KG ECOLOGY

ECOLOGICAL IMPACT ASSESSMENT

and Bat Activity Survey

6 Appletree Meadow,

Presteigne,

Powys

A Report for

Mr & Mrs Vaughan

Report Information			
Project name	Ecological Impact Assessment and Bat Activity Survey for 6 Appletree Meadow, Presteigne, Powys		
Project reference:	KG2021/038		
Status:	Final	**Date of Issue:**	30th May 2022
Produced by:	Katie McMinn BSc (Hons) MCIEEM		
Reviewed by:	Joseph McMinn MSc MRSB		
Prepared for:	Mr & MrsVaughan		

Summary

Site	This report has been produced for Mr & Mrs Vaughan for the proposed roof alteration and loft conversion of 6 Appletree Meadow, Presteigne.
Survey Methods	An extended Phase 1 survey was conducted on 23rd November 2021 by Katie McMinn (NRW Bat licence: S088350/1). A single dusk bat survey was conducted on 12th May 2022. A data search of local wildlife records was submitted in May 2022. The information is true to the data collected at the time of the surveys in 2022. The surveys undertaken are considered to retain validity for 12-18 months from the date of issue. An additional assessment to confirm substantial change at the site is likely required after this period.
Survey Results	No bat droppings or evidence of bat activity was found by the internal and external building inspection. There are hanging tiles over the northeast gable, the tiles have lifted edges with cavities behind. No bats emerged from the building during the bat survey. Soprano pipistrelle commuting activity was recorded along the road northeast of the Site. There are the remains of a single house martin nest on the southwest gable.
Discussion	The building inspection identified cavities created by the hanging tiles of the northeast gable. The cavities were inspected in 2021 and 2022 by endoscope and no droppings found. The cavities are assessed as providing 'low' suitability for a bat roost. The bat activity survey confirmed absence of a bat roost within the northeast gable of the Site. **The building inspection and bat survey have established likely absence of a bat roost within the Site. No further surveys are recommended.**
Avoidance Measures	Bat roost is likely absent, no timing or other work method constraints recommended.
Licensing requirements	NRW development licence is not recommended for the proposed works
Biodiversity Enhancements	Birds: x2 double nest cup Bats: x2 integrated bat boxes

Cyfoeth Naturiol Cymru
Natural Resources Wales

Protected species survey summary and assessment form

Applicant name	Mr & Mrs Vaughan
Site name	6 Appletree Meadow
Site grid reference	SO 3146 6416
Consultant name and survey licence number	Katie McMinn: GCN licence: S088349/1 and bat licence: S088350/1
Planning application type (if known)	Householder
Planning application reference (if known)	

Briefly state the purpose of the report (including client's brief) and the work undertaken.

Extended phase 1, bat assessment survey and single dusk bat activity survey to inform the ecological survey requirements.
Avoidance and biodiversity measures for the proposed extension and additional works.
Work undertaken: Extended Phase 1 survey (P1 habitat, habitat suitability assessment for: bats, birds, dormice, reptile, amphibians, and other mammals), Building inspection (internal and external). One dusk activity survey.

Summary of the survey work undertaken:

Please provide references to the published survey guidance followed:

Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd edition. London: The Bat Conservation Trust.

JNCC (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit. Peterborough: JNCC

Survey Type	Dates	Departure from guidance*	
Phase 1 Habitat survey	23/11/2021	Yes ☐	No ☒
Building inspection	23/11/2021	Yes ☐	No ☒
Dusk bat survey	12/05/2022	Yes ☐	No ☒

*Any departure from guidance must be fully qualified within the main body of the report

Summary of the Reports Results:
Please note: only record the negative presence of a species below if there is a medium or high likelihood of that species being present at the site. Please then provide your assessment of the 'likelihood of presence'* below.

Species	**Number**	**Likelihood of presence*** (Low, medium, high)	**Impact assessment** (Low, medium, high)	**Functionality of site** (e.g. breeding, hibernation, resting place and/or place of shelter, foraging, dispersal routes)	**Current conservation status of site** (Favourable, unfavourable, or unknown)

Summary of the report's recommendations and conclusions:

The proposed works are to replace the roof of the bungalow and increase its height.

No evidence of a bat roost was found by the inspection of internal and external features.

