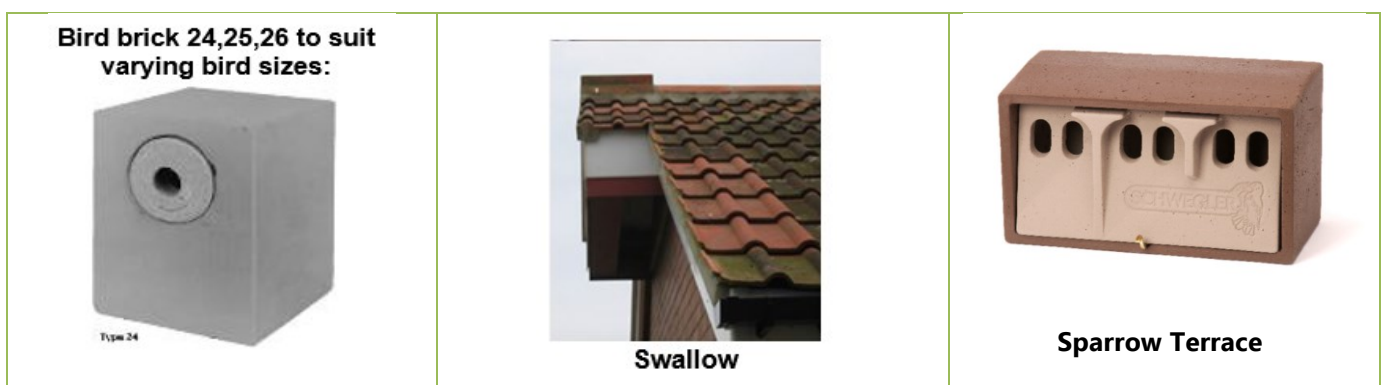


Bird Nesting Provision

Mitigation: One built in bird nesting brick/box to be provided in each new dwelling.

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



Solitary bee bricks

Inter-property fences allowing wildlife access

Any fences onsite post-construction, including those between residential properties, will allow the movement of animals beneath them by being raised at least 150mm above ground level or having gaps 150mm x 150mm cut up from the base every 20 metres to allow animals through.

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.
- Leave rough areas of vegetation and native trees and shrubs around the vicinity of any replacement building will also maintain nesting opportunities.
- Avoid pesticide and insecticide use.

- For garden areas: improve the area of green habitat within the garden wherever feasible and where paved spaces and balconies must be used also consider:
- Planters and raised beds
 - Courtyard trees, low level shrubs, hedges
 - Planting climbers and creepers.
- 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.
- Appropriate aftercare and management should ensure that these areas are maintained to give optimum benefit to wildlife.

7. Conclusions

The Extended Phase 1 Habitat Survey undertaken along with the desktop survey and associated ASR_MinstreIs_Karnik_February_2022, are 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. Providing the three buildings and tree with potential roosting features are unaltered and unimpacted by the development, further survey work is not required.

A baseline calculation has been made of the habitat value currently on site using the DEFRA Biodiversity Net Gain Metric 3.0. Results can be seen in the non-technical summary at the start of this report, or in the accompanying document: BaselineBNG_MinstreIs_Karnik_February_2022.

A strategy of 'Avoidance' must be employed to significant harm to wildlife species and habitats is avoided through the design of the site. Where significant harm cannot be wholly or partially avoided, 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. All measures should be included as a planning condition for the proposed development.

Ecological enhancement measures are required to improve the ecological condition of the development site (or an alternative site) after the development is complete. Ecological enhancement measures must, therefore, be over and above any avoidance, mitigation and compensation measures required to neutralise the impacts of the development on wildlife. These enhancements should result in a net ecological gain for the site and should be included as a planning condition for the proposed development.

Providing the recommendations within this report are adhered to, with the mitigation measures and enhancements agreed, there would appear to be no ecological constraints to prevent this development.

The local planning authority (LPA) should ensure that the mitigation measures, 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.

