



Preliminary Ecological Appraisal and Preliminary Roost Assessment

247 Finchampstead Road, Wokingham, Berkshire RG40 3JR

Russell Highbury Properties Ltd

Status	Issue	Name	Date
Draft	1	Georgia Chapman BSc (Hons), Graduate Ecologist	10/06/2022
Reviewed	1.1	Lizi Pimlott BSc (Hons) MSc MCIEEM, Principal Ecologist	20/06/2022
Final	2	Georgia Chapman BSc (Hons), Graduate Ecologist	20/06/2022
Updated	2.1	Georgia Chapman BSc (Hons), Consultant Ecologist	25/09/2023

Arbtech Consultant's Contact Details:

Georgia Chapman BSc Hons Graduate Ecologist

Tel: 07706 320243

Email: georgiachapman@arbtech.co.uk

<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation, and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary, and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

This approach is enshrined in Government planning guidance, for example, paragraph 174 of the National Planning Policy Framework for England.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Russell Highbury Properties Ltd to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at 247 Finchampstead Road, Wokingham, Berkshire RG40 3JR (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the existing building and erection of a pair of semi-detached two storey dwellings and one detached two storey dwelling (hereafter referred to as “the proposed development”).

The following is work you will need to commission to comply with planning policy and legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 8 of this report.

<i>Ref</i>	<i>Summary of Survey Findings</i>	<i>Foreseen Impacts</i>	<i>Recommendations</i>
Habitats and flora	There are no notable habitats within the site, but four habitats are present within 2km of the site, the closest being deciduous woodland located approximately 50m northwest from the site. Habitats within the site including unmanaged amenity grassland and bare ground are considered to common and widespread and have low ecological value. No protected or notable plant species were recorded during the survey.	Bare ground, amenity grassland, and hedgerows along the southwest and southeast boundaries will be removed for the construction of three new houses and associated driveways. Due to the low ecological value of the habitats on site, impacts on biodiversity are anticipated to be minimal. No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.	Any new planting of trees and hedgerows should comprise native species.
Reptiles	Habitats on site including tall ruderal vegetation could provide suitable hibernation and refuge opportunities for reptiles. However, the site is dominated by unmanaged amenity grassland and bare ground, which is considered unsuitable, individuals commuting towards the site from the wider landscape would be limited to small areas of tall ruderal vegetation. Additionally, the site is enclosed by fencing and residential infrastructure including	Bare ground, amenity grassland, and hedgerows along the southwest and southeast boundaries will be removed for the construction of three new houses and associated driveways. Tall ruderal vegetation will not be removed as a result of the proposed development. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.	Owing to the nature of the proposed development and the low potential for impacts to amphibians, further surveys are considered to be disproportionate. A precautionary working method will be implemented during construction.

	Finchampstead road to the southeast and residential dwellings on the northeast, southeast and southwest sides of the site. It is therefore considered unlikely reptiles will be present on site.		
Amphibians	A review of the MAGIC database returned no granted EPSL record for great crested newts within 2km of the site. A review of aerial imagery indicates there are two waterbodies located within 500m of the site, which is located approximately 300m northeast of the site. Habitats on site including tall ruderal vegetation could provide suitable hibernation and refuge opportunities for amphibians including great crested newts. Habitats recorded on and directly adjacent to the site are assessed to provide poor aquatic and terrestrial opportunities for amphibians including great crested newts. The site is enclosed by fencing and residential infrastructure including Finchampstead road to the southeast and residential dwellings on the northeast, southeast and southwest sides of the site. There is also a significant lack of commuting habitat and lack of connectivity between the site and ponds.	Bare ground, amenity grassland, and hedgerows along the southwest and southeast boundaries will be removed for the construction of three new houses and associated driveways. Tall ruderal vegetation will not be removed as a result of the proposed development. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to their low value and the presence of more extensive habitat locally. Furthermore, GCN are considered highly unlikely to be present on site given the lack of ponds within 500m. However, site clearance could result in the death or injury of amphibians, if present.	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction.
Foraging and commuting bats	The semi-natural broad-leaved woodland, scattered trees and boundary hedgerows could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of the semi-natural broad-leaved woodland located northwest of the site but will result in the removal of boundary hedgerows. The proposed development will include the use of lighting which could spill on to bat roosting,	A low impact lighting strategy will be adopted for the site during and post-development.

