

Ecological Impact Assessment and Bat Survey

BROKENHEUGH HALL, HAYDON BRIDGE

Summer 2022

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Disclaimer:

Ecology surveys are carried out in good faith, to the relevant professional guidelines. Where variation from these guidelines is necessary, this is outlined in the report. Any comments regarding condition of buildings or trees are in relation to the use of the building/tree by bats and birds and should not be considered as a building survey or arboricultural opinion on the condition of those features.

The client should be aware that the mitigation recommendations in ecology reports are often translated directly into planning conditions, and as such these should be studied closely and agreed with any contractors in advance of site works commencing.

Mitigation recommendations should be clearly marked on the Architect's Plans submitted with any planning or other consent.

Contents

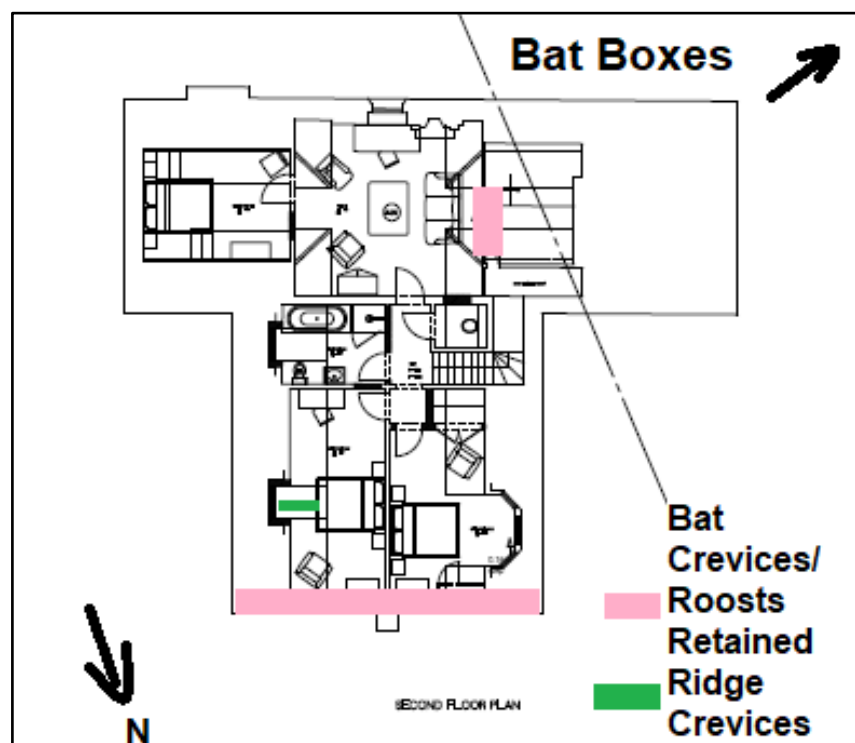
Summary.....	4
2. Relevant Policies and Legislation.....	6
2.1 Designated Sites	6
3. Methodology.....	6
3.1 Scope of the Assessment.....	6
3.2 Desktop Survey.	7
3.3 Site Survey.....	7
3.4 Assessment.	8
4. Baseline Ecological Conditions.....	9
4.1 General.....	9
4.2 Designated Sites	9
4.3 Habitats	9
4.4 Species and Species Groups.....	10
4.4.1 Desktop Search	10
4.4.2 Site survey	10
4.4.3 Bats	10
4.4.4 Bird Assessment	12
4.4.5 Amphibians	12
4.4.6 Invasive Species.....	12
5. Photographs of the Site.....	13
6. Description of Proposed Development.	16
7. Assessment of Impacts	16
7.1 Constraints	16
7.2 Site Based Impacts.	16
7.3 Impacts on the SSSI.....	17
8. Mitigation and Enhancement.	17
8.1 Pollution Prevention	17
8.2 On Site Mitigation.....	17
8.3 Mitigation Summary.....	18
8.4 Enhancement.....	19
8.5 Monitoring	20
8.6 Conclusions	20
9. References	20
APPENDIX 1. LEGISLATION RELATING TO PROTECTED SPECIES	22
APPENDIX 2. SURVEY DATA.....	23
APPENDIX 3. BAT METHOD STATEMENT FOR CONTRACTORS.....	24
Identifying roosts.....	24

