LONGVIEW HOUSE, POUND LANE

Preliminary Ecological Appraisal Report

June 2023

Collington winter
environmental

Report Control Sheet

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Rev	***Date***	***Description***	***Prepared***	***Reviewed***	***Approved***
/	19/06/2023	Draft report sent to Client for comment.	KBrewer	KB	OC
2	27/07/2023	Final Report	SH	KB	OC

Quality Assurance

All ecological reports produced by Collington Winter Environmental Ltd are checked and approved by a Principal Ecologist with appropriate professional membership (CIEEM or IES) who are bound by a code of professional conduct and ethics.

EXECUTIVE SUMMARY

Site Address	Longview House, Pound Lane, Sibford Gower, OX15 5AE
Grid Reference	SP 35313 38872
Approximate Site Area	6.57ha
Current Site Use	The site currently forms a residential dwelling with an associated garage, outhouse and an unused storage area. The site consists of unused and managed grassland fields throughout.
Designated Sites within Zone of Influence	There are no designated sites within the zone of influence.
Notable Habitat Features	Notable habitats present included treelines and woodland within the site boundary.
Notable Species Applicable to the Assessment	• Bats (Potential roosting, foraging and commuting) • Breeding birds • Amphibians • Reptiles [redacted] • Hedgehog • Invertebrates • Flora
Mitigation Recommendations	Precautionary working methods have been recommended for the following species: • Breeding birds • Amphibians including great crested newt [redacted] • Hedgehog • Brown hare • Reptiles
Recommended Further Surveys and Assessment	Emergence/re-entry Bat Surveys on B1 and B2 which were both assessed as providing moderate bat roosting potential, a total of three further nocturnal surveys are required.
Recommended Ecological Enhancements	Bird and bat boxes could be placed on the completed development to enhance the local fauna populations. A Biodiversity Net Gain is to be completed for the site and is detailed within a separate report.

CONTENTS

1 INTRODUCTION

1.1. SCOPE & PURPOSE

1.1.1. Collington Winter Environmental Ltd was commissioned by James Gorst Architects to undertake a Preliminary Ecological Appraisal (PEA) at Longview House, Pound Lane, Sibford Gower, OX15 5AE. This report has been prepared to inform an outline planning application for the demolishment of the current residential dwelling and refurbishment of the surrounding buildings to allow for the development of a new dwelling.

1.1.2. The author of this report is Katie Brewer BSc (Hons), Ecologist at Collington Winter Environmental Ltd. This report has been overseen by Olivia Collington BSc (Hons), MIEnvSc, CEnv Director at Collington Winter Environmental Ltd. Olivia is highly experienced managing schemes and has produced many ecological reports to inform planning management plans.

1.2. LOCATION

1.2.1. Please refer to Figure 1.1 for the site location. The site is located west of Pound Lane and is approximately 0.9km North from Sibford Gower village centre.

Figure 1.1 Site Location

1.3. OBJECTIVES

1.3.1. The objectives of the Preliminary Ecological Appraisal are as follows:

- Identify the major habitats present;
- Ascertain the presence or potential presence of any legally protected or notable species or habitats; and,
- Identify any mitigation or further survey required and opportunities for strategic wildlife enhancements and long-term management.

2 METHODOLOGY

2.1. DESK STUDY

2.1.1. An initial desk-based assessment of the site was undertaken to collate baseline data. The desk study included:

- Obtaining local records of notable species and locally designated sites within 1 km of the site from Thames Valley Environmental Records Centre (TVERC), obtained on the 08/06/2023.
- Review of Magic.gov.uk website for details of any designated sites, notable habitats and presence of European Protected Species Licences.
- Review of aerial and OS maps for habitat information, as well as determining locations of potential waterbodies to be considered in the assessment.
- Review of potential habitat links on and off site, to determine the potential zone of influence of the proposed development.
- On site consultation with the landowner which provided valuable information regarding historic land use and known species and habitats present within the site.

2.1.2. Please note, a lack of records for a species does not confirm absence. Instead, local surveys may not have been undertaken or records not submitted to TVERC.

2.2. VEGETATION AND HABITAT ASSESSMENT

2.2.1. An Ecological Appraisal of the site was undertaken by Katie Brewer. The survey was undertaken on the 12th June 2023. The weather was clear (0/8 oktas), with no precipitation, wind speed 0 and 26°c. This was overseen by Olivia Collington.

2.2.2. The walkover survey was undertaken broadly in line with standard UK HAB Methodology. The assessment is undertaken with consideration of methodology as per "Preliminary Ecological Appraisal" (CIEEM, 2018).

2.2.3. A UK HAB Plan has been produced and is presented in the Appendix of this report. Standard methodology has been used, though adjustments have been made based on judgement to demonstrate habitats in a clearer manner, or where standard guidance does not fit the conditions found on site.

2.3. FAUNA ASSESSMENT

2.3.1. A search for signs of protected and notable species of fauna was undertaken during the site walkover. This included both field signs of species, as well as potential for species to be present based on habitat availability.

2.3.2. The searches broadly included the following:

- Assessment of waterbodies on site and within 250m of the site boundary, and terrestrial habitats for suitability to support notable amphibians.
- Searches for field signs of, and habitat suitability for bats.
- Suitability of habitats to support reptiles, and searches for incidental field signs.
- [redacted]
- Searches of watercourses for signs of water vole (*Arvicola amphibius*), white-clawed crayfish (*Austropotamobius pallipes*) and otter (*Lutra lutra*), and assessment of habitat availability for the species.
- Assessment of the suitability of habitats to support notable birds and recording any field sightings of birds during the walkover.
- Assessment of the sites ability to support notable invertebrates and flora.
- Searches for non-native invasive species.