		foraging or commuting habitat and deter bats from using these areas.	
Hedgehog	Habitats recorded on site such as the broad-leaved woodland and tall ruderal to the northwest of the site are assessed to provide suitable refuge/ hibernation opportunities for hedgehogs. However commuting opportunities are limited as the perimeter of the site is well fenced with wooden fencing along the northeast and southwest boundary and stock fencing along the southwest, northeast, and southeast boundaries that would restrict badger movement onto the site. Foraging habitat within the site is also minimal. No evidence indicating the presence of hedgehogs was recorded during the site survey.	The broad-leaved woodland and tall ruderal vegetation will not be removed as a result of the proposed development.	A precautionary working method will be implemented during construction.
Nesting birds	Boundary hedgerows and scattered trees could provide suitable habitat for nesting birds. Evidence of nesting birds was found within the roof of B1 which appears to be old and decayed, it is therefore considered historic and unlikely birds will be nesting within B1. Additionally, access into the building is limited as a result of the presence of chicken wire along the verges on both gable ends.	The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests as a result of the proposed removal of hedgerows.	Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

Contents

1.0 Introduction and Context 8

 1.1 Background 8

 1.2 Site Context 8

 1.3 Scope of the Report 8

2.0 Methodology 10

 2.1 Desk Study 10

 2.2 Field Survey 10

 2.3 Limitations 12

3.0 Results and Evaluation..... 13

 3.1 Desk Study Results..... 13

 3.2 Field Survey Results 14

4.0 Conclusions, Impacts and Recommendations..... 23

 4.1 Informative Guidelines..... 23

 4.2 Evaluation 23

5.0 Bibliography 31

 Appendix 1: Proposed Development Plan..... 34

 Appendix 2: Site Location Plan 35

 Appendix 3: Habitat Survey Plan 36

 Appendix 4: Legislation and Planning Policy..... 37

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Russell Highbury Properties Ltd to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at 247 Finchampstead Road, Wokingham, Berkshire RG40 3JR (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the existing building and erection of a pair of semi-detached two storey dwellings and one detached two storey dwelling (hereafter referred to as “the proposed development”).

A plan showing the proposed development is provided in **Appendix 1**.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging, or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy.

1.2 Site Context

The site is located at National Grid Reference SU 80246605 and has an area of approximately 0.3ha. The site is characterised by a residential dwelling with an associated outbuilding. Habitats recorded at the site include buildings, hard standing, bare ground, a brash pile, tall ruderal, and broad-leaved woodland. The site is enclosed by residential dwellings and their associated gardens to the north, and south with Finchampstead Road adjacent to the east. The surrounding landscape comprises residential infrastructure, parkland, arable fields, woodland, tree lines and hedgerows connecting the site to small woodland pockets in the wider area. A site location plan is provided in **Appendix 2**.

1.3 Scope of the Report

The PEA element of this report describes the baseline ecological conditions at the site, evaluates habitats within the survey area in the context of the wider environment and describes the suitability of those habitats for notable or protected species. It identifies possible ecological constraints as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

The PRA element of this report provides a description of all features suitable for roosting, foraging and commuting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any further surveys to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species, including roosting bats.
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.
- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a 2km radius review of statutory designated sites and notable habitats as well as a 2km radius review of granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

2.2 Field Survey

The survey was undertaken by Georgia Chapman (Accredited Agent, Natural England bat licence number: 2019-41480-CLS-CLS) on 6th June 2022.

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in *Phase 1 Habitat Survey Methodology* (JNCC, 2010). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure, and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species.

Preliminary Roost Assessment

The PRA focussed on two built structures and trees which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the buildings for features which bats could use for roosting, including access or egress points and for signs of bat use including droppings, scratch marks, insect remains and urine smear marks. An internal inspection of the buildings was also made, including the living areas and any accessible roof spaces, using a torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

For any surveyed trees:

A visual inspection was undertaken from ground level using binoculars and, where accessible and safe to do so, an internal inspection of any features which bats could use for roosting was completed using an endoscope, torch, and ladders.

Suitability Assessment

Built structures and trees were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in **Table 1** for buildings and **Table 2** for trees below. Roost suitability is classified as high, moderate, low, and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats.

Classification	Feature of building and its context
Moderate to high	Buildings or structures with features of particular significance for larger numbers of roosting bats e.g., mines, caves, tunnels, icehouses, and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g., broadleaved woodland, tree-lined watercourses, and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g., river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Low	A small number of possible roost sites or features, used sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging, or commuting.
Negligible	Unsuitable for use by bats.

Table 2: Features of a tree that are correlated with use by bats.