Ecological Impact Assessment for Brokenheugh Hall, Haydon Bridge

Summary

- An ecological survey was requested primarily for bats and birds for a site at Brokenheugh Hall, Haydon Bridge by the owners Mr C Benson.
- The building surveyed is a stone-built house with a multi-pitch slate roof.
- The proposals are to construct a single storey extension on the south aspect of the house entailing demolition of a garage, courtyard and outbuildings.
- The immediate area has excellent potential for feeding bats, as there are deciduous tree lines and mature woodland leading away from the site in all directions.
- Inspection results revealed that the building had crevices under slates at the gables and at the eaves. No bat droppings or feeding evidence were located externally. There was a moderate suitability of bat roost potential in this building in the location of the proposed works. Two bat activity surveys were carried out.
- Data search results identified records of maternity roosts within 1km of the site of Pipistrelle and whiskered/Brandt's 1km to the northeast. Foraging Pipistrelle 45kHz, Pipistrelle 55kHz and Noctule have also been recorded with 1km
- The emergence survey confirmed one maternity colony (count 181bats) of Pipistrelle 55kHz bats from the western chimney stack and occasional Pipistrelle 45kHz, Pipistrelle 55kHz and Daubenton's bats emerged from the northeast gable. (Total of 12 bats). A Brown long-eared bat was heard social calling. During the dawn survey c.30 Pipistrelle 55kHz bats returned to the chimney roost and Noctule bats were also heard.
- One bat day crevice will be destroyed and several will be disturbed due to the works proposed. The occasional bat may be present in any suitable crevice on the wall tops at any time of the year in small numbers. Timing of the destructive works to avoid the hibernation period for all works and breeding period for the replacement of the barge boards/dormer windows will ensure that the works has as little negative affect on bat conservation status as possible.
- As a bat day roost will be destroyed and other roosts will be disturbed due to the proposals, the site requires a Natural England Licence to proceed. Bat roost mitigation will be put in place with the provision of a bat boxes and a bat crevice as well as the retention of the maternity roost and crevices.
- There were nesting House Martins around the building. Any nesting bird species will be allowed access to the nest until the young have fledged.

Figure 1. Ecological Mitigation Plan



1. Introduction.

The inspection was carried out and reported by Ruth Hadden BSc an experienced Licensed Bat Surveyor.

Figure 2. Survey area.

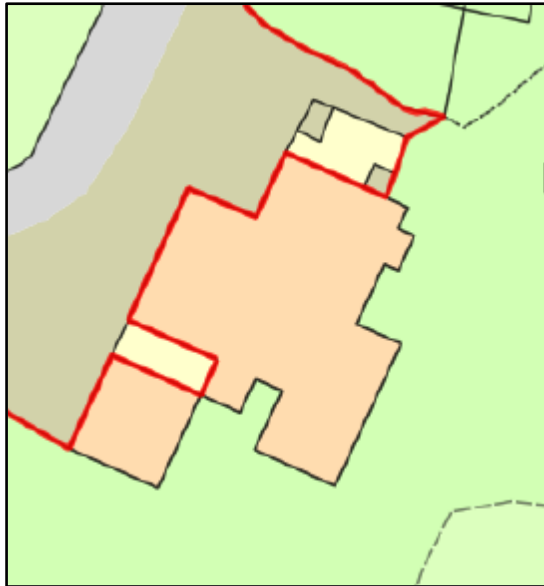
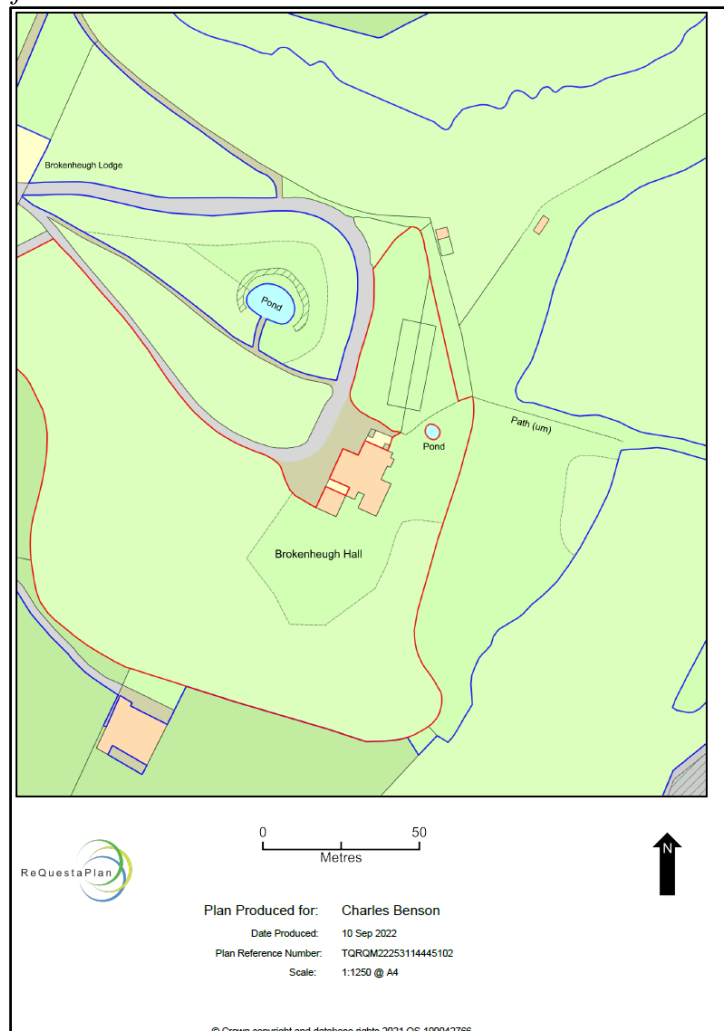