There are hanging tiles over the northeast gable, the tiles have lifted edges with cavities behind. There is an absence of features offering bat roost suitability in all other areas of the Site.

The single dusk survey confirms likely absence of a bat roost within a 'low' suitability feature of the hanging tiles. Further surveys are not recommended. An NRW development licence is not recommended.

Avoidance measures are not recommended for the works.

Requirement for biodiversity enhancements for nesting birds and bats.

Please fill answers as Yes / No / blank for N/A

	Has the report identified the need for the following measures?									Please fill out, for European Protected Species.		
Species	Avoidance	Mitigation	Compensation	Monitoring	Long term measures	Ecological Compliance Audit	Biosecurity measures	Further Survey Required?	Detrimental to FCS? *	EPS derogation licence required?	Is there a valid derogation purpose?	Are there satisfactory alternatives to the development ?

Please confirm whether there are any further details (for example. reserved matters, by condition) to be submitted and provide details below:

No

Name	Katie McMinn
Date	30th May 2022

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1 Introduction

This report has been produced for Mr & Mrs Vaughan to provide an Ecological Impact Assessment and Bat Activity Survey for the proposed roof alterations and loft conversion of the dwelling 6 Appletree Meadow, Presteigne.

The dwelling, 6 Appletree Meadow, is subject to a planning application to lift the roof line and convert the loft of the dwelling to living space.

This report has been commissioned to:

- Identify evidence of/potential for protected species.
- Identify presence/absence of a bat roost (location of roost and access point, number of individuals, and bat species).
- Identify if the proposed works will affect protected species.
- Requirement for a Natural Resources Wales Development Licence for protected species
- Set out biodiversity enhancement measures appropriate for the intended works.

The surveys were conducted by Katie McMinn BSc (hons) MCIEEM, she holds a Cyfoeth Naturiol Cymru/ Natural Resources Wales (NRW) great crested newt survey licence: S088349/1 and NRW bat survey licence: S088350/1. Katie has been conducting Phase 1 Habitat surveys and National Vegetation Classification (NVC) surveys, bat surveys and great crested newt surveys over the past 10 years. KG Ecology are a registered practice, listed in the Chartered Institute of Ecology and Environmental Management (CIEEM).

2 Site Location

The dwelling, 6 Appletree Meadow, hereafter referred to as the Site, is a bungalow, located within Presteigne, LD8 2DL at NGR: SO 3146 6416.