Classification	Feature of tree and its context
Moderate to high	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. Trees with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Low	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential to be used sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities, or upwards orientation with exposure to inclement weather or predators.
Negligible	Unsuitable for use by bats.

2.3 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

There were no specific limitations to the survey.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below.

Designated Sites

Details of any statutory designated sites within a 2km radius of the site, including their reasons for notification, are provided in **Table 3** below.

Table 3: Statutory designated sites within 2km radius of the site.

Designated site name	Distance from site (approx.)	Reasons for notification from Natural England
Longmoor Bog Site of Special Scientific Interest SSSI	~1,940m southwest	Longmoor Bog is one of a few examples in Berkshire of a base-poor valley mire, its main features being well-developed carr of alder, grey willow, downy birch and alder buckthorn and an area of wet heathland dominated by purple moor-grass and cross-leaved heath. The remainder of the site is predominantly secondary mixed woodland.

Landscape

A review of aerial photographs (Google Earth) the magic.gov.uk database and OS maps has been undertaken. Collated together, the value of the landscape in terms of biodiversity is described below:

The site is in a semi-rural area of Berkshire. The site is enclosed by residential dwellings and their associated gardens to the north, and south with Finchampstead Road adjacent to the east. The surrounding landscape comprises residential infrastructure, parkland, arable fields, woodland, tree lines and hedgerows connecting the site to small woodland pockets in the wider area which could be used by wildlife for shelter, foraging and commuting. Scattered irrigation ditches around the area will provide abundant insect foraging for birds and bats.

Notable Habitats

Notable habitats within 2km are listed in **Table 4**.

Table 4: Notable habitats within 2km of the site.

Habitat	Closest distance from site (approx.)
Deciduous woodland	50m northwest
Traditional orchard	390m northeast
Purple moor grass and rush pastures	1,100m west
Ancient & Semi-Natural Woodland	1,525m northeast

3.2 Field Survey Results

The results of the field survey are illustrated in **Appendix 3**. The weather conditions recorded at the time of the survey are shown in **Table 5**.

Table 5: Weather conditions during the survey.

Date: 06/06/2022	
Temperature	13.7°C
Humidity	90%
Cloud Cover	90%
Wind	7mph
Rain	None

Habitats and Flora

The site is characterised by a residential dwelling and associated outbuildings. Habitats recorded on and directly adjacent to the site include:

- J3.6 Buildings
- Unmanaged amenity grassland
- J4 Bare ground
- A1.1.1 Semi-natural broadleaved woodland
- C3.1 Tall ruderal
- A3.1 Scattered trees
- J5 Log pile
- J2.1.2 Species-poor hedgerow
- J2.4 Fence

A description and photograph of each habitat is provided in **Table 6**. No protected or non-native invasive plant species were identified on the site.

Table 6: Description and photographs of habitats within and adjacent to the site.

Habitat Type	Habitat description	Photograph
J3.6 Buildings	Two buildings are present on site comprising a residential dwelling (B1), and an outbuilding (B2). These buildings and their potential to support roosting bats are described within the PRA section below.	Photographs have been included within the PRA section below.

Unmanaged amenity grassland	The site appears to have been derelict for a prolonged period. The unmanaged grassland has resulted in an area of unmanaged amenity grassland which is located northeast and northwest of the site. Species composition includes predominantly perennial ryegrass, and ribwort plantain. There is an abundance of daisy, dandelion, and creeping buttercup.	
J4 Bare ground	Bare ground is present on the southeast side of the site providing vehicular and pedestrian access around the buildings.	

A1.1.1 Semi-natural broadleaved woodland	An area of approximately 0.1ha of semi-natural broadleaved oak and hazel woodland is present northwest of the site. The broad-leaved woodland will not be affected by the proposed development.	
C3.1 Tall ruderal	Tall ruderal vegetation has colonised the far northwest of the site comprising bracken, nettles, docks, and bramble. There is also a small section of bracken present along the southeast boundary. Tall ruderal vegetation present along the far northwest will not be affected by the proposed development.	
A3.1 Scattered trees	There are scattered semi-mature trees along the northeast boundary comprising sycamore, conifer, oak, and silver birch as well as one sweet chestnut tree along the southwest boundary. The trees and their suitability to support roosting bats is described within the PRA section below.	A photograph has been included within the PRA section below.