2.4. PRELIMINARY BAT ROOST ASSESSMENT

2.4.1. A Preliminary Bat Roost Assessment (PRA) of the site was undertaken by Katie Brewer. This assessment was overseen by Olivia Collington who holds a Class 1 Bat Survey Licence from Natural England (Reference 2020–46960-CLS–CLS).

2.4.2. The survey was undertaken following guidance set out in Collins (2016). This includes undertaking a detailed internal and external inspection of any features to compile information on potential and actual bat entry/ exit points, roosting locations and evidence of bats.

2.4.3. The buildings were assessed as per categories listed in Table 4.1 Collins (2016) and reproduced in Table 2.1.

Table 2.1 Assessment Criteria for Bat Roosting Potential

Bat Roosting Potential	Description
Negligible	Negligible features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/ or suitable surrounding habitats to be used on a regular basis by larger numbers of bats.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.
High	A structure or 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 for longer periods of time.

2.5. BAT ACTIVITY ASSESSMENT

2.5.1. The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 5, which is used as a basis for determining the requirement for further surveys and/or mitigation.

Table 2.2 Assessment Criteria for Bat Activity Value

Suitability	Description
Negligible	No features on site suitable for use by commuting and foraging bats.
Low	Habitat that could be used by small number of commuting bats such as; defunct hedgerow, isolated features not well connected to surrounding habitat or Isolated habitat that could be used by a small number of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees, scrub or linked back gardens. Habitat connected to wider landscape that could be used for bats for foraging such as; trees, scrub, grassland or water.
High	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting or foraging bats such as; river valleys, streams, hedgerows, lines of trees or woodland edge. Site is close to or connected to known roosts.

2.6. HABITAT SUITABILITY INDEX (GREAT CRESTED NEWT)

2.6.1. No ponds were present on site; however, three ponds were identified within 250 m of the site boundary. As great crested newts' upper dispersal limit is generally considered to be up to 250 m from a waterbody (though occurrence of greater distances does exist), ponds beyond this distance were not assessed due to limited connectivity (English Nature, 2001). This pond was located on private land and could not be accessed during the survey. Please refer to figure 2.1 for the pond locations.

Figure 2.1 Pond Location

2.7. SURVEY LIMITATIONS

2.7.1. This survey does not constitute a full botanical survey. Key species for each habitat type have been identified to give a broad representation of habitats present within the site.

2.7.2. It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment. This survey does not constitute a full botanical survey. Plant species may have been under-recorded, unidentifiable or not visible due to a number of factors including the time of year the survey was carried out.

2.7.3. The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site. This is based on the suitability of the habitat, known distribution of the species in the local area (provided by data searches) and any direct evidence within the survey area.

2.7.4. The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.

2.8. PROPORTIONALITY

2.8.1. Collington Winter Environmental Ltd provide recommendations in line with the British Standard for Biodiversity (BS42020). Within BS42020, proportionality is encouraged for both ecologists and Local Authority Decision Makers and Consultees. Please refer to the below extract from Section 5.5 of BS42020.

"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.

NOTE 1 This approach is enshrined in Government planning guidance, for example, paragraph 193 of the National Planning Policy Framework for England [41].

NOTE 2 The desk studies and field surveys undertaken to provide a preliminary ecological appraisal (PEA) might in some cases be all that is necessary."

3 SURVEY RESULTS

3.1. SITE CONTEXT

3.1.1. The site is located within a rural area of Sibford Gower and is surrounded by grassland on all aspects. Surrounding grassland fields are connected by hedgerows and treelines. A small patch of woodland is located approximately 0.7km west from the site boundary, this is surrounded grassland and possible agricultural fields on all aspects. It is anticipated that these surrounding areas will provide suitable habitats and foraging areas for local fauna.

