



ECOLOGICAL APPRAISAL

LOWER WHITEMORE FARM, WHITEMORE,
CHESHIRE, CW12 3NF

CLIENT: Mr S. George & Miss E. Zegar

13 September 2021

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This report has been prepared by Sambrook Associates Ltd on behalf of Mr S George & Miss E Zegar in connection with the demolition and rebuild of Lower Whitemore Farm and takes into account their particular instructions and requirements. It is not intended for, and should not be relied on, by any third party and no responsibility is undertaken to any third party.

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1 INTRODUCTION

1.1 Background Information

- 1.1.1 Sambrook Associates Ltd was instructed by Mr S. George and Miss E. Zegar to undertake an Ecological Appraisal (EA) in relation to the proposed demolition and re-build of buildings at Lower Whitemore Farm, Whitemore, CW12 3NF. The Site comprises a farmhouse (B1) and an outbuilding (B2) and large areas of existing hardstanding and grassland.
- 1.1.2 As part of the Appraisal, a site walk-over comprising a phase 1 habitat survey of the Site, and external and internal inspections of the buildings in addition to a desktop study were undertaken between in 2021. This report provides the results of these, as well as an appraisal of the potential effects the proposed development may have on biodiversity, and recommendations for further survey, mitigation and enhancement, where required.
- 1.1.3 The aim of the appraisal is to provide sufficient ecological information for the local planning authority (LPA) to determine the associated planning application. The objectives of the study were to:
- Provide update baseline information on the current ecological features both on-site and in the immediate surrounding area (up to 30m where accessible);
 - Identify the presence or potential presence of any protected species or habitats and provide an appraisal of any potential effects that the proposed development may have on these;
 - Identify the proximity of any sites designated for nature conservation interest and provide an appraisal of any potential effects that the proposed development may have on these; and
 - Provide recommendations for further pre-construction survey work and / or mitigation measures if required and present opportunities for habitat enhancement.
- 1.1.4 In consideration of the nature of the proposed work (principally demolition of the buildings), the assessment focuses on bats and birds but other mobile species such as great crested newts and badgers are also assessed.

1.2 Site Description

- 1.2.1 The Site is located within a rural setting, north of the village of Biddulph. There are other isolated dwellings and farmsteads in the vicinity. The Site comprises two buildings, a large, detached brick and slate farmhouse (B1), and outbuildings (B2) formed, in the main, of brick and slate with a more modern steel portal and corrugated roof extension. Mature ornamental gardens and native trees surround the house with hard standing and driveway surrounding the outbuilding.
- 1.2.2 The proposed development is hereby referred to as the Site and comprises the land within the red-line boundary. The walk-over survey covered an area greater than this (where access permitted) for mobile species such as great crested newts, badgers, water vole and otter and to look at how nearby habitats may influence the use of the buildings by bats.

2 LEGISLATION AND PLANNING POLICY

- 2.1.1 Many sites, animals and plants are protected by European and/or UK legislation either because of their decline across Europe and the UK or due to the persecution they have placed upon them by negligent or illegal acts such as baiting or trade. Legislation is also in place to prevent the spread of introduced or non-native invasive species and harmful weeds. When undertaking an appraisal of a proposed development, such legislation is taken into account as follows.
- **European:** Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive'); and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (codified version of Directive 79/409/EEC as amended) (the 'Birds Directive').
 - **UK (England & Wales):** The Conservation of Habitats and Species Regulations 2017, as amended (the 'Habitat Regulations') which transposes the Habitats Directive in UK law. Since 1st January 2021, the UK is no longer a member of Europe but since the Habitats Directives are embedded into UK statute, The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 was published and still applies in England and Wales; The Wildlife and Countryside Act 1981 (as amended); the Countryside and Rights of Way Act (CROW) 2000; the Protection of Badgers Act 1992; the Natural Environment and Rural Communities Act (NERC) (2006) and the Environmental Protection Act (EPA) 1990.
- 2.1.2 Species such as bats, great crested newts, otter, water vole, reptiles, birds and badgers are all protected to varying degrees under this legislation.
- 2.1.3 In addition to legislation, there are also national and local planning policies pertaining to the protection of biodiversity. The National Planning Policy Framework (Department for Communities and Local Government, 2019) states *'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity'*.
- 2.1.4 Under the NERC Act, local authorities (and other public bodies) have a duty to conserve biodiversity. The Act confers responsibility on the local authority to take the protection of priority habitats and species (as listed in Section 41) into consideration when making a planning decision. Habitats listed in this section include eutrophic standing waters, rivers, lowland meadows and lowland mixed deciduous woodland. Species listed in this section include great crested newt *Triturus cristatus*, sky lark *Alauda arvensis*, hedgehog *Erinaceus europaeus*, otter *Lutra lutra*, soprano pipistrelle *Pipistrellus pygmaeus* and red squirrel *Sciurus vulgaris*. Full habitats and species' lists can be found at the Natural History Museum website, nhm.ac.uk or jncc.defra.gov.uk.
- 2.1.5 The RSPB's Birds of Conservation Concern 3' (Eaton et al., 2009) is also taken into consideration when undertaking this appraisal.