Figure 3. Location of site.



2. Relevant Policies and Legislation.

Under Section 25 (1) of the Wildlife & Countryside Act (1981) local authorities have a duty to take such steps as they consider expedient to bring to the attention of the public the provisions of Part I of the Wildlife & Countryside Act, which includes measures to conserve protected species.

The Natural Environment and Rural Communities Act (2006) places a Statutory Biodiversity Duty on public authorities to take such measures as they consider expedient for the purposes of conserving biodiversity, including restoring or enhancing a population or habitat.

The National Planning Policy Framework (NPPF) states “*When determining planning applications, local planning authorities should apply the following principles:*

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;” (paragraph 175).

ODPM Circular 06/2005/Defra Circular 01/2005 states that the presence of a protected species is a material consideration when considering a development proposal that could harm the species or its habitat.

Appendix 1 details legislation relating to applicable species.

Section 41 of The Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. This includes planning decisions.

2.1 Designated Sites

Site of Special Scientific Interest (SSSI) citations are for special features of importance to nature conservation. Sites of Special Scientific Interest (SSSIs) are nationally important sites protected under laws including The Wildlife and Countryside Act 1981, Countryside and Rights of Way Act 2000. LPAs must consult Natural England on planning applications that might affect SSSIs. Operations that could damage special interests require consent by Natural England. It is an offence for any person to intentionally or recklessly damage or destroy any of the features of special interest of an SSSI, or to disturb wildlife for which the site was notified.

3. Methodology.

3.1 Scope of the Assessment.

The zone of influence of this development is defined as being the site itself, habitats to the immediate boundaries within 2km.

The assessment has included consideration of;

- designated sites
- habitats and species of principal importance for conservation of biodiversity
- protected species, namely bats.

3.2 Desktop Survey.

Natural England's Magic on the Map website was accessed for details of any designated wildlife sites within 2km.

The Environmental Records Information Centre North East (ERIC) data search has been restricted to bats, as this is the major constraint to building on the existing footprint, which would constitute a small-scale development and amphibians.

Natural England's Magic on the Map and OS Explorer 1:12500 maps were used to assess the distance to habitat features close to the site.

3.3 Site Survey

The survey area covered the building only within the red line boundary as shown within Figure 2 and included searching for signs of any wildlife using the site with the key aspects listed below.

The survey included an assessment of habitats on site for use by bats following the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (3rd edition, 2016) and Natural England's definitions except where indicated. The survey effort at the site has taken account of the recommendations of the BCT Good Practice Survey Guidelines, taking proportionality into account and the proposals.