3.2. DESIGNATED SITES

3.2.1. The following Sites of Special Scientific Interest (SSSI) are located within 10km of the site boundary:

- Sharp's Hill Quarry SSSI – located approximately 3.2km southwest from the site boundary. Sharp's Hill Quarry is the type locality and one of the finest exposures of the richly fossiliferous Sharp's Hill Formation (probably corresponds with the progracilis Zone). The underlying Lower Bathonian Chipping Norton Formation ('Swerford Beds' Facies) is also present in the section.
- Whichford Wood SSSI located approximately 6.3km southwest from the site boundary. Whichford Wood lies in a steep-sided valley with damp base-rich soils overlying the Lower Lias Clays and Middle Lias ironstone. It is predominantly an oak-hazel woodland but also contains abundant ash *(Fraxinus excelsior),* field maple *(Acer campestre)* and alder *(Alnus glutinosa).* The ground flora is particularly species-rich, especially in the wet flushes and hollows along drainage lines. The wood is locally important for two particular plants. It is the only recent county locality for the alternate-leaved golden-saxifrage *(Chrysosplenium alternifolium)* and the large bellflower *(Campanula latifolia)* also occurs. It is also a locally important site for fungi.
- Hook Norton Cutting & Banks SSSI located approximately 6.6km south from the site boundary. This site contains a variety of sheltered, semi-natural and man-made habitats associated with the limestone outcrops all within a comparatively small area. It is of particular interest for its calcareous grassland flora, and bee and butterfly fauna, which include rare and uncommon species. Hook Norton Cutting is notable for its bee fauna. One species, *(Andrena bucephala),* is recorded from only three other sites in Britain. The site is unusual in having eight species of the genus Lasioglossum (family Halictidae) occurring in close proximity. Butterflies recorded include marbled white *(Melanargia galathea),* meadow brown *(Maniola jurtina)*, dark green fritillary *(Argynnis aglaja)* and white-letter hairstreak *(Satyrium w-album)*.
- Drybank meadow Cherington SSSI located approximately 6.7km west from the site boundary. Drybank Meadow is a traditionally managed herb-rich meadow which lies below the west flank of a hill near the village of Cherington in the extreme south of Warwickshire. The flatter part of the meadow has developed on Lower Lias clay and shows ridge and furrow formation, unlike the steeper parts of the field on the Middle Lias siltstones which contain areas of scrub. Several species scarce in Warwickshire are found here including pepper saxifrage *(Silaum silaus),* adder's tongue *(Ophioglossum vulgatum),* meadow saxifrage *(Saxifraga granulate*) and green winged orchid *(Orchis morio).*
- Neithrop Fields Cutting SSSI located approximately 8.8km northeast from the site boundary. An outstanding section in the Middle and Upper Lias including the best and most complete section through the ironstones of the Banbury Ironstone Field. The make-up of the Middle Lias sediments below the ironstone illustrates the proximity of the Banbury area to the 'London landmass', an island which had a strong influence on geography and sedimentation through much of the Jurassic.

3.2.2. There are no other SSSI's located within 10km of the site boundary.

3.2.3. The site does not fall into the impact risk zone of any SSSI's.

3.2.4. There are no other designated sites within 5km of the site boundary based on consultation with magic.gov.uk, and there were no designated sites obtained from the 1km data search.

3.3. PRIORITY HABITATS

3.3.1. Consultation with Magic.gov.uk highlighted the presence of the following Priority Habitats within the local area of the site boundary.

- A patch of Deciduous Woodland located approximately 0.5km west from the site boundary, this connected to the site by hedgerows and treelines.
- A patch of good quality semi-improved grassland located approximately 1.9km west from the site boundary.
- Surrounding areas of the site also include Deciduous Woodland are located within the local area of the site however they are considered a distance form the site boundary.

3.4. HABITATS

3.4.1. Please refer to Drawing 20-969 – 001 for the UK HAB Map for the site. Photographs of the site are presented in the Appendix.

MODIFIED GRASSLAND

3.4.2. The grassland located adjacent to the house and the surrounding grassland fields all consisted of unmanaged modified grassland fields. Species included red fescue *(Festuca rubra),* smooth brome *(Bromus racemosus),* smooth hawk's-beard *(Crepis capillaris),* common dandelion *(Taraxacum agg.),* common field-speedwell *(Veronica persica),* false oat grass *(Arrhenatherum elatius),* mosses, early dog-violet *(Viola reichenbachiana),* creeping thistle *(Cirsium arvense),* creeping buttercup *(Ranunculus repens),* broad-leaved dock *(Rumex obtusifolius),* herb Robert *(Geranium robertianum),* common nettle *(Urtica dioica)* and clovers *(Trifolium sp.).*

3.4.3. There were less than 9 species identified within 9m² throughout the site and therefore the grassland was assessed as modified grassland.

INTRODUCED SHRUB

3.4.4. Introduced shrub was located adjacent to the southern aspect of the main residential dwelling. Species within this patch included lavender *(Lavandula),* Japanese meadow sweet *(Spiraea japonica),* birch and wild olive *(Olea europaea).*

HEDGEROWS

3.4.5. Hedgerows were present surrounding the modified grassland fields of the sites, these were dominated by unmanaged hawthorn *(Crataegus monogyna).* Other species identified within the hedgerow included beech *(Fagus sylvatica),* oak *(Quercus sp.),* field maple *(Acer campestre)* and dog-rose *(Rosa canina).*

3.4.6. The understorey of the hedgerows consisted of cleavers *(Galium aparine*), creeping buttercup, common dandelion, common ivy *(Hedera helix),* common nettle, spindle *(Euonymus europaeus),* herb Robert and bramble *(Rubus fruticosus agg.)*.

3.4.7. The modified grassland fields were separated by unmanaged hedgerows which was also dominated by hawthorn with mature trees, species include horse chestnut *(Aesculus hippocastanum),* willow *(Salix sp.),* ash, field maple and oak. A shallow wet ditch was located along this hedgerow. The understorey remained the same as the other hedgerows with the addition of field forget-me-nots *(Myosotis arvensis).*

3.4.8. The hedgerows throughout the northern field consisted of hawthorn, crab apple *(Malus sylvestris),* alder *(Alnus glutinosa)* and spindle. The understory of the hedgerow remained the same.

TREELINE

3.4.9. One conifer *(Pinophyta sp.)* treeline was located on the eastern aspect of the site which backed onto the tennis court of the site.

3.4.10. A treeline was located on the eastern aspect of the site which consisted of hawthorn, ash and small-leaved lime *(Tilia cordata)*.

3.4.11. An ornamental treeline was located along the eastern aspect of the bare ground access track species included

oak, cherry laurel *(Prunus laurocerasus)* and golden chain tree *(Laburnum anagyroides).*

BROADLEAVED WOODLAND

3.4.12. A small patch of broadleaved woodland was located in the centre of the modified grassland field. Species included oak and hazel *(Corylus avellana)* trees with an understory of broadleaved dock, herb Robert, common nettle and dog-rose.

