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Repeat Preliminary Ecological Appraisal

Site Name

Pond House Farm

Issue Date

25th October 2023

Client

Hamish Guest

Author

Charlotte Hammond

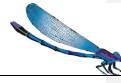
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Document Control

Issue No	Author	Reviewer	Issue Date	Additions/alterations	Notes
Original	Charlotte Hammond	Kate Priestman MCIEEM, CEnv	25/10/23	N/A	

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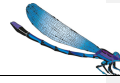
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About the Author

This report has been prepared by Charlotte Hammond BSc, an Assistant Ecologist at The Ecology Co-op, with three year's experience. She has prepared numerous reports and assisted on multiple surveys. As a qualifying member of the Chartered Institute for Ecology and Environmental Management (CIEEM) and as Chartered Ecologist through this body, she is bound by their code of professional conduct.

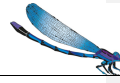
About the Reviewer

This report has been reviewed by Kate Priestman, who is a Principal Ecologist with over twenty years' experience. Kate has undertaken survey work and reporting, and prepared European Protected Species licences for numerous schemes. As a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Environmentalist (CEnv), she is bound by CIEEM's code of professional conduct.



Report Summary

Purpose	The Ecology Co-op was commissioned by Hamish Guest to undertake a repeat Preliminary Ecological Appraisal and bat scoping assessment at Pond House Farm, further to a proposal to demolish the current agricultural building and replace it with a single residential property.
Context	<p>An assessment of the site was carried out by Paul Whitby, MCIEEM, CEcol and Natural England Level 2 class bat licence holder, and Charlotte Hammond, BSc, on the 21st October 2023.</p> <p>This included a ground-based external inspection of the building, an internal inspection of potential roost features(subject to access) and an appraisal of the surrounding habitats, to evaluate the site for its potential to support bats and other protected species.</p>
Key findings	The building was assessed as having low suitability to support roosting bats, a single bat dropping was identified during the scoping survey underneath peeling plywood. Habitat within the zone of influence of the proposals was of potential value to bats for foraging/commuting/dispersal purposes.
Recommendations	The building was found to support a single bat day roost and a 'bat mitigation licence' should be obtained prior to work starting. As the bat dropping was sent off for DNA analysis and the species and type of roost has been identified, no further bat emergence surveys are required as all peeling plywood was torched and droppings sent for analysis.
Are further surveys required?	No.



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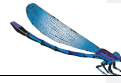
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2 INTRODUCTION

2.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake a Preliminary Ecological Appraisal (PEA) of land at Pond House Farm by Hamish Guest. This report presents the findings of a repeat walkover survey undertaken by Paul Whitby, a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM), Chartered Ecologist (CEcol) and Natural England Level 2 bat survey class licence holder, and Charlotte Hammond, BSc, on 21 October 2023. It provides details on the potential for any protected/notable species and/or habitats to be present at the site and a simple assessment of the potential ecological constraints and opportunities in relation to the demolition of the current agricultural building and construction of one residential dwelling. The first PEA survey was carried out on the 14th October 2021, the results of the walkover determined the building had low potential for bats and no further surveys were recommended.

Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment (EclA) of the proposal are provided where necessary, and possible measures to avoid, mitigate and/or compensate for significant adverse effects are summarised. The potential to incorporate ecological enhancement measures as part of the scheme is discussed, in addition to any requirement to achieve biodiversity net gain.

This PEA report is designed to inform the client and their team (as appropriate) about the initial findings of the site walkover and desk study research in relation to the site proposals, highlighting the key ecological constraints and opportunities, and any further survey requirements.

2.2 Background

The original PEA was carried out in October 2021 at Pond House Farm in relation the proposed conversion of the existing barn into two storey living with an additional annex. The original survey found the building had low potential to support bats due to small overlaps of chrysotile roof.

The site is located at Pond House Farm, Ponds Farm, Guildford GU5 9JL. The central grid reference for the site is TQ 06836 46373. The site comprises of one large barn and an associated lean-to store. The barn has a disused manège to the north of the barn and a patch of grassland to the west. South of the barn there is a residential property. Figure 1 shows the boundary of the site.

The new proposed plans are to demolish the existing building and replace it with a single, detached, chalet-style dwelling with associated garden space (Figure 2).

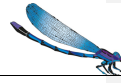


Figure 1. An aerial image showing the location of the site. The approximate site boundary is outlined in red. Image produced courtesy of Google maps (map data ©2023 Google).



Figure 2. Proposed plans by Planit Consulting.



2.3 Policy and Legislation

Legal protection applying to relevant bird, mammal, herpetofauna, invertebrate species and flora, and current nature conservation planning policy is outlined in Appendix 1 of this report.