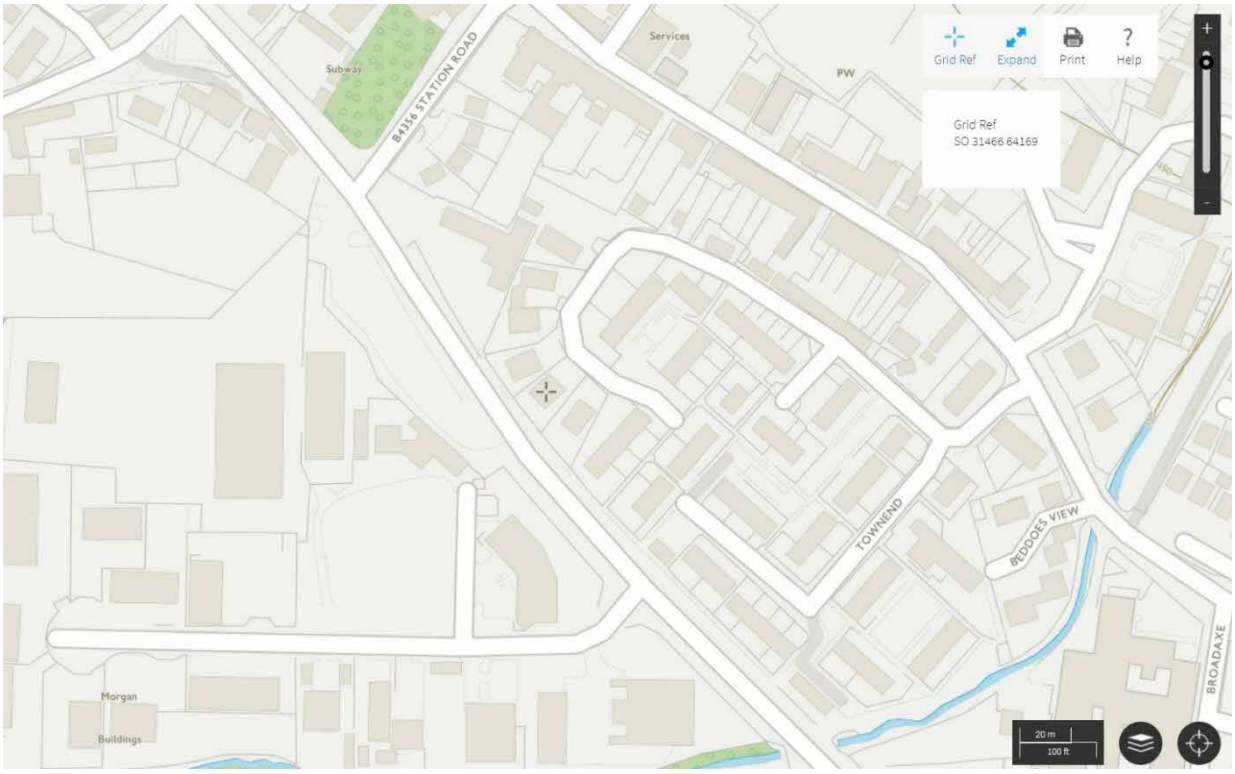

Figure 1: Location map showing 6 Appletree Meadow (marked with cross).

3 Planning Policy and Legislation Context

The **Natural Environment and Rural Communities (NERC) Act 2006** includes a duty on local authorities to regard biodiversity conservation as a material consideration within the planning process. Section 42 of the NERC Act protects those species and habitats of principal importance for the purpose of conserving biodiversity in Wales. Powys County Council has developed local biodiversity action plans to reflect the local Section 42 habitats and species (PCC 2002).

In Powys, this legislation is informed in part by the following planning policies, which include a requirement to inform the application process in view of ecological features and sets out *"a public authority must seek to maintain and enhance biodiversity in the exercise of their functions*":

> Powys County Council's LDP Policies SP7, DM2 in relation to The Natural Environment (PCC, 2018)
>
> Planning Policy Wales (Edition 11, February 2021) requirements
>
> Technical Advice Note 5, Nature Conservation and Planning (Welsh Assembly Government, 2009); and
>
> The Environment (Wales) Act 2016 Section 6: Biodiversity and resilience of ecosystems duty (S6 duty)

The Conservation of Habitats and Species Regulations 2017 transcribes the European Commission Habitats Directive into UK law. Species listed under Schedule 2 of these regulations are 'European Protected Species' (EPS). It is illegal to deliberately capture, kill, injure, or disturb an EPS animal. Breeding sites and resting places of EPS animals are also protected from reckless damage, destruction, and obstruction. Inclusion of EPS on Schedule 5 of the **Wildlife and Countryside Act (WCA) 1981** (as amended) strengthens the protection given to these species.

Common lizard, slow-worm and grass snake and are listed under Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended) which prohibits the intentional killing or injury of these animals.

The **Countryside and Rights of Way Act 2000** strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' harm or disturb a place of rest or shelter of a protected species.

Under the WCA 1981 (as amended) all birds, their nests and eggs are protected during the breeding season from killing/destruction, damage, and disturbance. The bird breeding season is February to August.

4 Methodology

<u>Desk study</u>

The desk study was conducted in May 2022. Ordnance Survey maps and aerial photographs were used to provide context of the Site location, current and historic land use and identify local habitat features.

The Multi Agency Geographic Information for the Countryside (MAGIC) website (Natural England, 2021) provided statutory and non-statutory nature conservation sites within a 1km radius of the Site.

A biodiversity data search for bats (2km), roof-nesting birds (150m), and sites designated for bats within 10km, was received from the Biodiversity Information Service for Powys and Brecon Beacons National Park (BIS) on 23rd May 2022 (LERC reference: DERF 1957). The Site is 480m from the border with England, 42% of the 1km search area falls within Herefordshire records areas.

Field Survey

The building inspection and field survey were conducted on 23rd November 2021 by Katie McMinn. The bat survey was conducted on 12th May 2022 by Katie McMinn.