INDIVIDUAL TREES

3.4.13. Individual trees were located north of the main residential dwelling which included apple trees *(Malus x domestica),* beech, lime, ash and silver birch *(Betula pendula).* Hogweed *(Heracleum sphondylium)* was identified within the understory of the trees.

BUILDINGS

3.4.14. Four buildings were present within the site. Please refer to Section 3.4 for details of the buildings.

BAREGROUND

3.4.15. An access road was located within the site which consisted of small stones.

3.4.16. Species were located along the bare ground track nearby the tennis court which included bristly oxtongue *(Helminthotheca echioides),* iris *(Iris sp.),* honeysuckle *(Lonicera periclymenum),* rose *(Rosa sp.),* dog rose.

HARDSTANDNG

3.4.17. An area of hardstanding paving was located surrounding the residential building within the site.

3.5. SPECIES

FLORA

3.5.1. The data search returned records of one notable vascular plant species within 1km of the site boundary which included lesser spearwort *(Ranunculus flammula).*

3.5.2. The site had some floristic diversity however, there were no notable plant species identified within the site.

3.5.3. The site consisted of some floristic diversity with species found throughout the different habitats within the site. However, there was no notable plant species identified within the site, it is a anticipated that there will be notable plant populations within the surrounding areas of the site boundary.

INVERTEBRATES

3.5.4. The data search returned records of one notable invertebrate species within 1km of the site boundary which included two records of common darter *(Sympetrum striolatum),* there were no other records obtained.

3.5.5. The unmanaged grassland and hedgerows with a wet ditch which is located within the centre of the two modified grassland fields are anticipated to be of value for local invertebrate populations. It is also anticipated that flowering species will provide suitable food resources for the species. It is also noted that the site connects to greater habitats which may support local invertebrate populations. Common darter is commonly found within ponds and still water, and may be associated within the wet ditch(British Dragonfly Society, 2023).

3.5.6. Overall, it is anticipated that notable invertebrate may be present within the site and surrounding areas.

AMPHIBIANS

3.5.7. The data search returned no records of great crested newt (*Triturus cristatus*) and no records of common amphibians within 1km of the site boundary.

3.5.8. There were no EPSLs for great crested newt located within 5km from the site boundary, based on consultation with Magic.gov.uk.

3.5.9. No ponds were located onsite, and a total of three ponds were located within 250m of the site boundary however these were located within private land and could not be accessed throughout the survey. This means that it was not possible to assess if the ponds are suitable for great crested newts. Great crested newts' upper dispersal limit is generally considered to be up to 250m from a water body (though occurrence of greater distances does exist).

3.5.10. It is anticipated that great crested newt and common amphibians could be present on site in relation to the modified grassland and hedgerows as the ponds connect to the site and wider habitats. It is also anticipated that nearby ponds may also provide suitable conditions for breeding amphibians. The presence of great crested newts is unknown.

REPTILES

3.5.11. The data search returned no records of reptile species within the local area.

3.5.12. The site provides value for reptiles due to the unmanaged grassland and the surrounding hedgerows which connect to greater habitats within the area, the site also provides suitable commuting areas.

3.5.13. Reptiles may be present within the site.

BIRDS

3.5.14. The data search returned records of birds within 1km of the site boundary which included (not limited to) black headed-gull *(Chroicocephalus ridibundus),* bullfinch *(Pyrrhula pyrrhula),* common gull *(Larus canus),* corn bunting *(Emberiza calandra),* fieldfare *(Turdus pilaris),* grey wagtail *(Motacilla cinerea),* hobby *(Falco Subbuteo),* kestrel *(Falco tinnunculus),* kingfisher *(Alcedo atthis),* lesser black-backed gull *(Larus fuscus),* meadow pipit *(Anthus pratensis),* reed bunting *(Emberiza schoeniclus),* skylark *(Alauda arvensis),* sparrow hawk *(Accipiter nisus),* tawny owl *(Strix aluco),* wren *(Troglodytes troglodytes)* and yellow hammer *(Emberiza citronella).*

3.5.15. The site provides numerous suitable breeding bird habitats in relation to the hedgerows, treelines, woodland, and the grassland throughout. It is anticipated that local ground nesting species such as skylark could utilise the grassland areas for breeding purposes. It is likely that breeding birds will be present within the site boundary.

3.5.16. It is also anticipated that nesting birds may be present within the buildings on site as well as the surrounding areas.

BATS

3.5.17. The data search returned no records of bats within 1km of the site boundary.

3.5.18. The following EPSLs for bats were located within 5km from the site boundary, based on consultation with Magic.gov.uk:

- 2018-33764-EPS-MIT - located approximately 0.9km northeast from the site boundary which allowed for the destruction of a resting place for soprano pipistrelle *(Pipistrellus pygmaeus)* between 2018-2023.
- 2019-39029-EPS-MIT - located approximately 1.5km southwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle *(Pipistrellus pipistrellus)* and brown long-eared bat *(Plecotus auritus)* between 2019-2026.
- 2019-42528-EPS-MIT - located approximately 2.1km southwest from the site boundary which allowed for

the destruction of a resting place for common pipistrelle and brown long-eared bat between 2019-2025.