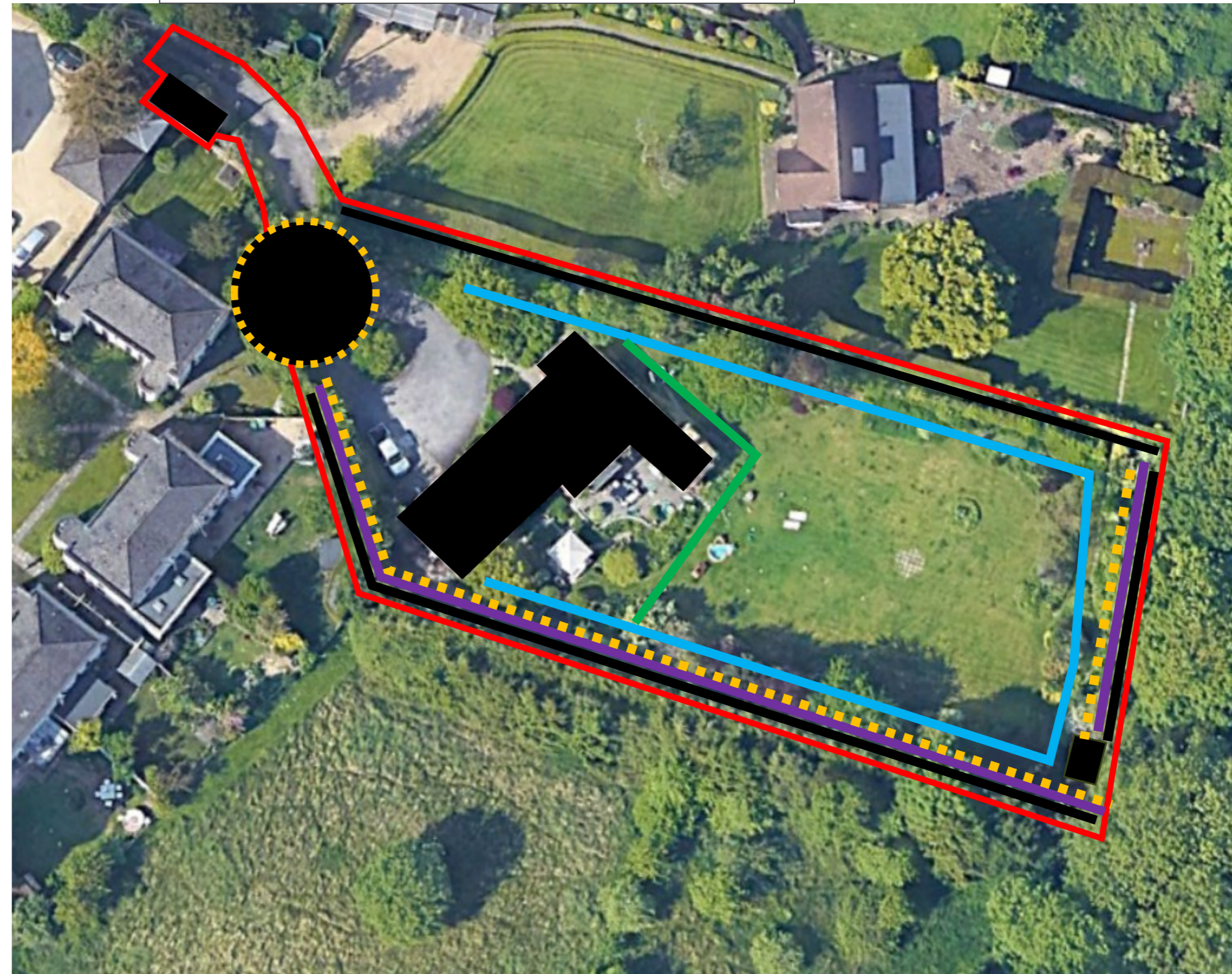
An Ecological Clerk of Works or a suitably experienced ecologist should oversee the implementation of the ecological mitigation measures and the enhancements for biodiversity.

It is the responsibility of all those involved with the proposed development works at this site to ensure that wildlife protection and nature conservation legislation is complied with throughout the lifespan of the development, at every stage. 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.

Also: Reference ASR_Minstrels_Karnik_February_2022 and associated Tree Protection Plan/Tree Constraints Plan.

8. Map of Ecological Constraints and Opportunities (ECOP)

Habitats and Species ECOLOGICAL CONSTRAINTS	
Site boundary	
PHASE 2 SURVEYS REQUIRED IF ANY CHANGES ARE PROPOSED TO BUILDINGS OR T1.	
AVOID IMPACT TO -	
Hedgerows, offsite woodland, buildings and retained shrubs within three metre distance of SE and SW boundaries	
Avoid impact to T1	
MITIGATION REQUIREMENTS	
No artificial light to spill towards hedgerows, tree with PRF's, shrub buffers or woodland	
Woody species constraint for clearance of shrubs and eucalyptus outside of buffer area – ecological supervision required during March – September	
Permanent shrub buffers of 3m to be maintained along SE and SW boundaries. Gaps to be infilled with native shrubs and small trees	
Unmappable Mitigation Requirements	
Maintain all grassland cut short	
Lawn / urban garden creation	
Covered trenching/suitably positioned plank to permit wildlife escape, and capped pipework at night	
Impact avoidance during the construction phases	
OPPORTUNITY/ENHANCEMENT	
Native hedgerow creation (approx. location)	
Unmappable Enhancement Requirements	
Built in bird provision in each new dwelling	
Built in bat provision in half of new dwellings	
Built in bee brick in each new dwelling	
Gully pot mesh ladders	
Landscaping for the benefit of wildlife	
Small mammal access provision of 150mm on fencing throughout site	