- 2.1.6 Because of the type of development proposed, it is usual that bats are the most likely animals affected and so the legislative and licensing obligations pertaining to bats are described in more detail below.
- 2.1.7 All bat species are protected in the UK under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The species is also protected under Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (the EC Habitats Directive). This has been transposed into UK law by the Conservation of Habitats and Species Regulations 2010 (as amended) in England and Wales. Bats are referred to as European Protected Species (EPS).
- 2.1.8 It is an offence to deliberately capture, injure or kill a bat; intentionally or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, or breed. It is also an offence to damage or destroy a bat roost and to possess, advertise, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.
- 2.1.9 If you wish to undertake works that would affect an EPS then you will need a licence. Natural England (NE), in exercise of the powers conferred under regulation 53(1) and 56(3) (a) of the Conservation of Habitats and Species Regulations 2010, may issue licences for the following purposes:
- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
 - Preventing the spread of disease;
 - Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries; to allow people to carry out activities which would otherwise be illegal;
- 2.1.10 Before issuing a licence under the Habitats Regulations, the licensing authority must be satisfied that “there is no satisfactory alternative” to the work as proposed and, that the proposed actions “will not be detrimental to the maintenance of the population of the species at a favourable conservation status (FCS)”.
- 2.1.11 To ensure these requirements are met, the licensing authority must have enough information to complete an assessment of the application. This includes sufficient survey data so that the roost and how it is used by bats is understood and impacts upon the roost are appropriately assessed so that mitigation and/or compensation can be designed into the proposed development that will ensure the bat population can be incorporated and maintained in the long term.

3 METHODOLOGY

3.1 Introduction

3.1.1 To inform this Ecological Appraisal, a Site walk-over survey was conducted on 20 April 2021 which comprised recording of habitats within the Site and an internal and external inspection of buildings for bats (i.e. a bat scoping survey) and birds. The survey also included potential for protected and notable species, and invasive species such as Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera*. In addition to this, a desk-top study was also undertaken. Bat activity surveys were conducted between June and August 2021.

3.2 Desk-top Study

3.2.1 The desktop study involved publicly available data searches for statutory and non-statutory sites, legally protected species and other features of interest within a 1km radius of the site. The centre of the site (Ordnance Survey Grid Reference SJ88536007) was used for the data search.

3.2.2 The following sources were searched for information about the Site:

- Defra's 'MAGIC' website;
- Google Earth;
- Bing Maps; and
- Cheshire East Council and Staffordshire Moorlands Council websites.

3.3 Walk-over Survey

3.3.1 The purpose of the survey was to determine any changes to:

- the habitats present;
- any potential constraints to development;
- legally protected species potentially present;
- the presence of invasive plant and animals; and
- any requirement for additional ecological surveys.

3.3.2 Sambrook Associates Ltd. carried out walk-over survey of the Site on 20 April 2021. The weather was mild with an average temperature of 14°C.

3.3.3 The walk-over survey was carried out by Rebecca Sambrook MCIEEM. The surveyor is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and adheres to that organisation's Code of Professional Conduct. Rebecca has gained over 16 years as a professional ecologist, conducting surveys and authoring reports including PEAs, Ecological Impact Assessment chapters, Habitat Regulations Assessments, Biodiversity Management Plans and other specialist technical reports, including mitigation design.

3.3.4 The survey was not a full Phase 1 Habitat survey; due to the residential nature of the site, this was considered unnecessary. The Site and immediately adjacent areas (up to 30m) were searched for

evidence of protected species that may occur in this area such as bats, birds, great crested newts *Triturus cristatus*, badgers *Meles meles*, otters *Lutra lutra*, and water vole *Arvicola amphibious* and any invasive plants or animals.

- 3.3.5 Photographs are included within this report. Plant names follow the third edition of the New Flora of the British Isles (Stace, 2010). The common name of the plant is stated first and is followed by the Latin name, on the first occasion that it is used. Only the common name is used subsequently.