Field Survey for Bats and Birds

Visual Inspection

A close inspection of the building was made in good light, and by torch where required. The exterior of the building was examined as far as was feasible for signs of bats: droppings, urine streaks, clean cobweb-free areas on the ridge boards or crevices and potential roost exit holes. All external crevices were checked using a torch and possible roosting sites were noted. Crevice loving bats can be difficult to find especially when bats are present between the roofing felt and slate/tiles. Any nesting material was noted and beneath ledges the ground was examined for feathers, pellets and birdlime that could indicate occupation by birds.

Emergence Survey

As dusk fell 3 surveyors, each using visual observations and bat detectors (Echo Meter Touch), and two-way radios, carried out the evening emergence surveys, covering all aspects of the buildings. Bat detectors convert bat echo-location signals into audible sounds, enabling the identification of some species, and aid the monitoring of the number of bats present. Two-way radios help to determine the emergence and flight paths of a bat seen by surveyors around the site and allow the bat activity of the whole site to be understood, whilst at the site.

Surveyors are on site for at least quarter of an hour before sunset and up to 1½ hours after sunset or until darkness falls as reduced visibility does not allow bats to be seen emerging from the building being surveyed. After this time any bats picked up by detector, cannot be guaranteed to have emerged from the building in question, but confirms if additional species are present in the area or not. If bats or a maternity colony is present the bats are counted until no bats have left the roost for 10 minutes for as long as it takes.

Re-entry Survey

A dawn survey was also carried out. For a dawn survey, surveyors are on site one and a half hours before sunrise until a quarter of an hour after sunrise.

Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	7 August 2022	Externally and garage internally (60min)	Fine and dry
Emergence Survey	7 August 2022	8.45-10.30pm (sunset 8.59pm)	Fine, light cloud and slight breeze. 18-16°C
Re-entry Survey	13 September 2022	5.00-6.50am (Sunrise 6.35am)	Fine, clear and slight breeze 10°C

Personnel

Ruth Hadden – Bat Consultant since 1996, Class Survey Licence CL20 2015-13665-CLS-CLS (Bat Survey Level 4). Licensed to handle bats and enter known roosts since 1986. Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM.

Ben Hadden – Class Survey Licence WML CL18 (Bat Survey Level 2). Registration number 201514223-CLS-CLS. Qualifications MSc Ecological Consultancy. 18 years of experience.

Beth Patience, Ben Whittle with 13 years of experience each.

3.4 Assessment.

The assessment has been conducted according to the *Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine*, CIEEM, September 2018. Impacts are considered for during construction and occupation.

Preliminary Ecological Appraisal Reports (PEAR) which CIEEM guidelines¹ states can be used to support a planning application where it can be determined that the project would have no significant ecological effects, no mitigation is required, and no further surveys are necessary. PEARS though can also provide;

- the results of initial ecological surveys associated with a proposed development
- identify further ecological surveys necessary to inform an EcIA
- identify ecological constraints to a project
- make recommendations for design changes
- highlight opportunities for ecological enhancement.

¹ *Guidelines for Ecological Report Writing Second Edition* December 2017

4.4 Species and Species Groups

4.4.1 Desktop Search

Records from the Environmental Records Information Centre North East (ERIC) show results from within 2km of the site for bats. The Magic Site shows four ponds within 500m, with two garden ponds within the site and two 420m to the north. There are no granted European Protected Species licences for bats or great crested newts within 2km.

Habitat description

Brokenheugh Hall is situated 2km northeast of Haydon Bridge. Surrounding the house to the north and east is Caponsleugh Wood which is ancient and semi-natural woodland. Surrounding agricultural fields consist of improved grassland and arable land with boundaries of walls, fences and hedgerows. The River South Tyne is 270m to the east and Silly Burn is 85m to the north within the woodland.

The area has excellent sheltered feeding and protection immediately present, in the surrounding woodland together with some good foraging further afield to the north and east along the waterways. Bat roost potential will be present in the scattered dwellings in the area and any suitable tree.

4.4.2 Site survey

Brokenheugh Hall is located in a plot that consists of amenity grass, horticultural beds, hardstanding areas and small trees surrounded by extensive mature woodlands.

4.4.3 Bats

Pre-existing information on the species at the site.

There are no known pre-existing records for the site. The closest foraging record is of Pipistrelle 45kHz present 150m to the northwest (2016). (ERIC North East)

Status of species in the local/regional area.