J5 Log pile	There is a log and sawdust pile comprising recently felled semi-mature trees present on the southwest side of the site.	
J2.1.2 Species-poor hedgerow	A section of species poor hedgerow is present along the southeast and southwest boundaries of the site. The hedgerow is approximately 70m in length and appears to be unmanaged. Some of the vegetation contributing to the species composition of the hedgerow along the southwest boundary are overhanging specimens from an adjacent residential garden. Species recorded include laurel, hazel, holly, hawthorn, and sycamore. It is noted that the hedgerow on site do not comply with characteristics consistent of an 'Important Hedgerow' as stipulated by the Hedgerow Regulations 1997. Furthermore, the hedgerow is not representative of the 'hedgerows' habitat of principal importance as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).	

J2.4 Fence	The site is enclosed by stock fencing on the northwest, northeast, and southeast boundaries of the site as well as by wooden fence panels on both the southwest and northeast boundaries.	
------------	---	---

Bats

Bats

14 EPSL records for bats have been returned with 2km by the Magic database. The closest being approximately 605m south for the destruction of a common pipistrelle, soprano pipistrelle and brown long-eared bat resting place.

The site is surrounded by residential infrastructure as well as parkland, arable fields, and small pockets of woodland. Tree lines and hedgerows connect the site to habitats of high value in the wider landscape. One area of ancient woodland is located approximately 1,525m northeast to the site which is likely to provide abundant foraging, commuting and roosting opportunities for bats. An area of 0.1ha of semi-natural broad-leaved woodland is present northwest of the site, which along with onsite scattered trees it is highly likely bats will forage and commute regularly in the area.

The results of the PRA are provided in **Table 7**. Two buildings are present on site comprising a residential dwelling (B1), and one outbuilding (B2). Both B1 and B2 were assessed to have negligible habitat value for supporting roosting bats. On-site scattered semi-mature trees are also considered to have negligible habitat value for roosting bats due to a lack of suitable roosting features.

Table 7: Assessment of the suitability of the site for bats.

Feature Ref	Description	Photographs
B1 (exterior) – Southeast elevation	Building B1 appears to have been derelict for a long period and is showing signs of exterior dilapidation. B1 is a single storey rendered brick building with a pitched roof clad in asbestos roof tiles which are in relatively good condition. There are two chimneys, the brickwork is well pointed, and the lead flashing is tight fitting with no possible bat roosting sites. The door and window frames are wooden and in moderate condition, there are no gaps for crevice dwelling bats to roost. There are no soffits boxes on the northeast and southwest gable ends of B1, the building is open at the eaves but is lined with wire limiting access into the loft space. The bargeboards are constructed of timber and are in good condition, the boards are tight fitting to the wall with no gaps for bats to roost. The brickwork is rendered and in good condition, there are no gaps or cracks in the brickwork for bats to roost.	
B1 (exterior) – Northeast elevation	Chicken wire is present on the northeast gable end (pictured opposite), there are no soffit boxes present. This will limit access into the loft space by void dwelling bats.	

B1 - northwest elevation and B2	The roof tiles on this elevation of B1 appear in good condition, there are no gaps or damaged tiles in which bats could access the loft space to roost. There is a single storey rendered brick rear extension on the northwest elevation of B1, the extension has a temporary tarpaulin roof which is unlikely to support roosting bats. B2 is present on the southwest side of B1, the outbuilding is open-fronted, and timber framed with a corrugated tin roof. The building is unlikely to support roosting bats.	
B1 (interior)	There is one loft space within the main roof void of B1. The roof structure is constructed of modern timber beams. The roof is unlined, and the floor of the loft space is lined with mineral wool insulation. Daylight enters the space through gaps along the verge on the northeast and southwest elevations indicating the space is not well sealed, however, these gaps are lined with chicken wire limiting access into the loft space by void dwelling bats. The lack of a roof lining, a lack of external features and evidence of bat use internally or externally indicates a likely absence of bats roosting in the building. Additionally, there are roof to floor cobwebs which further corroborate a lack of bat activity. There are stored items in the loft space. Particular attention was paid to the surfaces of these items as if present bat droppings often accumulate on these surfaces. No evidence of bat activity was found including droppings or feeding remains. It is likely recurrent use of the space by bats, or a regular bat roost, would have been observed during the survey.	

B1 (interior)	No daylight enters through the eaves, indicating the building is well sealed on the southeast and northwest elevations.	
B1 (interior)	The roof of the building is unlined, the tiles are in relatively good condition with few gaps allowing access into the space. B1 is therefore assessed to provide negligible habitat value to support roosting bats.	
B1 and B2	Evidence of bats No bat droppings were found internally or externally on either B1 or B2. Breeding birds and other incidental observations There was evidence of nesting birds in the form of nesting material found within the loft space of B1. The nest appeared old and decayed, and it is considered unlikely that birds will still be using the building to nest.	