Where possible, this report provides guidance on how the proposal can be designed to meet the requirements of both local planning policy and the National Planning Policy Framework (NPPF). Details of the NPPF can be found in Appendix 1 and relevant local planning policy by Guildford Borough Council is provided in Appendix 2.

3 METHODOLOGY

The methodologies used for this survey are in accordance with the Guidelines for Preliminary Ecological Appraisal¹, but also consider the Guidelines for Ecological Report Writing, Second Edition².

3.1 Desk Study

A search of on-line mapping resources was undertaken to identify the location of any features of potential ecological interest including ponds within 500m (relevant to great crested newts *Triturus cristatus*), watercourses (relevant to riparian mammals and crayfish) and connectivity to woodland, scrub, and hedgerow networks (relevant to bats and dormice *Muscardinus avellanarius*) in the wider landscape around the site. The connectivity of the site to these features, buildings and other semi-natural habitats, such as grassland and heathland, are also relevant to great crested newts, reptiles and a wide variety of notable species of conservation concern.

The MAGIC website resource (www.magic.gov.uk) was used to identify the location of designated sites for nature conservation and European Protected Species (EPS) licences granted in relation to the survey site.

3.2 Field Survey

A repeat site walkover survey was undertaken on 21st October 2023, during which the habitats contained within the site were described and evaluated. Since this site is relatively small in scale and contains limited semi-natural habitat diversity, it was not considered necessary to undertake comprehensive UKHab mapping of the site. All habitat types contained within the site, together with the dominant botanical species and indicators of important habitat types, such as ancient woodland or unimproved grassland, have simply been listed and described where identified.

Habitats and features at the site were evaluated for their potential to support legally protected species and/or species of conservation interest. In addition, observations of any important plant communities, bird assemblages or other potentially valuable ecological features were recorded.

¹ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

² CIEEM (2017). *Guidelines for Ecological Report Writing, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.



Details of the preliminary survey methods for each legally protected species are given below. Any site-specific limitations to the survey, e.g. access constraints or seasonal constraints, are set out in section 4.10.

3.3 Badgers

Badgers *Meles meles* exploit a range of habitats, including gardens, coniferous woodland, deciduous woodland, mixed woodland and arable land. They live in an underground system of tunnels and nesting chambers, known as a sett, with territories ranging from 30ha to 150ha or more.

Habitats within the site and surrounding area were broadly assessed for their potential to support badgers. Any signs of badger activity, for example setts, footprints, latrines, well-worn paths and foraging marks, were recorded. Further surveys were recommended as appropriate.

3.4 Bats

Bats can use a wide range of features for roosting purposes, including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy and loose bark.

A detailed building inspection was carried out in accordance with best practice guidance as set out by the Bat Conservation Trust³; the inspection comprised identification of potential access points and 'Potential Roost Features' (PRFs) that bats could use and any evidence indicating the presence of bats using the building, such as rub marks, feeding remains, staining or droppings. The survey included a ground-based external inspection around the building and internal inspection of the barn.

The potential for roosting bats for each feature, or group of features was assessed as negligible, low, moderate, or high, in accordance with best practice. Any evidence confirming the presence of bats was clearly recorded including photos and samples taken (e.g. droppings), where appropriate. Further surveys are recommended.

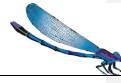
The habitats surrounding the site and wider landscape were broadly assessed for their potential to support foraging and commuting bats. Further surveys are recommended as appropriate.

3.5 Breeding Birds

Birds can use a wide range of natural and artificial habitats when breeding, including trees, hedgerows, fields, houses and garden sheds. The habitats contained within the site and adjacent areas were broadly assessed for their potential to support important bird species/assemblages, and breeding birds. Any birds identified during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern⁴ and those species afforded special protection on Schedule 1 of the Wildlife and

³ Collins, J.(ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.

⁴ Stanbury, A., Eaton, M., Aebischer, N., Balmer, N., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5: the status of bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 114, pp 723-747.



Countryside Act (1981). Further surveys are recommended as appropriate.

3.6 Dormice

Dormice are found in deciduous woodland and hedgerows, feeding on flowers, pollen, fruits, insects and nuts, favouring hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum* for food and as bedding. The site was broadly assessed for its potential to support dormice. This included use of on-line mapping resources to assess the surrounding area for connectivity to large blocks of woodland, scrub and extensive hedgerow networks. Further surveys are recommended as appropriate in accordance with best practice guidance⁵.