Data search results identified records of maternity roosts within 1km of the site of Pipistrelle and whiskered/Brandt's 1km to the northeast (1986/1998). Foraging Pipistrelle 45kHz, Pipistrelle 55kHz and Noctule have also been recorded with 1km (ERIC North East. A full data set available upon request).

Locally and regionally, the Common Pipistrelle is the most common bat. Both Pipistrelle 45kHz and 55kHz bats are frequent in northern England, although Pipistrelle bats are the most abundant species they are thought to have declined by 70% between 1978 and 1993 (National Bat Colony Survey). Since 1997 monitoring by the National Bat Monitoring Programme (NBMP) has shown that bat numbers seem to be steady with small fluctuations up or down depending on the species and survey type carried out. The Brown long-eared bat is occasional with colonies much smaller in numbers than the Pipistrelle. Daubenton's, Natterer's and Whiskered/Brandt's bats are also occasional but widespread in Northumberland with an average colony size being about 35 adult bats. The Nathusius' Pipistrelle is a rare bat, has migratory habits and has been proved to fly across the North Sea from Bristol to Holland and has occasionally been recorded in Northumberland throughout the season.

Bats – Daytime Risk Assessment

The building inspected is a two storeys, stone-built house with a multipitch slate roof with a dormer window on the northwest aspect. The ridges are generally sound with only the

occasional crevice beneath the slates at gable ends and in the chimney masonry. The loft is converted and no internal inspection was carried out on the house. Due to the moderate roost potential in the area of the proposals and bat activity, two emergence/dawn surveys were carried out.

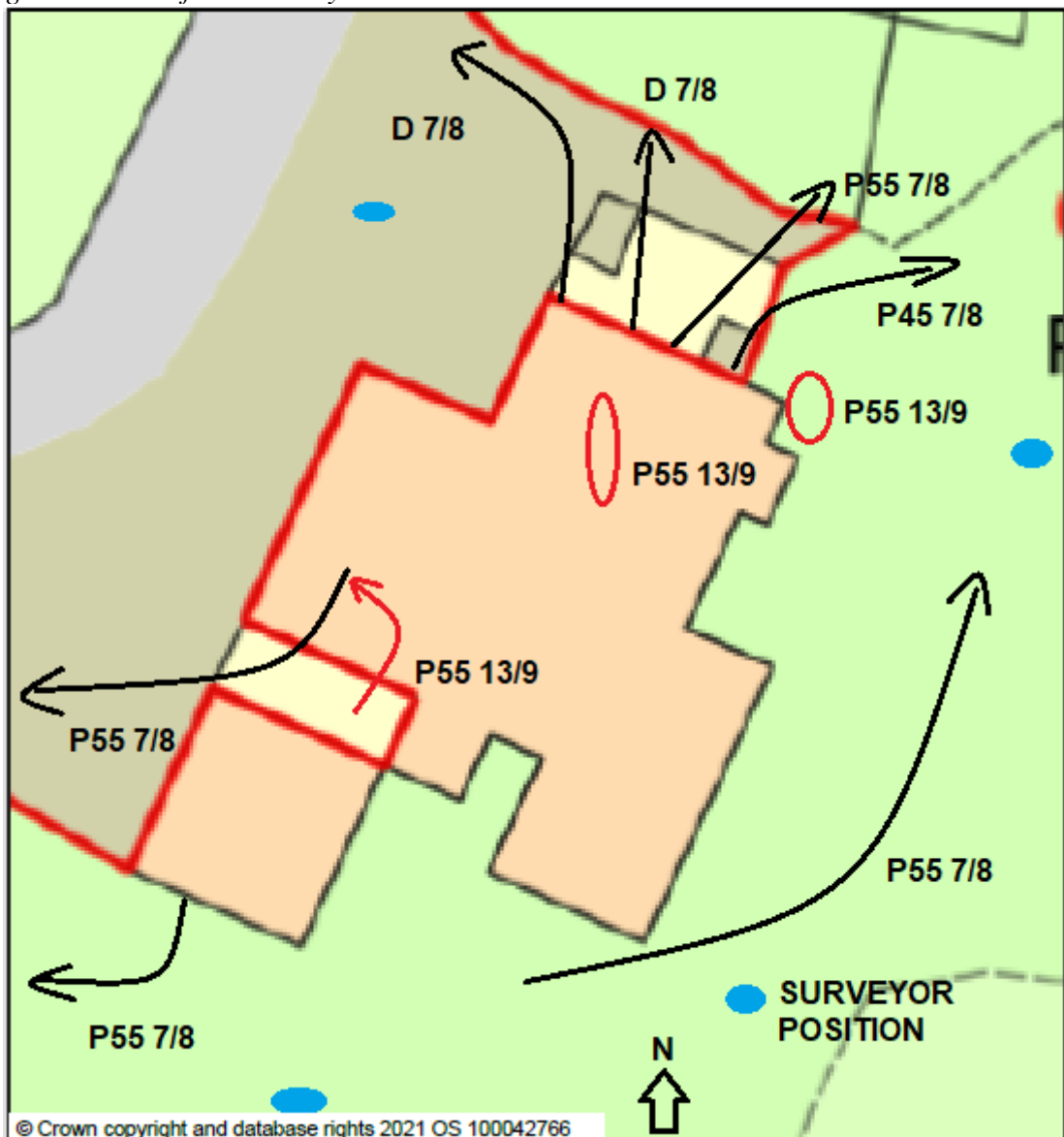
No potential bat hibernation sites were identified in the building; however, bats may be present if there is a suitable crevice at any time of the year.