Scattered trees	There are several scattered semi-mature trees along the northeast and southwest boundaries, comprising sycamore, conifer, oak, silver birch and sweet chestnut. The trees are structurally in good condition and retain no structural characteristics typically utilised by roosting bats such as rot holes, linear faults, upturned bark, and branch wounds that lead to significant crevice or internal cavities. The scattered trees on site are therefore assessed to provide negligible habitat value to support roosting bats.	
-------------------------------	---	---

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in **Appendix 4**.

Likelihood of the Presence of Protected Species

Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Where this report supports a planning application, the ecological interest of the study area (i.e., the area covered by the desk study and field survey) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity.

4.2 Evaluation

Taking the desk study and field survey results into account, **Table 8** presents an evaluation of the ecological value of the site and details any ecological constraints identified in relation to the proposed development which will comprise the demolition of the existing building and erection of a pair of semi-detached two storey dwellings and one detached two storey dwelling.

Table 8: Evaluation of the site and any ecological constraints.

Ref	Summary of Survey Findings	Foreseen Impacts	Recommendations <i>Measures required to adhere to guidance, legislation, and planning policies.</i>	Biodiversity Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021) and local plan reference if applicable.</i>
Designated sites	The site is not subject to any statutory or non-statutory designation. There is one statutory site within 2km of the site which is Longmoor Bog Site of Special Scientific Interest SSSI and is approximately 1,940m southwest of the site.	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers.	None.	None.
Habitats and flora	There are no notable habitats within the site, but four habitats are present within 2km of the site,	Bare ground, amenity grassland, and hedgerows along the southwest and southeast	Any new planting of trees and hedgerows should comprise native species.	The following habitat creation and enhancement opportunities could be

	the closest being deciduous woodland located approximately 50m northwest from the site. Habitats within the site including unmanaged amenity grassland and bare ground are considered to common and widespread and have low ecological value. No protected or notable plant species were recorded during the survey.	boundaries will be removed for the construction of three new houses and associated driveways. Due to the low ecological value of the habitats on site, impacts on biodiversity are anticipated to be minimal. No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.		incorporated into the proposed development: • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. • The creation of a wildlife pond to include native plant species and no fish. • A green roof on new buildings. Species-specific enhancement opportunities are detailed later in this table.
Reptiles	Habitats on site including tall ruderal vegetation could provide suitable hibernation and refuge opportunities for reptiles. However, the site is dominated by unmanaged amenity grassland and bare ground, which is considered unsuitable, individuals commuting towards the site from the wider landscape would be limited to small areas of tall ruderal vegetation. Additionally, the site is enclosed by fencing and residential infrastructure including Finchampstead road to the southeast and residential dwellings on the northeast, southeast and southwest sides of the site. It is therefore considered unlikely reptiles will be present on site.	Bare ground, amenity grassland, and hedgerows along the southwest and southeast boundaries will be removed for the construction of three new houses and associated driveways. Tall ruderal vegetation will not be removed as a result of the proposed development. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.	Owing to the nature of the proposed development and the low potential for impacts to amphibians, further surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Any chemicals or pollutants used or created by the development should be stored and disposed of	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for reptiles: • The creation of a wildlife pond to include native plant species and no fish. • Creation of reptile refugia and hibernacula using debris and brash from site clearance. • Planting of native scrub and grassland to increase foraging opportunities. • The creation of basking areas such as rock piles or areas of cleared ground with shelter nearby.

			correctly according to COSHH regulations. In the unlikely event that a reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist.	
Amphibians	A review of the MAGIC database returned no granted EPSL record for great crested newts within 2km of the site. A review of aerial imagery indicates there are two waterbodies located within 500m of the site, which is located approximately 300m northeast of the site. Habitats on site including tall ruderal vegetation could provide suitable hibernation and refuge opportunities for amphibians including great crested newts. Habitats recorded on and directly adjacent to the site are assessed to provide poor aquatic and terrestrial opportunities for amphibians including great crested newts. The site is enclosed by fencing and residential infrastructure including Finchampstead road to the southeast and residential dwellings on the northeast, southeast and southwest sides of the site. There is also a significant lack of commuting habitat and	Bare ground, amenity grassland, and hedgerows along the southwest and southeast boundaries will be removed for the construction of three new houses and associated driveways. Tall ruderal vegetation will not be removed as a result of the proposed development. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to their low value and the presence of more extensive habitat locally. Furthermore, GCN are considered highly unlikely to be present on site given the lack of ponds within 500m. However, site clearance could result in the death or injury of amphibians, if present.	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: - Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for amphibians: - The creation of a wildlife pond to include native plant species and no fish. - Creation of amphibian refugia and hibernacula using debris and brash from site clearance. - Planting of native scrub and grassland to increase foraging opportunities.