3.7 Great Crested Newt

Great crested newts breed in ponds during the spring and spend the rest of the year feeding on invertebrates primarily in semi-natural habitats including woodland, hedgerows, marshes and tussocky grassland. A desk study was undertaken to identify ponds and wet ditches within 500m of the site that might support breeding great crested newts. Where access permission was granted, or ponds could be viewed from public roads or footpaths, the ponds were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) (Oldham et al 2000)⁶. The value of the site for terrestrially foraging great crested newts and any features that might be used by hibernating newts has also been assessed.

Further surveys are recommended as appropriate, in accordance with best practice guidance (English Nature 2001)⁷.

3.8 Reptiles

The common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica* and adder *Vipera berus* are widespread species that can be found in any of these habitats, whereas smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* have much more restricted and isolated populations on lowland heathland and sand dunes.

Habitats on the site were broadly assessed for their potential to support reptiles. Particular attention was paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). Further surveys are recommended as appropriate.

⁵ Bright, P., Morris, P. and Mitchell-Jones, T. (2006). *The dormouse conservation handbook 2nd Ed.* English Nature, Peterborough.

⁶ 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, 143-155.

⁷ English Nature (2001). *Great Crested Newt Mitigation Guidelines.* English Nature, Peterborough.



3.9 Other Notable Species

The site’s habitats were broadly assessed for their potential to support species of principal importance for nature conservation (Section 41 NERC Act 2006) and other notable species. This includes mammals such as harvest mouse *Micromys minutus*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, and many bird species. The site was broadly assessed for its potential to support important invertebrate assemblages with particular attention paid to features such as standing dead-wood, wet flushes, bare earth banks and botanically rich areas.

4 BASELINE CONDITIONS

4.1 Designated Sites and Granted EPS Licences

Ancient and semi-natural woodland/ancient replanted woodland, is located approximately 0.3km south of the site’s boundary (see Figure 3). There is a patch of deciduous woodland approximately 86m south-west of the site. To the north-west of the property, there is a patch of wood pasture and parkland Biodiversity Action Plan (BAP) priority habitat, approximately 0.6km from the site’s boundaries. Within 2km of the site there are areas of ancient woodland and replanted woodland in all directions (Figure 5).

There are five granted EPS licences for mitigation projects within 1km of the site boundary. The closest EPS licence to the site concerns brown long-eared bats *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* (Figure 4).

Table 1. Designated sites

Site name	Designation	Features listed on citation	Proximity
Statutory designated sites			
Blackheath	Site of Special Scientific Interest (SSSI)	An extensive area of dry lowland and acid grassland.	1.6km west of the site.

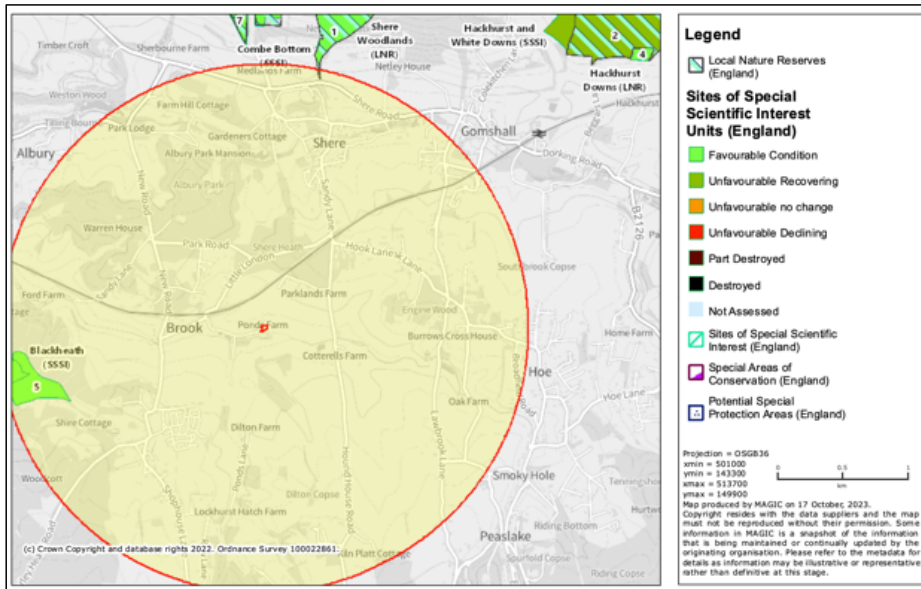
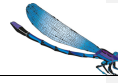


Figure 3. Designated sites within a radius of 2km of the application site. Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