- EPSM2010-1903 - located approximately 2.5km southeast from the site boundary which allowed for the destruction of a resting place for brown long-eared bat between 01/05/2010 – 31/12/2010.
- 2014-4051-EPS-MIT - located approximately 2.8km northeast from the site boundary which allowed for the destruction of a resting place for common pipistrelle, brown long-eared bat, barbastelle bat *(Barbastella barbastellus)* and natterer's myotis *(Myotis nattereri)* between 2014-2020.
- EPSM2010-1710 - located approximately 2.6km north from the site boundary which allowed for the destruction of a resting place for common pipistrelle, brown long-eared bat and natterers myotis between 2010-2012.
- 2020-50143-EPS-MIT - located approximately 2.9km southwest from the site boundary which allowed for the destruction of a resting place and breeding site for common pipistrelle, brown long-eared batt, natterers myotis and whiskered myotis *(Myotis mystacinus)* between 2020-2032.
- 2020-49900-EPS-MIT - located approximately 4km southwest from the site boundary which allowed for the destruction of a resting place and breeding site for common pipistrelle and brown long-eared bat between 2020-2031.
- EPSM2009-867 - located approximately 4.2km southwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle and brown long-eared bat between 2009-2011.
- 2020-44568-EPS-MIT- located approximately 4.3km northeast from the site boundary which allowed for the destruction of a resting place and breeding site for common pipistrelle and natterers myotis between 2020-2025.
- 2015-15852-EPS-MIT – located approximately 4.2km northeast from the site boundary which allowed for the destruction of a resting place for common pipistrelle and brown long-eared bat between 10/11/2015–31/12/2015.
- 2017-27552-EPS-MIT - located approximately 4.7km southeast from the site boundary which allowed for the destruction of a resting place for common pipistrelle and whiskered myotis between 2017-2018.
- EPSM2013-6237 – located approximately 5km southwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle and brown long-eared bat between 2013-2014.

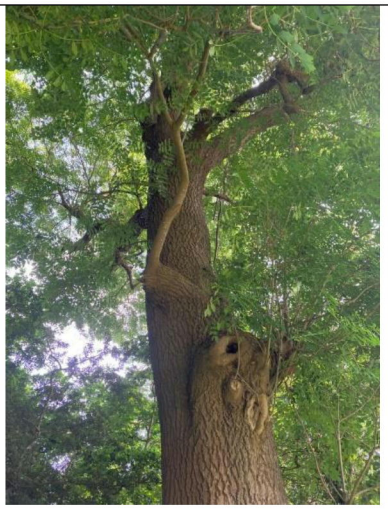
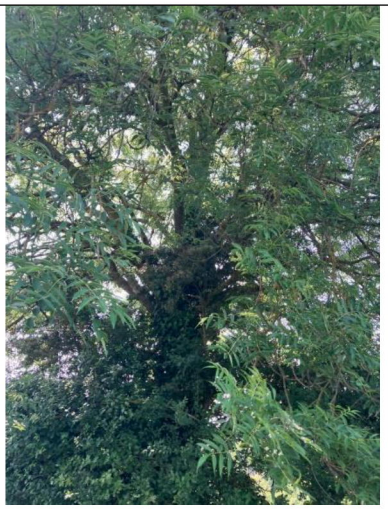
3.5.19. The buildings and trees were subject to a PRA and are detailed in Table 3.1

Table 3.1 PRA Summary

Building Ref	Description	Photograph
External aspect of Main Residential Building (B1)	The main residential dwelling consisted of sandstone brickwork with a slate tile roof. Externally, all brickwork were found to be well sealed with no gaps or crevices. Two vents were identified within the brickwork of the house which were located on the northern and southern aspect. Both vents located on the northern aspect led into a pipe internally and did not provide internal access into the dwelling. The roof consisted of slate tiles where some were lifted and cracked on the eastern and western aspect of the roof. Small gaps were also identified surrounding the chimney of the dwelling, it is possible that this provide internal access into the dwelling these features were identified as PRF's. An extension was located on the southern aspect of the dwelling	

Internal aspect of Main Residential Dwelling (B1)	The internal aspect of the dwelling consisted of a two-storey residential house. A small number of bat droppings were identified on the first and second floor of the dwelling, it should be noted that a large number of mouse droppings were also identified throughout the building. The building had been stripped down internally prior to the inspection. The roof consisted of foil insulation boards with supporting wooden beams. Gaps within the insulation showed wooden sarking behind the insulation, it is anticipated that this is the same throughout the dwelling. The space between the wooden sarking and slate tiles may provide a PRF across the roof. A loft space was identified above the kitchen of the dwelling, this also consisted of a wooden board floor with a foil insulation boards, supporting wooden beams and wooden sarking identified behind the insulation. A red brick wall which was located at the chimney was located on the northern aspect of the loft space, which was sealed, a small gap was identified at the top of this wall which was assessed as a PRF or potential access point. Bat droppings were identified within the loft, demonstrating bat presence.	 
External aspect of Smaller residential dwelling (east of the main dwelling) (B2)	The brickwork also consisted of sandstone bricks throughout which were well sealed throughout the building. The northern and southern aspect of the building consisted of sandstone walls and well-sealed eaves, there were no gaps identified on these features. The roof of the dwelling consisted of slate tiles, which were lifted on the western and eastern aspect. A missing tile was located on the eastern aspect of the building. A tall pipe was located on the southern aspect with lifted led flashing identified surrounding this pipe, these features along the roof were identified as a PRF or potential access point. The overhanging eaves on the eastern aspect of the building were not sealed and gaps were identified which may provide internal access to the loft.	 