	lack of connectivity between the site and ponds.		If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.	
Roosting bats	14 EPSL records for bats have been returned with 2km by the Magic database. The closest being approximately 605m south for the destruction of a common pipistrelle, soprano pipistrelle and brown long-eared bat resting place. B1 and B2 have negligible habitat value for roosting bats due to an absence of suitable roost features.	No impacts are anticipated on bats as a result of the proposed development.	In the unlikely event that a bat is found on site, all works must cease, and advice should be sought from a suitably qualified ecologist.	The installation of a minimum of two bat boxes on mature trees around the site boundaries or on retained buildings will provide additional roosting habitat for bats e.g. 2F Schwegler Bat Box (trees) 1FF Schwegler Bat Box (trees) 2FN Schwegler Bat Box (trees) - Beaumaris Bat Box (buildings) - Vivara Pro Woodstone Bat Box (buildings) Or a similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. Alternatively, bat boxes could be incorporated into new buildings on the site e.g. - Habibat Bat Box - Schwegler 1FR Bat Tubes Bat tubes should be inserted into the fabric of the building during construction, positioned 3-5m above ground level facing in a south or south-westerly direction with a clear

				flight path to and from the entrance and facing landscapes areas, away from artificial light.
Foraging and commuting bats	The semi-natural broad-leaved woodland, scattered trees and boundary hedgerows could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of the semi-natural broad-leaved woodland located northwest of the site but will result in the removal of boundary hedgerows. The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers, and shields. Lights will also be directional to ensure that light is directed to the intended areas only. External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: • The creation of a wildlife pond. • Planting of native tree, shrub, and hedgerows to increase foraging opportunities.

			Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
Badgers	No evidence of badgers was found within the site or surrounding 30m. Habitats recorded on site are considered unsuitable to support foraging and commuting badgers, with no sett building opportunities. The site is dominated by unmanaged amenity grassland and bare ground and the perimeter of the site is well fenced with wooden fencing along the northeast and southwest boundary and stock fencing along the southwest, northeast and southeast boundaries that would restrict badger movement onto the site. Foraging habitat within the site is also minimal. Given the presence of extensive suitable habitat in the wider landscape for badgers, the site is unlikely to represent a significant resource for the local badger population in the context of the wider landscape.	No impacts are anticipated on badgers as a result of the proposed development.	None.	None.

Hedgehog	Habitats recorded on site such as the broad-leaved woodland and tall ruderal to the northwest of the site are assessed to provide suitable refuge/ hibernation opportunities for hedgehogs. However commuting opportunities are limited as the perimeter of the site is well fenced with wooden fencing along the northeast and southwest boundary and stock fencing along the southwest, northeast, and southeast boundaries that would restrict badger movement onto the site. Foraging habitat within the site is also minimal. No evidence indicating the presence of hedgehogs was recorded during the site survey.	The broad-leaved woodland and tall ruderal vegetation will not be removed as a result of the proposed development.	A precautionary working method will be implemented during construction, including the following measures: - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The brash pile will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas. If a hedgehog is found then this should be moved by gloved hand to an undisturbed and sheltered area of the site or adjacent land.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: - Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. - Creation of brash piles or installation of hedgehog houses in shady areas. Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
Nesting birds	Boundary hedgerows and scattered trees could provide suitable habitat for nesting birds. Evidence of nesting birds was found within the roof of B1 which appears to be old and decayed, it is therefore considered historic and unlikely birds will be nesting within B1. Additionally, access into the building is limited as a result of the presence of chicken wire along the verges on both gable ends.	The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests as a result of the proposed removal of hedgerows.	The pruning or removal of the boundary hedgerow should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.	The installation of a minimum of two bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. - Schwegler No 17 Swift Nest Box (buildings) - Schwegler 1SP Sparrow Terrace (buildings) - Schwegler 1B Nest Boxes (trees) - Schwegler 2H Robin Boxes (trees) - Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from

				prevailing wind, rain, and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
Invertebrates	Habitats recorded on site are considered unsuitable to support a significant invertebrate assemblage. Habitats on site are homogenous in structure with limited species diversity suitable to support a high number and diversity of invertebrates only.	No impacts are anticipated on notable species or populations of invertebrates as a result of the proposed development.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates: • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. • The enhancement of the existing pond for wildlife. • A green roof on new buildings. • Retention of deadwood on the site.