3.4 Bat Scoping Survey

- 3.4.1 The survey followed the methodology set out in the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016). The survey was carried out by Rebecca Sambrook on 20 April 2021.
- 3.4.2 The buildings were inspected both externally and internally for evidence of the presence of bats. The survey started with an examination of the external parts of the buildings to locate potential roosting features such as lifted/missing roof material, gaps around soffits, barge boards and similar. Evidence such as staining, droppings, urine splashes and individuals were also searched for. With no evidence externally, an internal inspection of the loft areas was undertaken, searching for the same evidence. Ten minutes was also spent listening (detector and ear) for squeaking noises that bats make when in their roost.

3.5 Bat Activity Surveys

- 3.5.1 During the building inspection, no bat droppings were found in either building but both buildings exhibited high suitability for bats and hence it was considered necessary to undertake three night-time activity surveys. The surveys followed the methodology set out in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).
- 3.5.2 Activity surveys comprising dusk and dawn surveys were undertaken during appropriate weather conditions. The dusk surveys commenced 15 minutes before sunset until 1.5-2 hours after and the dawn surveys commenced 1.5-2 hours before sunrise until 15 minutes after.
- 3.5.3 The buildings were surveyed separately by five surveyors were positioned strategically so that good coverage of the buildings was achieved (see Figure 3.1 below). All of the surveyors are experienced in bat activity surveys; Rebecca Sambrook, Mick Smith (NE licence no. 2015-15175-CLS-CLS), Lisa Borghesi, Mark Benson, Jack Halpin, Joe Taylor, Luke Osman, Alex Jones and Vincent Riozzi.
- 3.5.4 The surveyors each used a Wildlife Acoustics' EM Touch detectors or Anabat Walkabout. The data was analysed by the surveyors and reviewed by Rebecca Sambrook.

3.5.5 The following table provides details of the surveys.

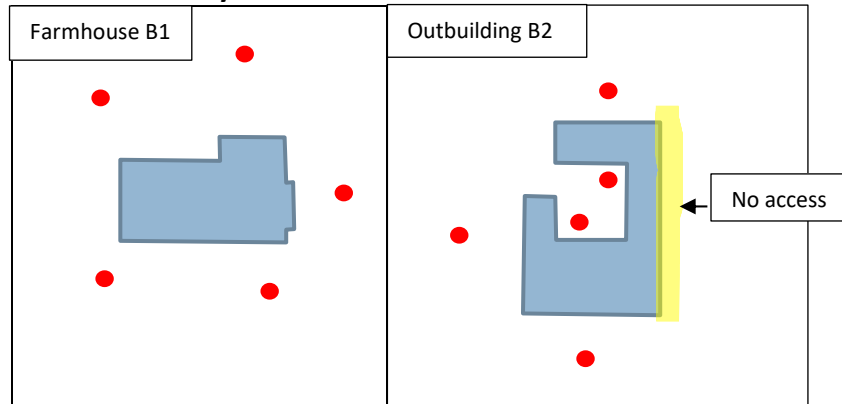
Table 3.1: Survey Data Building 1

Variable	Date		
	01/07/2021	04/08/2021	20/08/2021
Survey type	Dusk	Dusk	Dawn
Sunrise/Sunset	21:38	20:59	05:57
Time started	21:23	20:44	04:27
Time completed	23:08	22:29	06:12
Start weather	Warm, dry, still	Mild, dry, still (rain for 15 minutes at 20:50)	Mild, dry, still
Start Temperature	16°	16°	13°
Start rain	0	0	0
Start cloud	8	8	8
Start wind	0	2	0
End weather	Warm, dry, still	Mild, damp, still	Mild, dry, still
End temp	16°	15°	14°
End rain	0	0	0
End cloud	8	8	0
End wind	0	2	1

Table 3.2: Survey data Building 2

Variable	Date		
	07/07/2021	05/08/2021	19/08/2021
Survey type	Dusk	Dawn	Dusk
Sunrise/Sunset	21:35	05:30	20:26
Time started	21:20	04:00	20:13
Time completed	23:05	05:45	21:56
Start weather	Mild, dry, still	Mild, dry, still	Damp, overcast, still
Start Temperature	16°	13°	15°
Start rain	0	0	0
Start cloud	8	8	8
Start wind	0	0	0
End weather	Mild, slight breeze, dry	Mild, dry, still	Warm, dry, still
End temp	14°	13°	15°
End rain	0	0	0
End cloud	7	8	8
End wind	1	0	1

Plate 3.1: Surveyor Locations ●



3.6 Limitations

- 3.6.1 No significant limitations were encountered during the surveys. The east side of the outbuilding was inaccessible for activity surveys due to dense vegetation growth, but this was mitigated by the fact that a large part of the east side was new steel portal building with no suitable potential roosting features (PRFs), and the whole side was too cluttered for bat flight.

4 RESULTS

4.1 Introduction

- 4.1.1 This section provides a commentary on the data collected during the desk-top study and surveys undertaken in 2021.