Phase 1 Habitat survey

A Phase 1 Habitat survey was conducted at the Site and habitats adjacent to the Site. The survey used the standard methodology as set out by the JNCC Phase 1 Habitat Handbook. The Site, including the length of each boundary, was walked over with the dominant habitat areas recorded and target notes used for smaller features of interest. Species lists were recorded for the dominant habitat areas with relative abundance of plants noted using DAFOR scale (Dominant/ Abundant/ Frequent/ Occasional/ Rare).

Building inspection for bats

An appraisal for bat roosts was conducted using methodologies detailed by current good practice guidelines (Mitchell-Jones and McLeish, 2004, Collins, 2016, PCC, 2004). The assessment involved a detailed visual inspection of internal spaces and external building features of the site. The inspection was aided by binoculars, ladder, digital endoscope and one million candle power clu-lit torch. A careful examination was undertaken of the building for features such as gaps and crevices offering bat roost potential and a wider search for evidence of bat use, including bat droppings, staining by fur-oil or urine and in some cases the absence of cobwebs/debris. The presence of cobwebs and debris in roof voids or at access points tend to suggest a lack of use by bats although on its own this evidence is not conclusive.

Photographs were taken of the Site and surroundings to record condition, features of interest and bat evidence.

Current Bat Survey Guidelines suitability categories 'Negligible', 'Low', 'Moderate' and 'High' are used to summarise the bat roost 'suitability' of a Site. The assignment of suitability categories is based on the presence and condition of habitat/structure features, landscape and applied professional judgement (Collins, J., 2016). The suitability categories provide an aid in determining a reasonable minimum number of bat roost surveys to determine bat roost absence and roost characterisation e.g., species, numbers, roost location.

Bat Activity Survey

The Site has been assessed as a 'Low' Suitability site for bat roosts based on the building inspec conducted in November 2021. A single bat activity survey was conducted in May 2022 to establish presence/absence of a bat roost. The survey was conducted by Katie McMinn (NRW bat survey licence: S088350/1).

The timing, number of surveys and surveyors were conducted in accordance with the Bat Survey Guidelines (Collins, 2016) and based on the findings of the initial building assessment.

Bat detectors, along with flight patterns, were used to identify bat species observed during the bat activity survey. A Wildlife Acoustics Echo Meter Touch 2 was used, operating using auto heterodyne and recording all bat calls. The recorded files were viewed as spectrograms and analysed aided by call identification reference books (Russ, 2012).

Temperature and weather conditions were recorded at the start, at sunset/sunrise, and end of each survey.

Protected species

A search was conducted for evidence of protected and priority species at the Site and within surrounding adjacent habitats. This included recording actual sightings, evidence of activity by protected/priority

species (foraging/ droppings and latrines/ shelters/ hairs/ sloughed skin) and habitat suitable for supporting breeding and sheltering activities.

An inspection for bird nest activity and appraisal for nesting potential was made of the features within the Site.

Species	Summary of field survey conducted
Bat species	Assessment of buildings/trees and habitat to support bat roosts and foraging/commuting activity (further detail below).
Dormouse	Assessment of the likely value of the hedgerows for dormice. Search for chewed hazel nuts along hedgerows adjacent to the Site.
Badger	Assessment of the likely value of the habitat features for badger. Search within 100m of the Site for badger setts and foraging/latrine activity.
Otter	Assessment of the likely value of the watercourse for otter and water vole
Water vole	
Reptiles	Assessment of the likely value of the habitat features for reptiles and amphibians
Great crested newt	

Table 1: Protected species field surveys

5 Baseline Ecological Conditions

Desk Study

There is one designated site protected for ecological features within 1km of the Site:

> River Lugg Site of Special Scientific Interest (SSSI) located, at its closest, c475m. to the north east of the Site.

The desk study identified no designated sites that are designated for bat features are within 10km of the Site.

Local landscape

One pond was identified within 500m of the Site using OS map, aerial imagery, and localised field survey. The pond is located c.400m to the west of the Site. The pond is within a small area of woodland against an arable field and school grounds. There is high potential for small garden ponds to be present in the local environment.

The Site is in an urban setting within Presteigne. There is streetlighting on Appletree Meadow, the nearest light is 40m north of the Site and casts light spill across the northeast garden and gable of the Site. The B4355, against the west boundary of the site has street lighting. There are bands of trees, shrubs and hedgerows in the local environment providing dark corridors.