Internal aspect of Smaller residential dwelling (east of the main dwelling) (B2)	Internally the residential rooms of the dwelling were well sealed, and they did not provide any roosting features. The loft space was located on the southern aspect of the building. The loft space consisted of foil insulation with supporting wooden beams. Bat droppings were identified within the loft space of the building. It is possible a cavity is located between the external brick work and internal breezeblock walls located within the loft.	
Garage on eastern aspect of the main dwelling. (B3)	A garage was located on the eastern aspect of the site which consisted of single metal sheets, breeze block walls were located on the northern and southern aspect of the garage. The brick walls were well sealed with no gaps or crevices identified throughout. The metal roof was also found to be well sealed and did not provide and access point into the building. There were no PRF's identified throughout the garage.	
Garage on the southern aspect of the site (B4)	A second garage was located on the southern aspect of the site which consisted of single metal sheets and breeze block walls. Windows were located on the southern and western aspect of the building; one window was broken on the western aspect of the building. The garage was open on the northern aspect and another large gap was also present on the southern aspect of the building. The breeze block walls were found to be wells sealed with no gaps or crevices throughout. It is anticipated that the metal roof will fluctuate in temperature and will not provide suitable roosting opportunities for local bat populations. The were no PRFS identified within this garage.	
Oak with low bat potential (T1)	An oak tree located at SP3530238920 was found to provide low bat roosting potential due to the dense ivy coverage along the tree.	

Ash with moderate bat potential (T2)	An ash tree located at SP3521038880 was found to provide moderate bat roosting potential due to the broken limbs along the tree which provided big hollows which could support roosting bats.	
Ash with low bat roosting potential (T3)	An ash tree located at SP3520038925 was found to provide low bat roosting potential due to the dense ivy coverage along the tree.	

3.5.20. B1 and B2 were found to provide moderate bat roosting potential due to the access points identified within the buildings, the possible roosting features and bat droppings which were identified internally.

3.5.21. The habitats surrounding the site will provide suitable commuting, foraging and roosting features for local bat populations. There will be low levels of lighting at dusk which will attract local bat populations. There are also a total of three ponds within the local area of the site which is anticipated to attract a variety of invertebrate prey which will most likely attract bats nearby the site. A total of six bat species were identified within 5km based on the magic.gov.uk EPSL's (see point 3.5.19) therefore it is anticipated that there will be a variety of bat species within the local area.

[redacted]

OTHER TERRESTRIAL MAMMALS

3.5.24. No records of west European hedgehog (*Erinaceus europaeus*) were located within the 1 km search area. Given the habitats present within the site including hedgerows and connecting habitats, it is anticipated that hedgehog

could be present within the site.

3.5.25. No records of brown hare (*Lepus europaeus*) were recorded within 1 km of the site boundary. The site is anticipated to be of value for the species due to the connecting surrounding habitats and the unmanaged modified grassland.

NON-NATIVE INVASIVE SPECIES

3.5.26. There were no records of non-native invasive species within 1km of the site boundary obtained from the data search.

3.5.27. No non-native invasive species were observed during the survey.

SPECIES DISCOUNTED FROM ASSESSMENT

3.5.28. Water vole (*Arvicola amphibius*), otter (*Lutra lutra)*, beaver (*Castor fiber)* and white-clawed crayfish (*Austropotamobius pallipes*) have been discounted from assessment as no aquatic habitats are located on site or within proximity which could support these populations. There were no records of these species obtained from the data search.

3.5.29. Hazel Dormouse (*Muscardinus avellanarius*) mainly occur in southern counties, especially in Devon, Somerset, Sussex, and Kent. There are few recorded localities north of the Midlands, though they are present in parts of the Lake District and in scattered Welsh localities (Matthews et al, 2018). There were no records obtained from the data search and no records of any EPSL's obtained from consultation with magic.gov.uk.

3.5.30. Red squirrel (*Sciurus vulgaris)* has been discounted from the assessment. Red squirrel populations are limited due to the high abundances of grey squirrel. It is anticipated that local grey squirrels will displace red squirrel through competition as well as cause an increase of red squirrel mortality through the spread of squirrel pox (The Mammal Society, 2020).

4 MITIGATION RECOMMENDATIONS

4.1. DESIGNATED SITES

4.1.1. The site does not fall within the impact risk zone of any SSSI's, there are no other notable sites identified within 5km of the site boundary. This means that there is no mitigation necessary for designated sites.

4.2. HABITATS

4.1.2. Priority habitats were located nearby the site, these sites were located a sufficient distance away from the site boundary that the proposed works will not impact these surrounding habitats.

4.1.3. All habitats within the site are to be retained throughout the proposed development. All works relate to the demolishment of the B1 and to rebuild a new dwelling on the existing footprint as such, no habitats are to be lost to facilitate this development.

4.3. SPECIES

AMPHIBIANS

4.3.1. Great crested newts could be present within the modified grassland fields within the site however, the area of the proposed works includes hardstanding and buildings, these areas are considered unsuitable to support great crested newt populations however it is noted that they could be present within the local area.