4.2 Desk-top Study

- 4.2.1 The Site is located approximately 67m from the boundary of the Biddulph Valley Way (Whitemoor) LNR; a statutory designated site. The LNR is a publicly accessible walking route that follows a disused railway line and connects multiple local towns including Stoke, Biddulph and Congleton, with numerous locations of heritage and nature conservation value along the way.
- 4.2.2 The proposed Site falls within a SSSI/SAC Impact Risk Zone. Impact risk zones are used by Local authorities to assess planning applications for likely impacts on SSSIs, SACs, SPAs and Ramsar sites in England. However, the proposed development type is not included in the planning proposal categories that would trigger the necessity for the planning authority to consult with Natural England i.e. it is considered that this development type is unlikely to impact upon the nearby designated sites.
- 4.2.3 There do not appear to be any non-statutory sites within the zone of influence of the proposed site.
- 4.2.4 A review of the previous survey report and a search of Google Earth and Bing Maps revealed there to be no ponds within 250m of the Site. There are no nearby rivers but there is a minor watercourse that runs through the landholdings, south of the outbuildings.
- 4.2.5 The Cheshire East Council and Staffordshire Moorlands Council planning portals did not reveal any pertinent information and there do not appear to be any current adjacent developments that would likely cause any in-combination effects with the proposed Site.

4.3 Walk-over Survey

- 4.3.1 The Site comprises two buildings, which were surrounded by hardstanding yard, driveway and ornamental gardens. Mature trees are abundant on the site boundaries.
- 4.3.2 The buildings have potential bat roosting features and are described in more detail in section 4.4 below.
- 4.3.3 Active nest building or current/historic nests were not recorded in or around the Site at the time of the survey.
- 4.3.4 No evidence of badgers or other mammals was found but it is possible they pass through the Site from time to time.

- 4.3.5 There is a flowing watercourse within the wider landholdings, this runs approximately 16m to the south of the outbuildings. The watercourse and surrounding habitats do not appear to provide suitable habitat for reptiles, otter or water vole. These species are not considered further.
- 4.3.6 The Site does not support ponds and there do not appear to be any ponds within 250m. Given the lack of ponds within 250m, the presence of great crested newts within the site is unlikely.
- 4.3.7 No evidence of non-native invasive or harmful weeds such as Japanese knotweed or Himalayan balsam was identified during the survey.

4.4 Bat Scoping Survey

- 4.4.1 As noted above, two buildings were fully assessed for their potential to support bats and considered to be High suitability for bats i.e. they have multiple features that could support roosts of high conservation status such as maternity roosts.
- 4.4.2 The building inspection was undertaken during the walk-over survey. A listening exercise undertaken for 10 minutes within each building revealed the detection of bat calls in the upper floor of the east barn; three brown long eared bats were recorded and observed.

Table 4.1: Photographs of the Site

Feature	Description
Farmhouse B1	
	Painted brick detached farmhouse with slate roof and lead flashing. Timber windows and doors, all of which were in reasonable condition with no gaps. The roof is in a poor state of repair due to subsidence. This has created numerous gaps and crevices under the ridge slates and under some roof slates. There is a gap between the timber and bricks on the front porch. Internally, the ground floor and first floor are unremarkable. The loft space is divided into 3 separate sections, all of similar character and accessed via three different loft hatches. Lofts were small with a height of between 0.4m and 1.0m. Timber boarding lines all roofs. No evidence of bats.



Outbuildings B2



Brick and slate outbuilding organised around a courtyard, extended on the east and southern side by a steel portal building and single aspect corrugated cement roofs. Northern section comprises brick and single aspect corrugated roof.

The corrugated roof parts of the building are of limited potential for bats, but the brick and slate sections provide numerous cracks, gaps and crevices where bats could potentially roost.



To the eastern side of the outbuilding there is a treeline which overhangs the outbuilding and creates a cluttered environment for bat flight; rendering that side of the building negligible.

Much of the building is well lit in daylight and so would not be suitable for bats that prefer to roost in open spaces/building apex.



Overall, the brick and slate parts of the building i.e. those within the courtyard and the western elevation, plus the roof that can be viewed from the south are the most suitable for bats.

No evidence of bats.





4.4.3 The Site and surrounding habitats provide excellent foraging and commuting habitat for bat species; the open grasslands and woodland edges in the wider landholdings provide optimum foraging habitat for bats. The site is well connected to surrounding habitats via linear features, including woodlands that connect to the disused railway Biddulph Valley Way.

4.4.4 There are numerous mature trees to the boundaries of the site; none of those within the perceived zone of influence (considered to be 20m in the case of bats in trees) exhibited any potential roosting features and hence tree roosting opportunities are negligible.