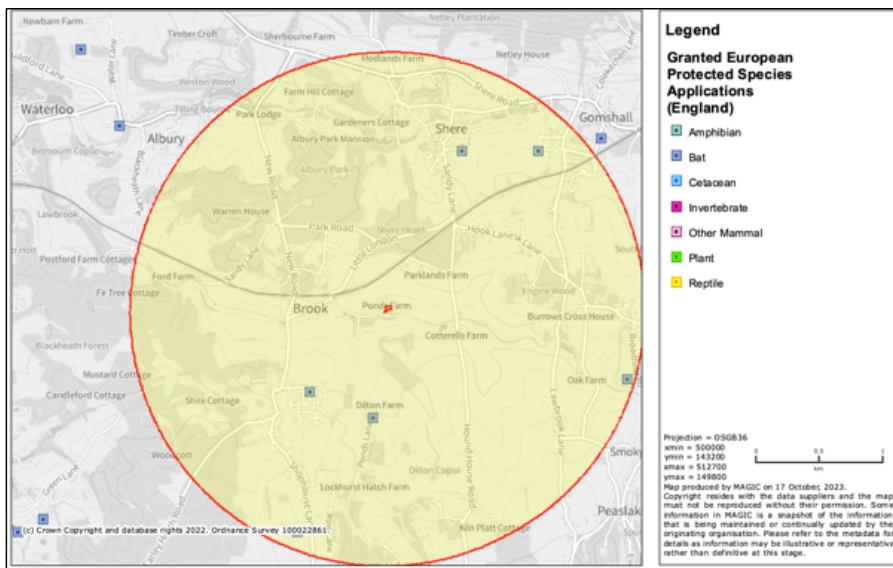


Figure 4. Granted EPS licences within 1km of the application site. Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

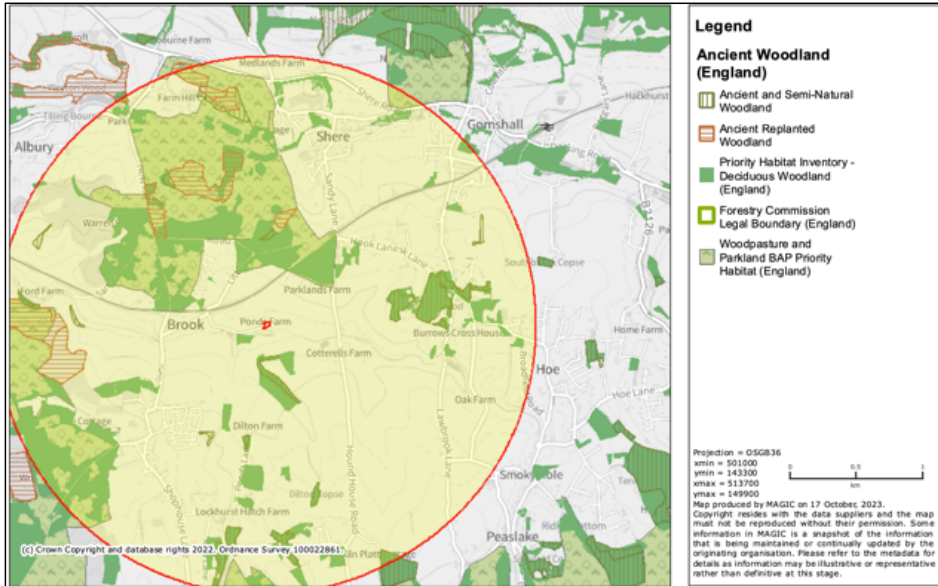
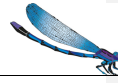


Figure 5. Habitats of importance for nature conservation. Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

4.2 Habitats

This site is located in a rural location in the village of Shere near Guildford. Mixed farmland and small woodland blocks surround the site. Within the wider landscape there are high value habitats present, including ancient woodland, which combine to provide a variety of habitats that are likely to support a wide variety of bat species. The site supports one large barn with a lean-to store. Leading to the barn there is a hard standing drive, to the north of the barn is a disused horse manège. The gable end of the barn previously had an area of dense ivy coverage, this has since been cut back.

To the west of the property is a small area of managed grassland; species identified include white clover *Trifolium repens*, yarrow *Achillea millefolium*, red fescue *Festuca rubra*, creeping thistle *Cirsium arvense*, common mouse ear *Cerastium fontanum*, common sorrel *Rumex acetosa*, ribwort plantain *Plantago lanceolata*, Yorkshire fog *Holcus lanatus*, rose *Rosa Sp.*, cocksfoot *Dactylis glomerata*, ragwort *Jacobaea vulgaris*, ground ivy *Glechoma hederacea*, dog's-foot cranesbill *Geranium molle* and creeping buttercup *Ranunculus repens*. The patch of grassland is bordered by bramble *Rubus sp.* and conifers *Pinophyta sp.*, at the corner of the grassland there is a walnut tree *Juglans regia*. During the repeat survey the grass has continued to be managed and currently has two large storage containers present.