4.3.2. Therefore, the following Reasonable Avoidance Measures (RAMs) are to be undertaken under the supervision of a licenced great crested newt ecologist. Pre-commencement works are as follows:

- All site contractors are to be inducted through a Toolbox Talk (please see appendices) hosted by a suitably qualified ecologist on the presence of great crested newts and their legal protection. All contractors are to sign the Toolbox Talk and agree to the proposed RAMs;
- A designated working area will be maintained to minimise total working area, which will be marked out by the ecologist (where necessary). A fence and/or sign will be situated to mark the working areas to ensure no contractors and vehicles do not enter areas which have not been checked for great crested newts.
- Any vegetation on site to be cleared should first be strimmed to approximately 15 cm and left overnight, allowing any animals the chance to naturally disperse from site. A fingertip search of any vegetated areas should then be undertaken to check for the presence of great crested newts.
- Once the ecologist has declared all areas of potential for great crested newts have been checked, the proposed works can continue unsupervised.
- Storage of materials is to be on pallets i.e. raised off the ground and on areas of hard standing or tarmac. No materials to be stored on vegetation.
- All working areas are to be maintained as bareground or hardstanding throughout the construction phase.
- All open pits and pipes are to be covered during the night, with a check for presence of amphibians conducted prior to covering.
- If excavations are exposed and/or created, a slope will be positioned within the excavation to allow amphibians and mammals to escape should they fall in.
- Under no circumstances should site contractors attempt to handle great crested newt.
- Ecologist to undertake a site visit upon completion of works to confirm that the works have been undertaken using the above risk avoidance measures and that habitats have been restored.
- In the unlikely chance, a GCN is located during the PWM's, all works must cease immediately, and Natural England contacted for advice. No great crested newt is to be handled and the refugia is to be placed back to provide suitable cover.

4.3.3. It is also recommended that the consideration for common amphibian's populations during the works. This includes checking any areas by hand which will be impacted by the proposed works, any common amphibians found should be moved carefully by hand outside of the working area.

BATS

4.3.4. A total of two of the buildings on the site were assessed as providing moderate bat roosting potential. It is understood that no bat surveys have been completed at the site to determine the presence or absence of the species. It is recommended that further surveys in the form of summer nocturnal surveys are to be completed to understand the sites usage for roosting bats within the buildings and the sites value (see Section 5).

4.3.5. A total of three trees were also identified as providing bat roosting potential. However, these trees within the site are to be retained throughout the development, no further surveys regarding the trees are required. If the trees require removal, further surveys will be required.

4.3.6. If T1 and T3 were assessed as providing low bat roosting potential therefore it should undergo reasonable avoidance measures. This would involve being inspected by a licensed bat worker with an endoscope before felling or utilising a soft felling technique (which involves practises like removing limbs separately and lowering them to the ground and then leaving for 24 hours before clearing).

4.3.7. T2 was assessed as having moderate bat roosting potential. It is recommended should the tree require removal further nocturnal surveys would be completed to ensure no roosting bats are present prior to removal.

4.3.8. Slow-flying species such as brown long-eared based on consultation with magic.gov,uk, which are known to be in the local area, are sensitive to lighting and may be impacted by the proposed development, should no mitigation for lighting be considered.

4.3.9. Any proposed lighting/existing lighting should follow the guidance outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and BCT’s “Bats and Artificial Lighting in the UK” (2018).

4.3.10. An External Lighting Scheme had not been produced on the writing of this report. As such, the following recommendations are to be considered within the scheme during its condition, to minimise impacts of lighting. The recommendations are as follows:

- Keep site lighting to minimum levels.
- Luminaries should lack UV elements and preferably LED lighting with a warm white light should be used over cool white light (ideally <2700Kelvin).
- Lighting should feature peak wavelengths greater than 550nm.
- Light placement should be downward facing to prevent excess horizontal or vertical light spill.
- The use of integrated fittings such as cowls, shields, louvres and hoods, that effectively contain light spill from unintended areas.
- The use of hard landscaping features to block light and create dark corridors.
- Avoid illuminating habitats of value.
- Use of timed security lights should be set on motion-sensors and using short, 1-minute timers, to minimise light use.
- Column heights of lighting can be considered to minimise light spill.

REPTILES

4.3.11. Reptiles may be present onsite, however only low numbers are anticipated based on the habitat quality and site size. Due to the works being restricted to the hardstanding areas, RAMs are to be followed to minimise potential impacts on the species:

- An experienced Ecological Clerk of Works (ECoW) shall be appointed to ensure RAM’s are enforced.
- A copy of this method statement must be kept on site (we suggest having a laminated copy in the site office/ compound);.
- A walkover of the area should be undertaken by the ECoW to determine any change in status of the habitats/structures on site prior to the initiation of any works.
- A toolbox talk by the appointed ECoW will be given to the site manager and all contractors working on

site with respect to the surrounding habitats and potential for protected/notable species. A copy of species factsheets relating to reptiles and breeding birds will be provided for display within the site office.

- Suitable vegetation is to be strimmed under ECoW to approximately 15cm in a northern to southern direction. It is to be checked by the ECoW following strimming to identify individuals. If discovered, they will be removed from the working area and covered. Once the areas are deemed reptile free, they are to be strimmed to ground level and maintained at this length for the remaining works.
- Any excavations will be backfilled on the same day as excavation or checked by the ECoW immediately prior to backfilling. This also considers avoiding temporary water bodies which may be attractive to amphibians. If it is not possible to backfill on the same day, a ramp, will be provided in all excavations or alternatively, all excavations should be well-covered with plywood.
- No piles of loose construction materials are to be created during works – all material will be kept on hardstanding, stored on pallets, removed immediately from the site or checked by an ECoW prior to being removed.
- In the event reptiles are discovered, works will halt immediately and the ECoW will be contacted for advice. Contractors are not to handle reptiles unless informed to do so by the ECoW.