Habitats within 500m include dwellings with gardens, including managed hedgerow boundaries and trees. In the wider landscape are areas of deciduous and coniferous woodland and fields of improved and semi-improved grassland.

There is a watercourse, Clatter Brook, located within 150m, south of the Site. The watercourse is tree lined along its length, it is a tributary of the River Lugg.

The Site is located at approximately 150m above Ordnance datum.

Habitats

The Site is a detached bungalow in an estate of similar dwellings. The Site is set within a managed garden with lawn off the northeast and southwest elevation (Plate 1 and 2). There is patio slab running around the building with a tarmac driveway off the northwest elevation.

The patio slab has grasses growing in crevices, the ground is compact.

Plate 1: Northeast gable, patio and lawn.

Plate 2: Southwest gable looking across the garden.

Building description

External

The Site is orientated northeast-southwest along the ridgeline. There is an extension off the southeast elevation.

The Site is a brick bungalow with a pitched tile roof. The roof tiles are all in place, without lifted edges. The ridge tiles appear in place without gaps, there is mortar filling each gable ridge tile. The roof tiles are all set into mortar with a tight seal between the tile edge and gable walls. There are solar panels across the roof of the southeast elevation and southwest face of the extension.

The Site has plastic fascia and soffit boards, all are in place with a tight seal between the tiles and fittings of the southwest elevation, northwest elevation and throughout the southeast extension.

At the northeast elevation there are gaps between the soffit boarding and hanging tiles. The gaps lead up under the soffit/fascia boards.

The Site has rendered walls on all elevations except for the northeast gable. The render is intact throughout.

The northeast gable has hanging tiles over the upper section. The hanging tiles are in place. However, the tiles against the soffit boards have lifted edges and gaps leading under the tiles to larger cavities behind (Plate 3).

Internal

The Site has a single loft space over the main house and extension. The roof is supported by a 'W' truss frame.

The loft is insulated throughout and boarded over some sections for use as storage. The loft is clad with bitumen felt which is intact throughout.

Plate 3: Hanging tiles on northeast gable.

Plate 4: Loft space, looking to northeast gable.

Species and species groups

Bats - Desk Study and Building Inspection

The data search from BIS records returned 21 records for bat species within a 1km search. Species recorded in the local area include common and soprano pipistrelle, brown long-eared bat and Natterer's bat. The records include pipistrelle bat roosts in houses in Presteigne.

No bat droppings or field signs of bat use were found internally or externally by the building inspection. The second external inspection of the northeast gable found no evidence of bat use.

There are gaps leading under the hanging tiles of the northeast gable, most gaps are covered in spider webs and there is evidence of spider activity within the crevices. No other features offering bat roost suitability were identified.

The street lighting in the local area creates areas that are well-lit and in shadow, there are shrubs and trees creating shadowed, dark corridors. The garden hedgerow network surrounding the Site extends throughout the local housing, connecting to lines of trees, areas of woodland and watercourses, including the River Lugg, in the wider landscape, providing high suitability commuting and foraging opportunities for local bat populations.

Bats - Bat Roost Surveys

The site was assessed as offering 'Low' Suitability for a bat roost due to the gaps and cavities provided by the hanging tiles of the northeast gable. No other features were found within the site offering bat roost suitability. Based on the building inspection a single dusk survey was undertaken to determine presence/absence of a bat roost and inform likely absence and requirement for further survey effort.

The single surveyor was located at the northeast gable to observe the key features of interest on the northeast gable.

Survey	Date	Start time / end time	Start/sunset/ end temp	Weather
Dusk 1	12th May 2022	20:30/ 22:15	12.5°C/10.8°C/ 11°C	100% cloud. Dry, light breeze.

Activity Survey (Dusk 1) 12th May 2022, sunset: 20:50

Time	Details	Species	No. Bats	Behaviour
21:19	Pass	Soprano pipistrelle *Pipistrellus Pygmaeus*	1	Faint call, bat not seen.
21:20	Pass	Soprano pipistrelle	1	Faint call, not seen.
21:21	Pass	Soprano pipistrelle	1	Flew south-north along Appletree Meadow road, behind surveyor. Bat flew low, fence height.
21:23	Pass	Soprano pipistrelle	1	Flew south-north along Appletree Meadow road, behind surveyor.
22:26	Pass	Soprano pipistrelle	1	Flew south-north along Appletree Meadow road, behind surveyor.