Bats – Activity Surveys

The emergence survey confirmed bat emergence of one maternity colony (count 181 bats) of Pipistrelle 55kHz bats from the western chimney stack and occasional Pipistrelle 45kHz, Pipistrelle 55kHz and Daubenton's bats emerged from the northeast gable. (Total of 12 bats). A Brown long-eared bat was heard social calling.

During the dawn survey c.30 Pipistrelle 55kHz bats returned to the chimney roost and Noctule bats were also heard. Please see Appendix 2 for detail.

Figure 5. Plan of Bat activity



4.4.4 Bird Assessment

Nesting House Martins are present beneath the overhanging gables. Robin, Barn Owl, Treecreeper, Blackbird, Wood Pigeon, Magpie, Siskin and Blue Tits were heard or seen on site. The shrubs and trees will be used by nesting birds between April and September.

4.4.5 Amphibians

There are four ponds shown on Magic as being present within 500m of the site. There are no granted European Protected Species Licences for great crested newts within 500m or further records (Magic and ERIC North East).

Two of the ponds are located within the gardens however in August both these ponds were dry – please see photographs and Location Plan at Figure 3 for location. Two further ponds are present c. 420-450m to the north on the far side of the road, these also look to be dry on all the aerial maps consulted. There is low risk that great crested newts are present.

4.4.6 Invasive Species

These are non-native invasive species included in Schedule 9 of the Wildlife & Countryside Act 1981 (as amended), which makes it illegal to release or allow to escape into the wild.

Data records identified several grey squirrel records within 60-150m (2014-2015)

Invasive species noted on site was Montbretia which is growing around the garage.

5. Photographs of the Site

Brokenheugh Hall from the north



From the west

Flat roofed garage from the south



The garage from the southwest

Greenhouse, courtyard wall and small room (all to be removed) from the southeast



Southeast aspect from the south



Southeast aspect showing roof lights to be replaced



Western chimney stack from the south where maternity roost present



Closeup of roof lights to be replaced

Barge boards to be replaced, northeast gable where bats emerged from beneath the slates