Photograph 1. A view of the managed grass on the western side of the barn.



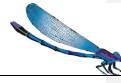
Photograph 2. The eastern boundary with a dense tree line boundary which will be retained.



Photograph 3. The disused the horse manège in the northern part of the site, to be replaced by a garden.



Photograph 4. Two storage containers currently being stored on the horse manège and grass.



4.3 Badgers

No signs of any badger activity were seen during the survey assessment, though there are habitats of value for this species within the site and surrounding landscape. It is likely that if any setts were situated within 30m of the site boundary, then evidence of badger activity would have been observed.

4.4 Bats

The barn is currently used for storage by a builder and supports a steel frame. The external wall of the barn, upon the lean-to store, comprises of plywood, which was observed to be in poor condition and peeling off in thin layers. During the repeat survey a single bat dropping was identified under the plywood. The bat dropping was identified through DNA analysis as Common Pipistrelle *pipistrellus pipistrellus* by Ecotype Genetics.

The roof is corrugated chrysotile with some small overlaps forming small crevices. The ridge is open and has no potential roost features (see photographs 8 and 9). There is single skinned timber weather boarding upon the western gable end which forms some overlap but no potential roost features. The north boundary wall consists of corrugated metal and the east gable end is of brick concrete construction. The east gable previously had dense ivy coverage and is suitable for nesting birds. The barn is being used frequently by pigeons.

Overall, the bat roost suitability at this site is assessed as low, considering the condition of the building and its context within suitable foraging habitat for bats. There were no trees contained within the boundary of the site, proposed to be impacted, therefore tree roosting bats would not be a constraint to development.



Photograph 5. A view of the plywood along the southern elevation.



Photograph 7. The plywood where a single bat dropping was found (crevice feature shown with a red circle).



Photograph 8. Inside the barn with scattered storage.



Photograph 9. Inside the barn with large sky lights provided a large amount of daylight.

4.5 Breeding Birds

The tree line to the west of the building has the potential to support nests of common garden and woodland bird species, such as blackbird *Turdus merula* and chaffinch *Fringilla coelebs*.

4.6 Dormice

The site has some small areas of scrub between the house and horse manège but this does not connect to suitable habitat for dormice and the species is highly unlikely to be present.

4.7 Great Crested Newts and other Amphibians

There are no ponds contained by the site or within 500m of the site. Great crested newts and other amphibians are therefore highly unlikely to be present at the site.

4.8 Reptiles

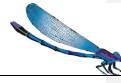
The site does not contain any suitable habitat for reptiles and comprises almost exclusively hard standing and close-mown amenity grassland.

4.9 Invasive Non-native Species

No evidence of invasive non-native species was found during the walkover survey.

4.10 Survey Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is



present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found.

5 IMPACT APPRAISAL

5.1 Designated Sites

The proximity of the site to Blackheath SSSI (1.8km from the western boundary) and the small-scale build means that there is unlikely to be an increase in recreational pressure because of the development. The construction phase is unlikely to have a significant impact on Blackheath SSSI.

Therefore, in relation to designated sites, the proposed development is considered to pose a 'negligible' impact risk.

5.2 Habitats

Where possible, any current scrub should be retained. There are no habitats of intrinsic importance within the site. The grass should be kept under its current management to avoid becoming suitable for reptiles and amphibians.

5.3 Badgers

No signs of badger activity were identified during the assessment and no badger setts are situated on or near to the proposed construction zone. No further surveys or mitigation for badgers is advised, however, if any signs of digging by large animals is identified on or near to the site in the future, prior to development or the submission of a planning application, further surveys would likely be required.

5.4 Bats

The repeat survey identified a day roost supporting one bat species (analysis results needed), the overall potential for the building to support bats is still considered to be low. As the roost type and species has been identified and the rest of the building is of low potential suitability, no further emergence surveys are required but a 'bat mitigation class licence' is required for the proposed development to proceed. The potential roost features identified will require endoscopy and torching prior to the licence submission.

As the proposed development involves the complete demolition of the existing building, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats. Based on the results of the survey and predicted scale of impact, this development will be eligible for adding to the 'bat mitigation class licence' issued by Natural England and held by certain qualified bat ecologists.

As part of the licence application, a mitigation method statement will need to be prepared to demonstrate that



the favourable conservation status of bats will be maintained through the life of the project.

The possible measures that would be required to safeguard bats and achieve this are outlined below:

□ Preparatory works – ‘soft strip’

All plywood should be carefully hand stripped from the walls under the direct supervision of a licensed bat ecologist. Any bats found shall be gently captured and placed into bat boxes that have been secured to trees surrounding the site in advance.