4.5 Bat Activity Surveys

4.5.1 The surveys took place during the period July to August meaning that maternity, summer and transient roosts would all be active at the time of the survey, if they were present.

4.5.2 **General activity** – activity across the Site was generally high across all survey nights. Much of the activity was attributed to foraging bats around the house, lawn to the front and the woodland

edge to the south of the outbuilding. Bats were observed commuting from the house, over the outbuilding and towards the railway. A range of species was recorded; soprano pipistrelle *Pipistrellus pygmaeus* and common pipistrelle *Pipistrellus pipistrellus* were the most common species recorded with brown long-eared *Plecotus auritus* and *Myotis* bats intermittently, and noctule *Nyctalus noctula* were recorded occasionally commuting overhead. Each surveyor recorded multiple bat passes during the surveys, often with almost continuous activity throughout the survey. The numbers of individual bats observed increased throughout the three surveys with c. 5-7 individuals on the first survey to over 15 on the final survey.

4.5.3 Emergences and re-entries observed during the three activity surveys are described in more detail below.

Table 4.2: Results Summary – Evidence of Roosting Building 1

Location	Date	Time	Species	Location
1	01/07/2021	21:34	S.pip	Emergence: eastern side of house under wall slate
2	01/07/2021	21:38	S.pip	Emergence: eastern side of house under slate near eaves
3	01/07/2021	21:44	S.pip	Emergence: ridge tile next to end chimney
4	01/07/2021	21:46	C.pip	Emergence: from under eaves of front porch at apex
5	04/08/2021	20:48	S.pip	Emergence: from under roof slates mid-section
6	04/08/2021	20:49	C.pip	Emergence: from under slates mid-section of roof
7	04/08/2021	20:51	S.pip	Emergence: from under roof slates 2m left of middle chimney
8	04/08/2021	20:52	C.pip	Emergence: from under roof slates to right of middle chimney
9	04/08/2021	20:53	S.pip	Emergence: from under slates in mid-section
10	04/08/2021	20:54	S.pip	Emergence: from under slates in mid-section
11	04/08/2021	20:57	C.pip	Re-entry under slate mid-section (rain commenced for 15 minutes at 20:55)
12	04/08/2021	20:57	S.pip	Re-entry under slate next to middle chimney
13	04/08/2021	20:58	S.pip	Re-entry under slate next to middle chimney
14	04/08/2021	20:58	S.pip	Re-entry under slate mid-section of roof
15	04/08/2021	21:26	M.nat	Emergence: 2 nd ridge slate left of chimney
16	04/08/2021	21:27	C.pip	Emergence: ridge slate between left chimney and middle chimney
17	04/08/2021	21:27	S.pip	Emergence: ridge slate between left chimney and middle chimney
18	04/08/2021	21:29	C.pip	Emergence: roof slate below middle chimney

19	04/08/2021	21:31	C.pip	Emergence: roof slate below middle chimney
20	04/08/2021	21:36	M.nat	Emergence: near window slate/lead flashing
21	04/08/2021	21:37	C.pip	Emergence: ridge slate between left and middle chimney
22	04/08/2021	21:37	S.pip	Emergence: roof slate below middle chimney
23	04/08/2021	21:38	S.pip	Emergence: roof slate below middle chimney
24	04/08/2021	21:38	C.pip	Emergence: roof slate mid-section
25	20/08/2021	05:22	M.nat	Re-entry: ridge slate between middle and left chimney
26	20/08/2021	05:25	C.pip	Re-entry: eaves porch at apex
27	20/08/2021	05:35	S.pip	Re-entry: under timber fascia front of house
28	20/08/2021	05:38	C.pip	Re-entry: 2 nd ridge slate right of middle chimney
29	20/08/2021	05:44	C.pip	Re-entry: raised slate right of right chimney
30	20/08/2021	05:46	C.pip	Re-entry: raised slate to left of left upper window
31	20/08/2021	05:48	S.pip	Re-entry: slate mid-section
32	20/08/2021	05:48	S.pip	Re-entry: ridge slate between middle and right chimney
33	20/08/2021	05:48	S.pip	Re-entry: ridge slate between left and middle chimney
34	20/08/2021	05:51	C.pip	Re-entry: slate mid-section
35	20/08/2021	05:53	C.pip	Re-entry: slate in mid-section
36	20/08/2021	05:54	C.pip x 2	Re-entry: ridge slate left of left chimney
37	20/08/2021	05:55	S.pip	Re-entry: 2 slates below left chimney then emerged and went under slates to right of left upper window
38	20/08/2021	05:56	S.pip x 2	Re-entry: ridge between left and middle chimney