Southern wall top where the occasional bat was present

Interior of garage





Wall top of garage where the occasional bat emerged

Small room (to the left which will be demolished



Room and courtyard wall from the southeast



Garden pond, 25m to the northeast, dry

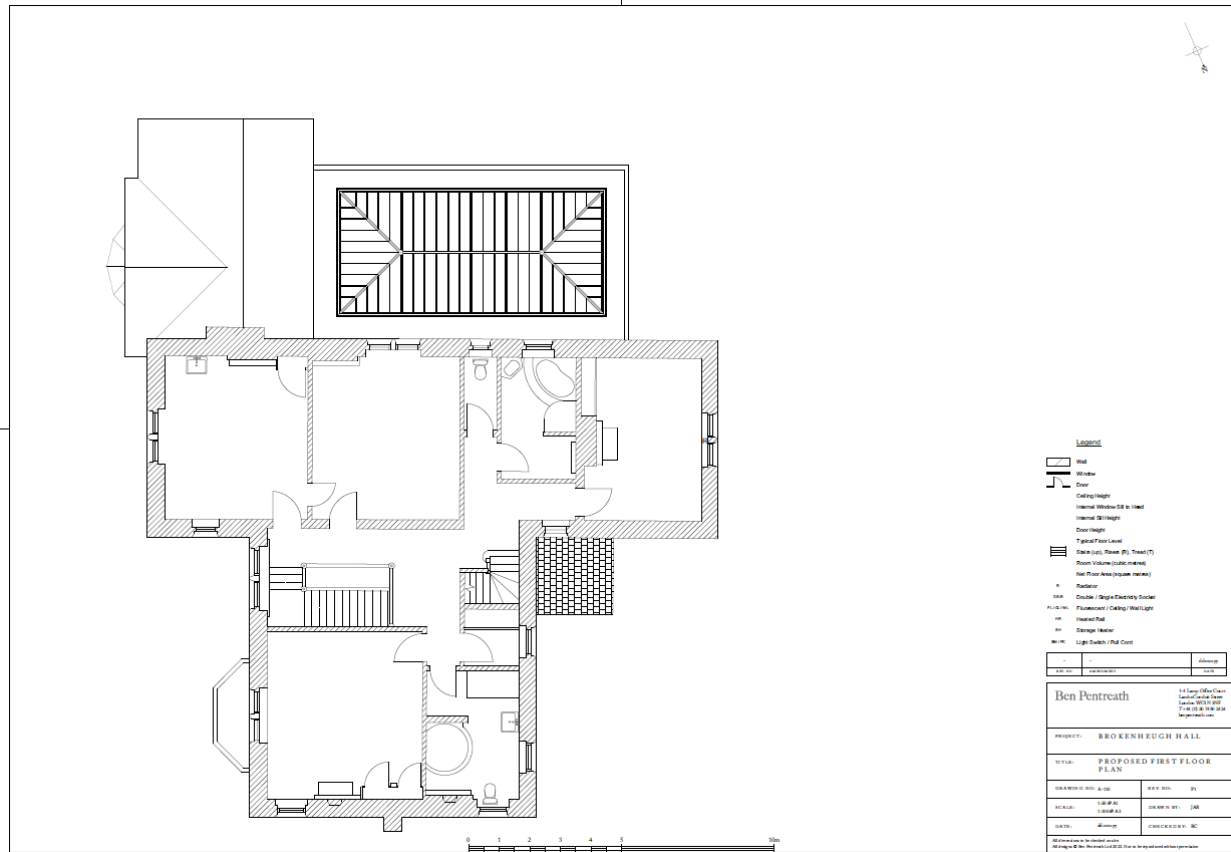


Pond 50m to the northwest, dry.

6. Description of Proposed Development.

The proposals are to demolish the garage and courtyard and small outbuildings/room and to extend the to the north with an orangery opening out to a terrace. Two rooflights will also be replaced with dormer windows. Barge boards to be replaced with a decorative board.

Figure 5. Proposed Works



7. Assessment of Impacts

7.1 Constraints

Constraints present, the attic rooms were not inspected.

7.2 Site Based Impacts.

The development proposals will result in the loss of one day bat roost within the garage building on site, the main maternity roost will be maintained as at present though the crevices on the northeast gable will be impacted and disturbed by the replacement of the barge boards. The building as a whole, due to be extended has high conservation significance for bats as a roost site.

Pre-activity impacts are negligible with no changes being made to the use of the buildings.

Mid-activity impacts would be high and can cause disturbance, injury and death to bats, if no mitigation is carried out in the eventuality of a bat being located during works, however mid-activity impacts on bats could be reduced further if mitigation such as caution for any dismantling work carried out.

Site Assessment

The building as a whole, due to be extended has high conservation significance for bats as a roost site. The development site (garage and outbuildings) is considered to have low conservation significance for bats, the north gable has a moderate conservation significance due to the species assemblage present low conservation significance for birds and negligible significance for great crested newts. No shrubs or trees will be removed in the proposals, these features will be used by nesting birds.

7.3 Impacts on the SSSI.

The development site falls within the impact risk zones for the SSSI's in the wider area. Assessments of potential impacts on these sites need to be considered, however the development is a relatively small residential scheme and it is unlikely to greatly impact the designated areas.