□ Timing

The hand stripping of plywood should be undertaken in the period between mid-March and the end of October to avoid disturbing bats that could be in hibernation. As no maternity roosts have been identified during the surveys of this property, avoiding the breeding period (May–August inclusive) is not considered necessary.

□ Replacement roost site

The detailed design of the new building should incorporate integral bespoke bat roosting features. Purpose-built structures are commercially available, some recommended examples of which are shown in Appendix 3.

□ Artificial lighting

The use of artificial lighting inappropriately can result in significant disturbance to bats. As the site may be used by foraging and commuting bats, it is important that the potential for disturbance from artificial lights is considered. The proposed development is likely to require an ‘ecologically sensitive lighting scheme’ in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 4).

5.5 *Breeding Birds*

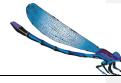
The site has the potential to support breeding birds. Any scrub to be removed prior to development should take place outside of the nesting bird season (1 March–31 August inclusive). If this not possible the scrub be check by a suitable quality ecologist prior to removal.

5.6 *Dormice*

The proposed development is highly unlikely to impact dormice given the absence of suitable habitats for this species and no further surveys are recommended.

5.7 *Great Crested Newts*

No further surveys are recommended with respect to great crested newts, as no waterbodies that might support breeding newts have been identified and it is considered extremely unlikely that this species would be found on the site at any time.



5.8 Reptiles

The grass should be kept mown and managed to avoid the habitat becoming suitable for reptiles.

6 OPPORTUNITIES FOR ENHANCEMENT

The proposed development represents an opportunity for habitat enhancement to benefit insects, birds, and bats. Any planting scheme should include native shrub species and flowering species known to encourage insect diversity. Such enhancement measures are in line with the recommendations of the NPPF and as such would be considered favourably when determining the planning application.

The developer is also encouraged to consider including integral bat roosting opportunities into the building fabric such as bat tiles and internal voids/access points for bats. For example, three Schwegler 1FF boxes could be placed on the south, west and east facing elevations and 3no. purpose designed bat tiles onto the south-facing pitched roof. Alternatively, 2FE Schwegler Wall-Mounted bat shelters could be installed upon the external faces of the building close to the eaves of the building on the south or eastern face. As best practice, the lighting scheme should be designed to minimize light spill (see Bat Conservation Trust website), around these roosting features and potential commuting routes.

7 CONCLUSIONS

Pond House Farm does not include any semi-natural habitats of intrinsic value and is dominated by the presence of tightly mown lawns, hard standing and a single barn. The construction of a new dwelling, as set out in Figure 2 of this report, represents an impact that is likely to result in effects that are significant at a site level only, given the absence of any habitats of significant value. The identification of a day bat roost requires a bat mitigation class licence, issued by Natural England, to be in place prior to works starting.

The precautionary mitigation set out in section 4.5, to avoid the removal of vegetation during the nesting bird season, must be followed to ensure that there is not a breach of the Wildlife and Countryside Act 1981 (as amended).

The enhancement opportunities identified in section 5 of this document will result in new opportunities for nesting birds and roosting bats, and likely beneficial effects for biodiversity at the site should they all be implemented in full.

It is important that no habitat clearance or other site preparation work should be undertaken until planning permission has been granted and all relevant protections for habitats of importance and protected species have been detailed and implemented. Please be advised that any work to remove or modify habitats outside of typical management may undermine a future planning application.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op, info@ecologyco-op.co.uk, www.ecologyco-op.co.uk, Office: 01798 861800.



APPENDIX 1 – Wildlife Legislation and National Planning Policy

Introduction

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to wildlife in general and certain species. It includes current national planning policy relevant to nature conservation.

The ‘Birds Directive’, ‘Habitats Directive’ and ‘Natura 2000 Sites’

The Council Directive 79/409/EEC on the Conservation of Wild Birds (“the Birds Directive”) sets a framework for the protection of wild birds. Under the Directive, several provisions are made including the designation and protection of ‘Special Protection Areas’ (SPAs) – areas which support important bird populations, and the legal protection of rare or vulnerable species.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”) directs member states of the EU to take measures to maintain the favourable conservation status of important habitats and species. This requires the designation of a series of sites which contain important populations of species listed on Annex II of the Directive (for example Bechstein’s bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus* and white-clawed crayfish *Austropotamobius pallipes*). Together with ‘Special Areas of Conservation’ (SACs), SPAs form a network across Europe of protected areas known as the ‘Natura 2000 sites’.

Annex IV lists species in need of more strict protection, these are known as “European Protected Species (EPS)”. All bat species, common dormice *Muscardinus avellana*, otter *Lutra lutra* and great crested newts *Triturus cristatus* are examples of EPS that are regularly encountered during development projects.