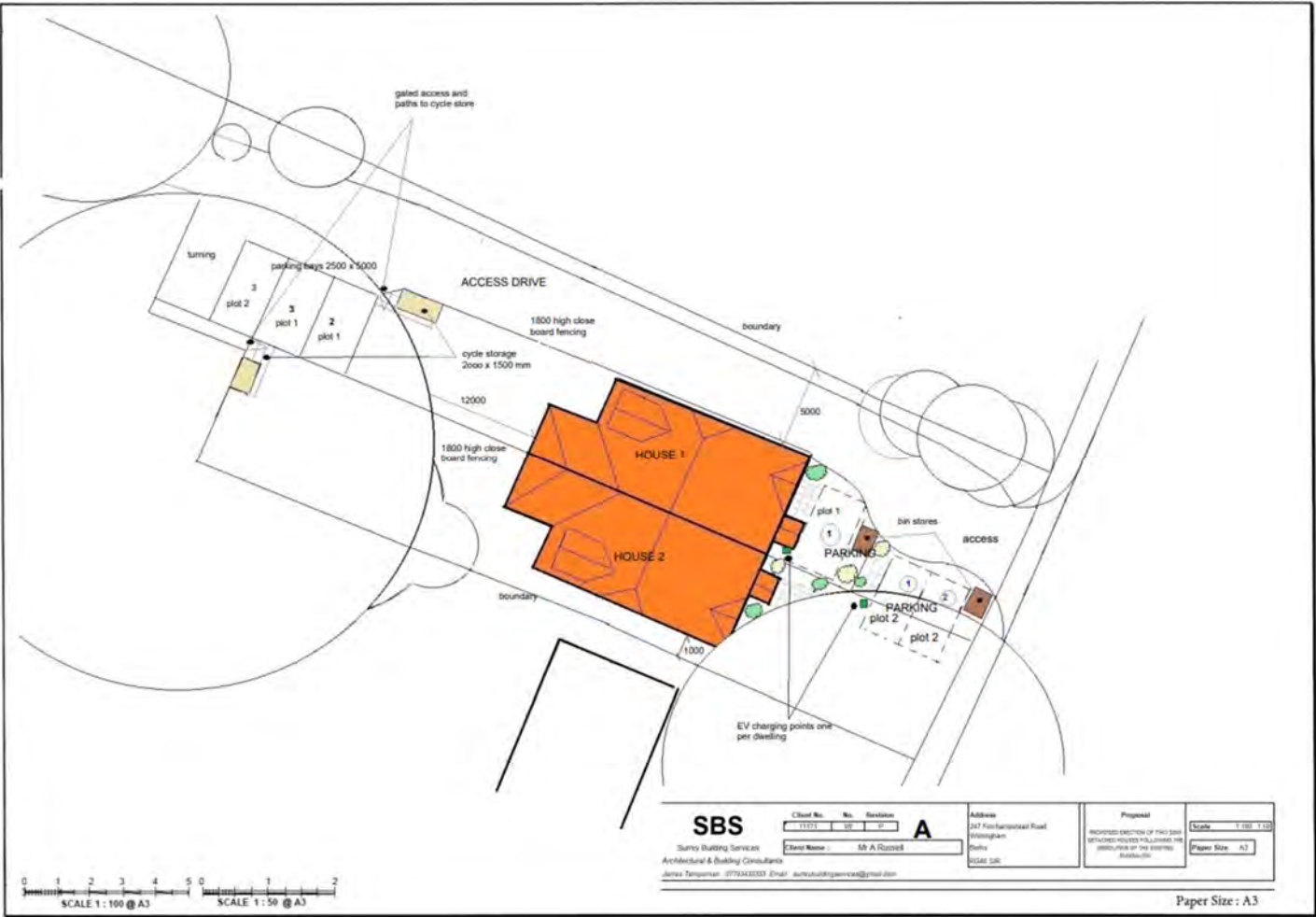
5.0 Bibliography

- Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Dejean, T., Griffiths, R., Foster, J., Wilkinson, J., Arnell, A., Brotherton, P., Williams, P. and Dunn, F. (2014). Using eDNA to Develop a National Citizen Science-based Monitoring Programme for the Great Crested Newt (*Triturus cristatus*). Biological Conservation. 183. 10.1016/j.biocon.2014.11.029.
- Bright, P., Morris, P., Mitchell-Jones, T. and Wroot, S. (2006). The Dormouse Conservation Handbook Second Edition.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chanin, P. (2003). Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology Series No. 10. Natural England, Peterborough.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Defra (2007). Hedgerow Survey Handbook. A Standard Procedure for Local Surveys in the UK. Defra, London.
- Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746
- Edgar, P., Foster, J. and Baker, J (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth
<http://downloads.gigl.org.uk/website/Reptile%20Habitat%20Management%20Handbook.pdf>
- Garland, L. & Markham, S. (2008) Is Important Bat Foraging and Commuting Habitat Legally Protected?
<http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf>
- Gent, T. and Gibson, S. (2003). Herpetofauna Workers' Manual. JNCC, Peterborough.

- Gilbert, G., Gibbons, D.W., and Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.
- Google Earth. Accessed on 06/06/2022.
- Harris, S., Cresswell, P. and Jefferies, D.J. (1989). Surveying badgers. Mammal Society, London.
- HMSO: Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 <https://www.legislation.gov.uk/ukxi/2019/579/contents/made>
- HMSO: Countryside & Rights of Way Act (2000) <http://jncc.defra.gov.uk/page-1378>
- HMSO: Natural Environmental and Rural Communities Act (2006) <http://www.legislation.gov.uk/ukpga/2006/16/contents>
- HMSO: The Protection of Badgers Act 1992 (as amended) <http://www.legislation.gov.uk/ukpga/1992/51/contents>
- HMSO: Wildlife and Countryside Act 1981 (as amended 01.04.1996) <http://jncc.defra.gov.uk/page-1377>
- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting.
- JNCC (2004). Bat Workers Manual, 3rd Edition. <http://jncc.defra.gov.uk/page-2861>
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Langton, T., Beckett, C. and Foster, J (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk. http://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf
- Magic Database. <http://www.magic.gov.uk/MagicMap.aspx> Accessed on 06/06/2022.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2021). <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Natural England Designated Sites View. <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx> Accessed on 06/06/2022.
- Natural England (2005). Organising Surveys to Determine Site Quality for Invertebrates: A Framework Guide for Ecologists. Natural England, Peterborough.
- Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol. <http://www.wildlifeco.co.uk/wp-content/uploads/2014/03/badgers-and-development.pdf>
- Oldham R.S., Keeble J., Swan M.J.S. and Jeffcote M. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155. <https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file>

- Panks, S., White., N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S.J., Heaven, M., Scott, S.H., Treweek, J., Butcher, B. and Stone, D. (2021). Biodiversity Metric 3.0: Auditing and Accounting for Biodiversity – Technical Supplement. Natural England.
- Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.
- UK Habitat Classification Working Group (2018). UK Habitat Classification User Manual at <http://ecountability.co.uk/ukhabworkinggroup-ukhab>