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- Hampshire and the Isle of Wight Wildlife Trust: - <http://www.hiwwt.org.uk/>
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- <https://freshwaterhabitats.org.uk/projects/million-ponds/pond-creation-toolkit/#Core>
- Winchester City Council Interactive Mapping [WCC Public View - Interactive Map - Winchester City Council](#)

10. Appendices

Appendix A. Flora Species Recorded Onsite are contained in the body of the text During Extended Phase 1 Habitat Survey

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).

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.

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;

<ul style="list-style-type: none"> ➤ Located within, or immediately adjacent to woodland and/or immediately adjacent to water; ➤ Dutch barns or livestock buildings with a single skin roof and board-and-gap or Yorkshire boarding if, following a preliminary roost assessment, the site appears to be particularly suited to bats.
<p>(2) Development affecting built structures:</p> <ul style="list-style-type: none"> ➤ Tunnels, mines, kilns, ice-houses, adits, military fortifications, air-raid shelters, cellars and similar underground ducts and structures; unused industrial chimneys that are unlined and brick/stone construction; ➤ Bridge structures, aqueducts and viaducts (especially over water and wet ground).
<p>(3) Floodlighting of</p> <ul style="list-style-type: none"> ➤ Churches and list buildings, green space (e.g. sports pitches) within 50m of woodland, water, field hedgerows or lines of trees with connectivity to woodland or water; ➤ Any building meeting the criteria listed in (1) above.
<p>(4) Felling, removal or lopping of:</p> <ul style="list-style-type: none"> ➤ Woodland; ➤ Field hedgerows and/or lines of trees with connectivity to woodland or water bodies; ➤ Old and veteran trees that are more than 100 years old; ➤ Mature trees with obvious holes, cracks or cavities, or that are covered with mature ivy (including large dead trees).
<p>(5) Proposals affecting water bodies:</p> <ul style="list-style-type: none"> ➤ In or within 200m of rivers, streams, canals, lakes, reed beds or other aquatic habitats.
<p>(6) Proposal located in or immediately adjacent to:</p> <ul style="list-style-type: none"> ➤ Quarries or gravel pits; ➤ Natural cliff faces and rock outcrops with crevices or caves and swallets.
<p>(7) Proposals for wind farm developments</p> <ul style="list-style-type: none"> ➤ 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) All proposals in sites where bats are known to be present¹</p> <ul style="list-style-type: none"> ➤ This may include proposed development affecting any type of buildings, structures, features or location.
<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.
<p>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.</p> <p>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.</p>		
EMERGENCY – 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
<p>September surveys are both weather and location dependent. Conditions may become unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. Multiple survey visits should be spread out as much as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse) if there is potential for a maternity colony then consideration must be given to detectability. A survey on 31st august followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.</p>		

Bat Activity Survey Requirements		
Extracted from - Table 8.3. BCT Recommended Minimum Survey Effort.		
Transect/spot count/timed search surveys		
Low Habitat Value	Moderate Habitat Value	High / Confirmed Habitat Value
One Survey visit per season (Spring- April/May, summer- June/July/August, autumn- September/October) in appropriate weather conditions for bats. Further surveys may be required if these survey visits reveal higher levels of bat activity than predicted by habitat alone.	One survey visit per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24 hr period.	Up to two survey visits per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24hr period.
Automatic / static bat detector surveys		

One location per transect, data to be collected on five consecutive nights per season (spring- April/May; summer- June/July/August; autumn- September/October) in appropriate weather conditions for bats.	Two locations per transect, data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats.	Three locations per transect; data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats)
Refer to BCT guidelines document Table 8.3 for further details and dependent conditions where the survey effort is not straightforward.		

Appendix F. Wildlife Crime

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

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

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

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. Bat Roost Warning Sign

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



Bat Conservation Trust
Tel: 0345 1300 228 www.bats.org.uk

Natural England Tel: 0300 060 3900
<https://www.gov.uk/government/organisations/natural-england>

KNOWN BAT ROOST

ALL BATS AND THEIR ROOSTS ARE
PROTECTED BY LAW

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



www.ecological-surveys-ltd.co.uk
help@ecological-surveys-ltd.co.uk
Tel: (01503) 240846 / 07736 458609

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