The ‘Habitats Regulations’

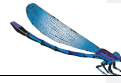
The Conservation of Habitats and Species Regulations 2017, as amended (the “Habitats Regulations”) is the principle means of transposing the Habitats Directive and the Birds Directive, and updates the Conservation (Natural Habitats, &c.) Regulations 1994 (“the 1994 regulations”) in England and Wales.

‘Natura 2000’ sites, now known as National Site Network sites under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, receive the highest level of protection under the Regulations which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where ‘likely significant effects’ to the conservation objectives are identified.

For European Protected Species, Regulation 41 makes it a criminal offence to:

- deliberately capture, injure or kill any such animal;
- deliberately disturb wild animals of such species;
- deliberately take or destroy their eggs (where relevant);
- damage or destroy a *breeding or resting place* of such an animal;
- possess, control, sell or exchange any live or dead animal or plant, of such species;
- deliberately pick, collect, cut, uproot or destroy a wild plant of such species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific



reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

- a licence can be granted for the purposes of "preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment" (Regulation 53 (2) (e));
- a licence can be granted if "there are no satisfactory alternatives" to the proposed action;
- a licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Wildlife and Countryside Act (1981) as amended.

This remains one of the most important pieces of wildlife legislation in the UK. There are various schedules to the Act protecting birds (Schedule 1), other animals including insects (Schedule 5), plants (Schedule 8), and control of invasive non-native species (Schedule 9).

Under the Wildlife and Countryside Act (WCA) 1981, all wild birds (with the exception of those listed on Schedule 2), their eggs and nests are protected by law and it is an offence to:

- take, damage or destroy the nest of any wild bird while it is in use or being built
- take or destroy the egg of any wild bird
- disturb any bird listed on Schedule 1, while it is nest building, or at a nest with eggs or young, or disturb the dependant young of any such bird.

Schedule 5 lists all non-avian animals receiving protection to a varied degree. At its strongest, the Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturb animals while occupying such places. Examples of species with *full protection* include all EPS, common reptile species, water vole *Arvicola amphibius*, white-clawed crayfish *Austropotamobius pallipes* and Roman snail *Helix pomatia*. Other species are protected from sale, barter or exchange only, such as white letter hairstreak *Satyrrium w-album*.

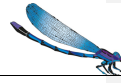
The Act makes it an offence to intentionally pick, uproot or destroy any plant or seed, and sell or possess any plant listed on Schedule 8. It is also an offence to intentionally uproot any wild plant not listed on Schedule 8 unless authorised [by the land owner]. Species on Schedules 5 and 8 are reviewed every 5 years when species can be added or removed.

Measures for the prevention of spreading non-native species which may be detrimental to native wildlife is included in the Act, which prohibits the release of animals or planting of plants into the wild of species listed on Schedule 9 (for example, Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandifera*, New Zealand Pygmyweed *Crassula helmsii*).

The Wildlife and Countryside Act 1981 (as amended) also prohibits certain inhumane methods of traps and devices for the capture or killing of wild animals and certain additional methods such as fixed trap, poisoning with gas or smoke, or spot-lighting with vehicles for killing species listed on Schedule 6 of the Act (this includes all bat species, badger, otter, polecat, dormice, hedgehog and red squirrel).

Natural Environment and Rural Communities (NERC) Act (2006)

The NERC Act (2006) created the statutory nature conservation body Natural England, and places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by



others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

The Act enables the reform of the Habitats Regulations and further improves protection for nature through the establishment of Local Nature Recovery Strategies that support national Nature Recovery Networks. In addition, the Act provides for the production of Protected Site Strategies and Species Conservation Strategies, aimed at supporting the design and delivery of strategic approaches to deliver better outcomes for nature.

Protection of Badgers Act (1992)

The badger *Meles meles* is afforded specific legal protection in Britain under the Protection of Badgers Act (1992), and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) (see above).

Under this legislation, it is a criminal offence to:

- intentionally kill, injure, take, possess, or cruelly ill-treat, a badger, or to attempt to do so;
- interfere with a sett, by damaging or destroying it;
- to obstruct access to, or any entrance of, a badger sett; or
- to disturb a badger when it is occupying a sett.

A licence may be obtained from Natural England to permit certain prohibited actions for a number of defined reasons including interference of a sett for the purpose of development, provided that a certain number of conditions are met. Note that licenses are not normally granted for works affecting badgers between the end of November and the start of July.