Summary: No emergence activity.

Very infrequent soprano pipistrelle commuting activity along the road behind the surveyor.

Echo meter touch 2 recordings confirmed soprano pipistrelle calls. No additional bat calls recorded.

Amphibians and reptiles

The patio and managed lawn of the garden against the Site do not provide suitable shelter for amphibian or reptile species.

One pond was identified within 500m of the Site by the desk study search. There is high potential for garden ponds to be present locally. There is potential for common amphibian species to be present locally.

Birds

The data search from BIS records returned 12 records for roof-nesting bird species within a 250m search. Species include starling, house sparrow and swift.

The remains of a single house martin nest was recorded on the southwest gable.

The surrounding gardens and hedgerows provide suitable foraging and nesting habitats for common garden birds.

Other protected or priority species

No further habitats or features with potential for protected species were recorded by the survey.

Limitations

Desk Study

The desk study used OS map, aerial imagery, and field survey to aid identification of ponds in the local area. A precautionary approach has been taken for the impact assessment for amphibians. A low threshold is used to identify suitable habitat features to address potential impacts to amphibian species present in the local environment (within 500m) of the Site.

Field survey

The field surveys for a building inspection for bat roosts have no restrictions of timing within the year. A single site visit provides a single 'snap-shot' on which to base a preliminary ecological appraisal.

External inspections for evidence of bats can be strongly affected by detectability i.e., droppings washed away, or not visible from the point of inspection. Internal inspections are impacted from detectability to a lesser degree as field evidence can remain intact for much longer periods, if left undisturbed. To counter these limitations, the building inspection has a strong focus on identifying features and assessing the requirement for further survey based on the suitability of features for a bat roost (Collins, 2016).

For the field survey, access was gained to all internal and external features of the site using appropriate equipment.

For this Site, the limitations set out above have been taken into consideration in setting out appropriate further survey requirements.

6 Description of Proposed Works

Proposed works are to:

Replace the existing roof, increased the ridge height from 3.9m to 5.48m. The gable ends will have additional brick work and the pitch of the roof increased.

Removal of the hanging tiles, to be replaced with redbrick work.

Convert the loft space into new living spaces.

The proposed works will remain within the existing footprint of the Site.

No hedgerows or trees will be removed as part of the work.

7 Discussion

Designated Sites

The application site is within 150 m of a watercourse, the Clatter Brook, a tributary of the River Lugg SSSI (located 475m away).

Potential pollution of a designated site is assessed as negligible due to distance and the localised nature of the work within the existing site footprint. The proposed works include demolition and construction works. Pollution prevention measures to prevent localised ground pollution will be required throughout the works.

To prevent localised ground pollution, it is recommended all construction works are conducted following pollution prevention measures informed by the Guidance for Pollution Prevention (GPPs) series:

GPP 1: Understanding Your Environmental Responsibilities - good environmental practices (October 2020).

PPG 6: Working at construction and demolition sites (2012) (PPG as not yet updated to a GPP).

As a minimum, the following measures are required: Fuel, oil, and chemical storage must be sited on an impervious base within a bund and secured. The base and bund must be impermeable to the stored substance by of an adequate capacity. Leaking or empty containers must be removed from the site immediately and disposed of in an appropriate manner. Any accumulation of fuel or chemicals in drip trays must be removed through appropriate disposal methods.

Risk of spilling fuel it at its greatest when refuelling plant. Where possible, refuel mobile plant in a designated area, preferably on an impermeable surface located away from drains or watercourses.

Bats

The proposed works will require total replacement, with significant alterations, of the existing roof and alteration to both the northeast and southwest gable ends. The alterations will include removal of the hanging tiles at the gable ends.

The building inspection identified the presence of crevices created by the hanging tiles fitted to the northeast gable. Due to the rural setting with high value habitat, orientation, size and depth, the crevices are considered to provide 'Low' suitability as a bat roost. No evidence of bat use was found by inspection of these features, including by endoscope.

The dusk bat activity survey identified the likely absence of a roost within the hanging tiles.