- Wray, S., Wells, D., Long, E. and Mitchell-Jones, T (2010). Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25.

Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Habitat Survey Plan



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as “*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*”. However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education, and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies, or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species**The Habitats Directive**

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). This has been amended by the ***Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations (2019)*** which continue the same provision for European protected species, licensing requirements and protected sites after the UK leaves the EU.

The following notes are relevant for all species protected under the EC Habitats Directive:

In the Directive, the term ‘deliberate’ is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of ‘migration’ and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European Protected Species Licence (EPSL), the application must demonstrate that it meets all of the following three ‘tests’:

- The action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

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

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CROW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agencies to define what would constitute a licensable activity. It is not possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water Voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which

might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)
- Deliberate disturbance of bat species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel Dormice

Hazel dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)

- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White Clawed Crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking
- Protected against selling, offering or advertising for sale, possessing or transporting for the purpose of sale

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish (Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation Afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
 - Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
 - Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of plants listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any landowner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

Effects on development works:

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

NATIONAL PLANNING POLICY (ENGLAND)

Environment Act 2021

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable'. Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species

(considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

LOCAL PLANNING POLICY

Wokingham Borough Council

Wokingham Borough Local Development Framework (January 2010)

The Adopted Core Strategy can be viewed here: <https://www.wokingham.gov.uk/planning-policy/planning-policy-information/local-plan-and-planning-policies/>

CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly.
- Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly.
- That compromises the implementation of the national, regional, county, and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need.
- Mitigation measures can be put in place to prevent damaging impacts.
- Appropriate compensation measures to offset the scale and kind of losses are provided.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.