National Planning Policy Framework

The National Planning Policy Framework (NPPF 2021)⁸ sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

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Paragraph 179b, which states that council policies should "*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and*

⁸ HM Government (2021). National Planning Policy Framework. Department for Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf



identify and pursue opportunities for securing measurable net gains for biodiversity.” The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005)⁹. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- minimising impacts on existing biodiversity and habitats;
- providing net gains in biodiversity and habitats, wherever possible;
- establishing coherent ecological networks that are more resilient to current and future pressures.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK’s response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government’s response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for protection for biodiversity through their own strategies.

The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade.

Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

Birds of Conservation Concern (BoCC)

In 1996, the UK’s leading non-governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every five years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2021 (Stanbury et al, 2021), which provides an up to date assessment of the conservation status of birds in the UK.

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

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⁹ HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf.



Council Directive 79/409/EEC on the Conservation of Wild Birds (“the Birds Directive”). Available at: <http://jncc.defra.gov.uk/page-1373>

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”). Available at: <http://jncc.defra.gov.uk/page-1374>

The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations”). Available at: <http://jncc.defra.gov.uk/page-1379>

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: <https://www.legislation.gov.uk/ukdsi/2019/9780111176573>

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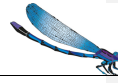
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APPENDIX 2 – Guildford Borough Council

Policy Number/Title	Policy Summary
ID4 – Green and Blue Infrastructure	<p>New development should aim to deliver gains in biodiversity where appropriate. Where proposals fall within or adjacent to a Biodiversity Opportunity Areas (BOA), biodiversity measures should support that BOA’s objectives.</p> <p>Permission will not be granted for development proposals unless it can be demonstrated that doing so would not give rise to adverse effects on the integrity of European sites, whether along or in combination with other development. Any development potentially impacting on a SPA or SAC will be subject to a Habitats Regulations Assessment.</p> <p>Permission will only be granted for development proposals within or adjacent to national sites where it is shown that doing so would not be harmful to the natural conservation interests of the site and its function as an ecological unit.</p> <p>Permission will not be granted for proposals that are likely to materially harm the nature conservation interests of local sites unless the need for development clearly outweighs the impact on biodiversity. If this occurs, every effort must be made to avoid and mitigate any harm.</p> <p>The ecological value of watercourses will be protected and enhanced. Development proposals likely to have an adverse impact on the functions (including across their catchments) and setting of watercourses and their corridors will not be permitted.</p>

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APPENDIX 3 – EXAMPLES OF BESPOKE BAT ROOSTING FEATURES FOR NEW BUILDINGS



Figure 1. Left to right, the 2F, 2FN and the 1FS bat boxes produced by Schwegler. These and other brands are available at many on-line wildlife stores. These are constructed of 'woodcrete' (a mixture of cement and woodchip) and are designed to be durable and replicate the stable thermal properties of trees and buildings. They may be attached to trees or buildings.

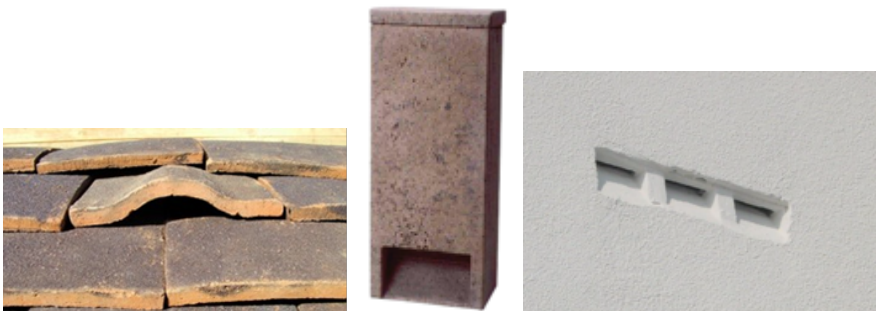
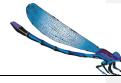


Figure 2. Examples of integral bespoke bat roosting features that may be incorporated into buildings during construction/renovation. From left to right: an example of bat access tile into loft space; the 2FR bat tube; and an example of 2FR bat tubes installed into a house wall in a series of three. Other brands and designs are available.

APPENDIX 4 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more



importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust¹⁰ should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

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Avoid lighting key habitats and features altogether

There is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation; however, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species.

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- dark buffers, illuminance limits and zonation;
- sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill;
- consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times;
- screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding;
- glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features;
- creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development;

¹⁰ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- Design and pre-planning phase*; it may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- lighting spectra: peak wavelength >550nm
- colour temperature: <2700K (warm)
- reduction in light intensity
- minimal UV emitted
- upward light ratio of 0% and good optical control.

Further reading:

Buglife (2011) A review of the impact of artificial light on invertebrates.

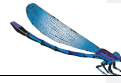
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