4.3.12. The precautionary destructive search work will be undertaken during the summer at a time of year when reptiles are active. The ecologist will be present during the strimming works. Any reptiles found during the destructive search will be relocated to the retained grassland to the west of the site.

4.3.13. During the construction period, the development zone will be maintained clear of vegetation in order to remove the likelihood of any reptiles re-colonising the site.

BREEDING BIRDS

4.3.14. A total of four buildings are present within the site boundary, it is anticipated that these buildings may be of value for nesting bird populations. Nesting bird management will be followed regarding nesting birds prior to any works commencing on site.

4.3.15. The habitats of highest value in relation to the treeline, woodland and grasslands within the site, it is understood that these habitats are to be retained throughout the development however the following management will be adhered to if any vegetation is to be removed throughout the development.

4.3.16. Any vegetation management and works to the buildings should be undertaken outside of the breeding bird season (March to September, inclusive). If this is not possible, a suitably qualified ecologist should undertake a nesting bird check no more than 48 hours prior to removal. If nesting activity is observed, the nest(s) should be left in situ until the young have fledged. A suitable buffer will be maintained and determined by the ecologist.

TERRESTRIAL MAMMALS

4.3.18. European Hedgehog and brown hare are anticipated to be present within the site and are a Species of Principal Importance. Areas surrounding and within the dwellings should be checked for the species prior to any works to prevent any harm to the species, they may be present nearby or within the buildings, if any hedgehogs or brown hare are identified they should be carefully relocated by hand to a location away from the working area. If any injured species are located, they should be taken to a local vet.

5 FURTHER SURVEYS AND CONCLUSION

5.1. BAT SURVEY (SUMMER ROOSTING)

5.1.1. Building 1 and 2 were found to provide bat roosting potential, and therefore, in accordance with Best Practice guidance (Collins, 2016) further nocturnal emergence/ re- entry surveys should be undertaken between May-September (inclusive) to determine usage by roosting bats.

5.1.2. Both buildings were found to provide moderate bat roosting potential and therefore a minimum of three nocturnal bat surveys are completed, with at least one survey completed between to May to August.

5.1.3. The results of the further surveys will determine if any mitigation is required for roosting bats. If roosting bats are located within any of the buildings, a Natural England Mitigation Licence may be required for development to proceed. The Licence can only be obtained once planning permission has been granted and all wildlife conditions discharged. However, the bat emergence surveys must be undertaken prior to planning permission being applied for as they are a material consideration.

5.2. CONCLUSION

5.3.1. The site was found to consist of modified grassland field which are bound by hedgerows and trees. A total of four buildings are present within the site, two of these were found to provide bat roosting potential. The proposed works are to be focused on the buildings within the site with the potential enhancement of the surrounding fields. The fields provide suitable habitats for a variety of species however as these are not to be affected throughout the proposed development it is noted that these habitats are to remain throughout the development.

5.3.2. Precautionary working methods have been recommended for amphibians, bats, reptiles, badger, breeding bird, hedgehog and brown hare due to the good quality habitats located within the site boundary for these species.

5.3.3. Bat and bird boxes could be placed on the new buildings / retained trees. A plan to show the locations of these boxes and the specifications should be produced by a suitably qualified ecologist once the layout is finalised.

5.3.4. A biodiversity net gain report is to be produced alongside the PEA.

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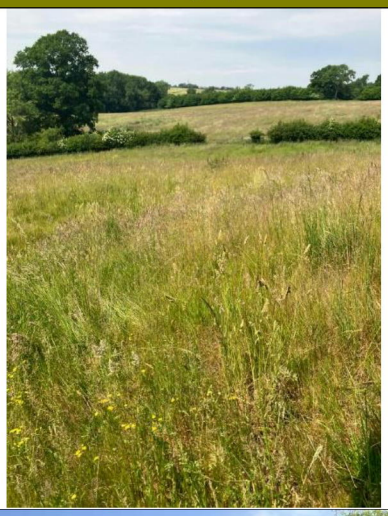
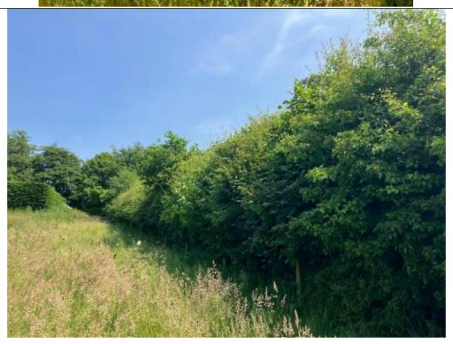
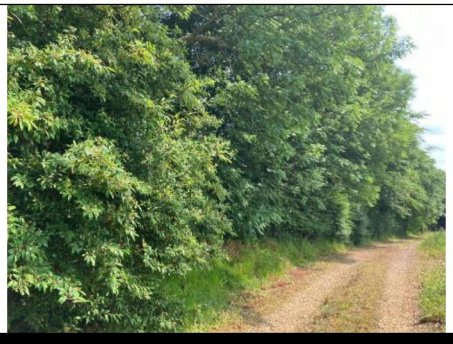
Description	Photographs
Modified Grassland Field	
Unmanaged Hedgerow	 
Treeline along bare ground track	
[redacted]	

Introduced Shrub	
Gap in overhanging eves on smaller residential dwelling and gap in led flashing	 
Bat droppings in smaller residential dwelling loft space	

Lifted tiles and vent on the main residential dwelling	 
Bat droppings in loft space and residential rooms of main house	 

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Collingtonwinter
environmental