Table 4.3: Results Summary – Evidence of Roosting Building 2

Date	Time	Species	Location
No evidence of roosting			

4.5.4 **Farmhouse – Building 1:** this building is confirmed as a roost for common pipistrelle, soprano pipistrelle and Natterer's bats. It is considered likely that both the common pipistrelle and soprano pipistrelle roosts are maternity roosts given the increase in numbers of bats from the first survey and observations of smaller pipistrelle bats on the second survey. The Myotis roost is likely to be a summer day roost. The bats are using multiple access points across the roof spaces and these are classed as one roost per species. The additional roosts are those identified behind

the timber fascia at the front of the house, the eaves of the porch and on the east side of the building behind wall slates. All roosts were identified on the south or east facing aspects of the house. Bats appeared to use different locations on different surveys, only a small number of locations were used consistently. There was one incidence of a bat re-entering a location at dawn, emerging a minute later and re-entering at another location. So, in the majority of cases, each of these roost access points are used transiently. The following photograph provides locations.

Table 4.3: Roost Locations – Front Roof





East side of house

4.6 Appraisal of Potential Effects

- 4.6.1 Overall, the Site itself offers valuable habitat for some protected or notable species, particularly bats.
- 4.6.2 Due to the distance between the Site and statutory and non-statutory designated sites and the limited nature of the proposed works, effects are not anticipated on these sites.
- 4.6.3 Evidence of bats was identified during surveys; three species of bat were seen to emerge and return to roost during the activity surveys around the house. Very little activity was recorded around the outbuildings.
- 4.6.4 The proposed works to the buildings will include as follows:
- Demolition of the buildings commencing with the removal of slates, roof timbers and other materials followed by demolition of walls and removal of bases, footings etc.
 - Levelling off ground
 - Construction of new dwelling and outbuilding
 - New dwelling to comprise breathable membrane, new timbers, soffits and facias
- 4.6.5 The proposed works will result in the destruction of all roosts currently present within the house. Roosts have not been identified in the outbuilding and hence no impacts are anticipated as a result of the demolition of this building. No significant work is proposed to the boundary features and so impacts on commuting and foraging habitat are not anticipated.
- 4.6.6 Construction and renovation work on buildings often gives rise to numerous effects on bats in the absence of mitigation. Direct impacts can include disturbance, loss or modification of roosts due to building work including demolition, removal of roofs, re-pointing of brickwork, installation of insulating materials and non-breathable membranes, closing up of access points, increased people presence and installation of lighting. Fragmentation and isolation due to modification of habitats that bats may use to commute to areas for foraging and roosting can also occur, although this is not anticipated in relation to this development. Lighting at night can cause indirect disturbance to bat roosts and foraging/commuting routes.
- 4.6.7 Since the proposed development comprises demolition of the house, it is anticipated that this will give rise to direct impacts upon bats and their roosts. The scale and significance of this is described below in the absence of mitigation (based upon Natural England's Bat Mitigation Guidelines; Figure 4 and Table 6.1).

Table 4.6: Scale of Impact (in absence of mitigation)

Building Location	Evidence of bats	Proposed Works	Likely Impact	Conservation Significance	Scale of Impact on Population Viability
House B1; ridge	Maternity roost of common pipistrelle	Demolition of building	Destruction and	Moderate	High

slates and slates	species (7no.); multiple access points		permanent loss of roost		
House B1; wall slates, ridge slates and slates	Maternity roost of soprano pipistrelle species (6no.); multiple access points	Demolition of building	Destruction and permanent loss of roost	Moderate	High
House B1; Porch	Summer day roost of common pipistrelle (1no.); under eave of porch	Demolition of building	Destruction and permanent loss of roost	Low	Low
House B1; eaves	Summer day roost of soprano pipistrelle (1no.); behind front timber fascia	Demolition of building	Destruction and permanent loss of roost	Low	Low
House B1; ridge slate	Summer day roost of Natterer's bat (2no.); 2 ridge slate locations	Demolition of building	Destruction and permanent loss of roost	Low	Low
House B1; slate/lead flashing	Summer day roost of Natterer's bat (1no.); slate/lead flashing near left upper window	Demolition of building	Destruction and permanent loss of roost	Low	Low