All bat species in the UK, including places of rest, are protected by law under The Conservation of Habitats and Species Regulations 2017. It is unlawful to demolish or disturb structures where a bat roost may be present or, obstruct access to a roost without first conducting sufficient surveys and mitigation. Where bats are known to roost and damage/loss of a roost and/or disturbance of bats will occur works must be carried out under an NRW development licence. Where surveys identify bats are likely absent, or in situations where works can proceed without disturbing bats or loss/damage to a roost site, an NRW development licence is not required.

The proposed works are for the replacement and alteration of the roof and gable ends. This will result in replacement of the existing hanging tiles with redbrick work to the apex. As such the proposed works will result in loss of existing crevice features within which the inspection and bat activity survey identified likely absence of a bat roost.

The building inspection and additional survey effort has identified likely absence of a bat roost within the hanging tiles. The proposed removal of the hanging tiles is assessed as having a negligible impact on bats. Due to the likely absence of a bat roost, no avoidance work methods or timing of works are recommended.

The building inspection and bat activity survey have found the likely absence of a bat roost within the hanging tiles of the Site. No further surveys are recommended. No avoidance measures are considered necessary for the proposed works. A Natural Resources Wales development licence is not recommended for these works.

Amphibians and Reptiles

The proposed works are within the existing footprint and will not result in loss of existing garden features.

The proposed works will not result in impacts to amphibians and reptile species.

Birds

There is a collapsed house martin nest at the southwest gable.

The proposed works will result in short-term loss of the location previously used by house martin. The proposed southwest gable will be rendered as existing which has potential for use as a house martin nest location post construction.

Avoidance measures may be required prior to the start of works to prevent use of the southwest gable by house martin.

Avoidance: Monitor use of the southwest gable as a house martin nest site. Avoid works during the bird nesting season (April-September) to prevent disturbance or damage of an active nest, if the site is in use.

No constraints to the timing of works if nesting activity is not present.

Summary

Feature/ Species	Further survey requirements
Bats: - Gaps leading under the hanging tiles of the northeast gable	Absence of a bat roost in the 'low' suitability features of the hanging tiles. No avoidance measures required.
Birds: - Southwest gable (collapsed nest)	Monitor use of the southwest gable as a house martin nest site. Avoid works during the bird nesting season to prevent disturbance or damage of an active nest, if the site is in use. No constraints to works if no nesting activity is present.

Table 2: Summary table of survey requirements

8 Biodiversity Enhancements

Locations of the biodiversity enhancements will be set out on proposed elevation plans.

Wildlife boxes

To provide biodiversity enhancements for priority species the following wildlife boxes will be incorporated into the scheme:

x2 woodcrete bat boxes - suitable for crevice dwelling species. Integrated or external-fit design. One fitted to the southwest and southeast gable end. Bat boxes to be fitted near the bargeboards/soffits, as high as possible and ideally away from windows i.e. to one side of the apex window.

x1 sparrow terrace bird box - with a minimum of three chambers. Bird box to be fitted to either the northeast or northwest elevation of the house, under the eaves.

x1 double house martin nest cup - two nest cups or a double cup design to be fitted to the northeast or southeast elevation, against the eaves. See the installation guide by House Martin Conservation UK & Ireland for further information on providing nest cups for house martins[1].

9 References

CIEEM (2020). *Guidelines for Assessing and Using Biodiversity Data.* Available at http://cieem.net/resource/guidelines_for_accessing_and_using_biodiversity_data [16/05/2022]

Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd edition. London: The Bat Conservation Trust.

Natural England (2021). Magic Map Application. MAGIC. Available at: Magic Map Application (defra.gov.uk) [16/05/2022].

[1] House martin conservation UK & Ireland, Artificial nest cup installation guide: HMCUK-IE_A5_Nest-cup-guide_Leaflet_2021.pdf (housemartinconservation.com)

Powys County Council (2002). Local biodiversity action plan. Powys. Available at: http://www.powys.gov.uk/en/countryside-outdoors/biodiversity-in-powys/local-biodiversity-action-plan [16/05/2022].

Powys County Council (2018). *Powys Local Development Plan 2011-2026*. Llandrindod Wells: PCC. Pages 44-50.

Russ, J. (2012). *British Bat Calls: A Guide to Species Identification.* Exeter: Pelagic Publishing

Welsh Assembly Government (2009). Planning Policy Wales, Technical Advice Note 5: Nature Conservation and Planning. Cardiff: The Publications Centre