- 4.6.8 To address the impacts identified above, mitigation and compensation will be implemented to ensure that individuals are protected from harm and there is no net loss of roosting opportunities in the long term.
- 4.6.9 Furthermore, the development can commence only upon the granting of a licence from Natural England. The following Section 5 provides an outline mitigation strategy for the proposed development. The information provided will form the basis of a licence application.
- 4.6.10 The likelihood of great crested newts being present is low due to the absence of ponds within 250m of the Site. Due to the nature of the proposed works which are restricted to the buildings, hard standing and short mown amenity grassland, the potential for impacts on GCN is unlikely. Nevertheless, as a highly precautionary approach, a Reasonable avoidance Measures Strategy should be devised to ensure works are undertaken to further reduce the likelihood of harm to GCN and to prevent the Site becoming more attractive to GCN during the course of the works. This strategy would include storing materials on pallets, back-filling or covering any trenches overnight and capping open pipes and culverts.
- 4.6.11 No active bird nests were identified in the buildings or surrounding vegetation, but it is possible they may do at some point between the survey and start of proposed works. It is advised that the disturbance and/or destruction of breeding birds and their nests is illegal under the Wildlife and

Countryside Act 1981 (as amended). If any nests are built between the survey and the outset of construction, and the nest is likely to undergo any disturbance, an ecologist should be contacted for advice. If nests are identified, the nests must remain intact and undisturbed until young have fledged. Any vegetation required to be removed, must be done outside of the nesting bird season which includes the months of March to August inclusive. With this in mind, negative effects on nesting birds are not anticipated.

- 4.6.12 It is possible that badgers and hedgehog pass through the Site on occasion and it is important not to cut off valuable habitat by the erection of impenetrable boundary features such as solid wooden fences and walls without gaps. Providing natural boundary markers such as hedgerows and tree lines, or post and rail fencing, allow mammals open access to areas that they use. During construction, it is pertinent to cover any excavations overnight or fit a means of escape such as a ramp at 45° angle to prevent animals becoming trapped. Similarly, any pipes or culverts in storage should be capped to prevent animals taking refuge within them. In this regard, no effects are anticipated.
- 4.6.13 The current landscape will remain relatively unaffected; boundary features will remain in-situ.
- 4.6.14 The proposed development offers the opportunity to provide nesting opportunities for nesting birds. It is proposed that 6 bird boxes will be installed within the Site; three on trees to cater for small passerines, and three under the eaves of the new outbuilding, specifically to cater for house sparrow and swallows.
- 4.6.15 The landscaping scheme should include the planting of native species, preferably of local provenance, and species that provide a good nectar source for invertebrates.

5 OUTLINE MITIGATION STRATEGY

5.1 Introduction

- 5.1.1 Where the potential for impacts on protected species and their habitats has been identified, the proposed development must include the implementation of suitable mitigation, through Reasonable Avoidance Measures and/or compensation strategies to prevent harm to species and their habitats and to maintain favourable conservation status of the species concerned. **Site contractors, directors, other personnel and their agents are reminded that many species and habitats are protected by law, and to kill, injure or harm such species and their habitats is a criminal offence. Custodial sentences and/or large financial penalties are expected if you break the law.**
- 5.1.2 Impacts on bats as a result of the proposed works are anticipated and therefore a mitigation and compensation strategy is proposed. This mitigation strategy will form the basis of a licence application to Natural England. **The development must not commence until a licence has been granted and appropriate mitigation and compensation measures have been implemented.** The results of surveys will be valid for 18 months. If a licence is not going to be applied for until after August 2022, surveys may require repeating in summer 2022.
- 5.1.3 The overriding emphasis of the mitigation strategy is preventing harm and securing the long-term viability of populations. The following principles of mitigation will be taken forward:
- Toolbox talk will be provided to Site personnel prior to the commencement of works. The talk will include information regarding the protection of species, habitats, legal implications, their responsibilities and what to do if a bat is encountered. If bats are found during the course of works, works must stop immediately and the licensed ecologist (or their accredited agent) will be contacted and advice sought.
 - The works will commence outside of the two most vulnerable periods; breeding (late April to September) and hibernation (November to February). Should works commence between March to October, a dawn survey will be undertaken on the morning of the start of works. This will identify if any bats are present and will give the licensed ecologist (or their accredited agent) the opportunity to move the bat to a replacement roost;
 - A 'soft demolition' technique will be used for the works to the roof, to comprise removal of roof materials by hand.
 - The licence named ecologist (or their accredited agent) will provide a watching brief during the initial works, including removal of roof materials and will be available on an on-call basis throughout the works.
 - Demolition of both buildings is proposed in March/April 2022, which would result in the colonies being left without a roost until the replacement roost is built. Therefore, prior to works commencing, temporary replacement roosts will be installed in one of the trees to

the boundary of the site, close to the current location of the house. This will be in the form of two maternity boxes as follows:

- 2 no. Improved Roost-Maternity Bat Box (or equivalent)
([https://www.nhbs.com/4?q=&hPP=60&idx=titles&p=0&fR\[doc_s\]\[0\]=false&fR\[hide\]\[0\]=false&fR\[live\]\[0\]=true&fR\[shops.id\]\[0\]=4&hFR\[subjects_equipment.lvl1\]\[0\]=Bat%20Boxes%20%3E%20Maternity%20Roost%20Boxes&qview=176916](https://www.nhbs.com/4?q=&hPP=60&idx=titles&p=0&fR[doc_s][0]=false&fR[hide][0]=false&fR[live][0]=true&fR[shops.id][0]=4&hFR[subjects_equipment.lvl1][0]=Bat%20Boxes%20%3E%20Maternity%20Roost%20Boxes&qview=176916)) The boxes will provide roosting opportunities during the maternity and summer roosting season, whilst a permanent replacement roost is constructed. The bat boxes will be left in-situ even once the permanent replacement roost is constructed.
- The permanent replacement roost is designed on a like for like basis, being constructed from brick and slate and having a south facing aspect. The replacement roost will be provided in the loft space of the garage (see Figure 1) and comprise:
 - The loft area will be approximately 49 square metres in plan and the clear surface area of the South facing roof pitch will be approximately 21.5 square metres. The approximate length of the garage ridge is to be 9.5 metres;
 - 4no. Habibat access slates will be installed in the south facing aspect of the roof;
 - 4no. ridge slates should be raised slightly (max 1cm gap between bottom of ridge and slate underneath), or ridge air vents are to be installed to allow bats to continue using ridge slates;
 - An integrated Istock C bat box (or equivalent) to be installed on the western gable end of the garage at least 2m above ground level, near to the apex;
 - Behind the access slates will be a 2m² non-breathable membrane e.g. Bitumen type F;
 - Insulation/timber boarding will be used to line the roof to insulate the loft;
 - A ceiling will be installed in the garage to 'block off' the loft space for the sole use of bats. A single loft hatch will be installed in order that the roost can be monitored.
- A lighting scheme will be designed that is sensitive to the requirements of bats; the replacement roosts will not be illuminated.
- The landscape immediately around the replacement roosts will remain intact, no trees or hedgerow will be removed.
- A monitoring scheme will be implemented for the first two years post-construction. This will require one night-time activity survey per year to be undertaken in July.

6 CONCLUSION & RECOMMENDATIONS

6.1.1 The site has been the subject of a preliminary ecological appraisal in 2021 which concludes that the Site is of ecological value to some species. Other than bats, no evidence of other protected, notable or invasive species was identified within the Site during the surveys. The house has been identified as supporting multiple roosts.

6.1.2 As such, the following requirements are made in respect of bats.

- **Requirement:** for the development to proceed, a derogation licence from Natural England will need to be obtained. This will require the design and implementation of a mitigation strategy to avoid, minimize or offset impacts arising as a result of the proposed works.

6.1.3 The following recommendations are made in respect of birds.

- **Recommendation:** to prevent impacts on nesting birds, vegetation removal shall occur outside of the nesting bird season i.e. not during the months of March through to August inclusive. If vegetation removal is required during this time, the vegetation shall first be checked by a competent Ecologist and only if no nests are found can vegetation be removed. If nests are found, they will remain in-situ and undisturbed until the young have fledged.
- **Recommendation:** it is recommended that three woodcrete/wooden bird nest boxes (suitable for passerines) are installed on mature trees within the Site boundary. A further three bird nest boxes are to be installed under the eaves of the outbuilding. These are to be suitable for house sparrow and swallows.

6.1.4 The following recommendations are made in respect of mammals, particularly badger and hedgehog.

- **Recommendation:** to prevent harm to mammals, excavations are to be covered overnight or fitted with a means of escape. Pipes and culverts in storage are to be capped.
- **Recommendation:** to prevent valuable foraging resources being cut off, boundary markers should remain penetrable to mammals. Natural features such as hedgerows or fence or walls with gaps allowing access are recommended.

6.1.5 The following recommendations are made in respect of great crested newts.

- **Recommendation:** as a highly precautionary approach to prevent harm to GCN, a Reasonable Avoidance Measures Strategy is to be devised to include protection measures such as, excavations are to be covered overnight or fitted with a means of escape, pipes and culverts are to be capped, materials to be stored on pallets, rubbish must be immediately placed in a skip and not allowed to accumulate around the site, and should a GCN be encountered during the course of works, works must stop immediately and Natural England consulted.

6.1.6 To further enhance the natural landscape and improve biodiversity of the Site, the following recommendation is made.

- **Recommendation:** the landscaping scheme should include the planting of native species, preferably of local provenance, and species that provide a good nectar source for invertebrates.

6.1.7 Taking into consideration these recommendations, long term negative effects on biodiversity are not anticipated and the proposed development actually gives rise to biodiversity enhancement opportunities within the Site, improving biodiversity at a local level.

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Figure 1