8. Mitigation and Enhancement.

The National Planning Policy Framework (NPPF) requires that the planning system minimizes impacts on biodiversity and provides net gains. The following recommendations will likely be translated into conditions placed on any planning consent. They are intended to reduce the risk of this development to protected species and habitats.

Natural England guidelines on mitigation states timing constraints and like-for-like replacement is a minimum requirement.

8.1 Pollution Prevention

To protect any nearby waterways and drains, measures to be made to ensure that there is no runoff (herbicides, wheel washing, cement washings etc.) either during construction to prevent pollution or sediment issues, or after development. (See Environment Agency's Pollution Prevention Guidelines (PPG5) for guidance.

8.2 On Site Mitigation

Timing

As several bat roosts are present which will be impacted, the site will require a Natural England Mitigation Licence before the works can proceed. This is applied for after any necessary consents are granted and can take up to 6+ weeks (30+ days). Surveys have to be current in the year of registration. The surveys described in this report are current up to April 2023.

Any development work involving the removal of the existing roof materials or stonework will be carried out avoiding the hibernation period (November to March inclusive) for all works and the maternity period will also be avoided (May to September inclusive) for the replacement of the barge boards and construction of the dormer windows. This is to prevent any disturbance to the roosts that exit via the northeast gable. This will also avoid the House Martin nesting period.

All bat roost crevices to be retained as at present below the slates on the northeast gable wall top when the bargeboards are replaced.

Bat access will be created through the mortar fillet to beneath the ridge tiles and above the ridge/sarking board in one location on a new dormer window by ensuring that the ridge tile is not totally filled with mortar. Access through the mortar fillet measuring 20x20+mm will be created leading to a larger gap measuring 400mm long below the ridge tile, a section of split pipe can be used to give access from ridge tile to ridge tile. Please see plan at Fig. 7 for locations.

To ensure that bats have an alternative site available during the works, four low profile WoodStone bat boxes will be located on trees 30m to the southwest of the house. The boxes will have an access gap of 15-20 mm wide and be permanently positioned to provide roosting places for bats, **prior to the works commencing**. They will be positioned at a height of 3m facing southwest and southeast with nothing obstructing the flight path.

All additional crevices including the maternity roost, not affected, by the development are to be retained.

Bats will roost in wall cavities, on the wall tops; hang from the ridge board or between the roofing felt and slates, depending on the species. Brown long-eared and Natterer's bats like to use the roof space, hanging from the ridge beam and only require an access hole. Pipistrelle species and Whiskered/Brandt's bats prefer to roost in small cavities often staying on top of the wall and do not enter the open roof spaces.

Wooden beams and timbers will be treated only with 'bat friendly' products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.

A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.

Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Any external lighting will be designed to meet the minimum recommendations of the Guidance Note 8 - Bats and Artificial Lighting in the UK, published in 2018 by the Bat Conservation Trust and Institute of Lighting Professionals.

Any trenches or excavations to be closed overnight or provided with an earth or timber ramp not less than 300mm wide and no steeper than 45 degrees to provide an escape route for ground animals that might otherwise become entrapped.

To prevent any disturbance to the trees or hedges on this site the tree root protection areas will be cordoned off to prevent machinery access and excavated soils from being dumped in between trees causing damage and disruption to vegetation and the tree roots.

Care to be taken to prevent spread on Montbretia to the woodland areas. Dig up and bag any corms of the plant prior to any earth movement from around the garage.

8.3 Mitigation Summary

To maintain bat populations in the area the following will be carried out:-

- Method statement for bats to be followed, please see Appendix 3.
- Advice given for the safe removal of any bats found from harm during the development under different weather conditions.
- Provision of a ridge crevice (suitable for all bats) below water table of the northern new dormer window.
- Retention of the maternity roost and the roosts on the northeastern gable as at present.
- Four low profile WoodStone bat boxes will be positioned on two trees facing southeast and southwest at a height of 3m with no overhanging branches and will be maintained for five years.
- External lighting will be on a relatively short timer, directed away from bat roost access points and flight paths and motion-sensitive only to large objects.
- Tree root protection areas to be observed.
- Any nesting bird species will be allowed access to the nest until the young have fledged.

Figure 6. Mitigation Locations

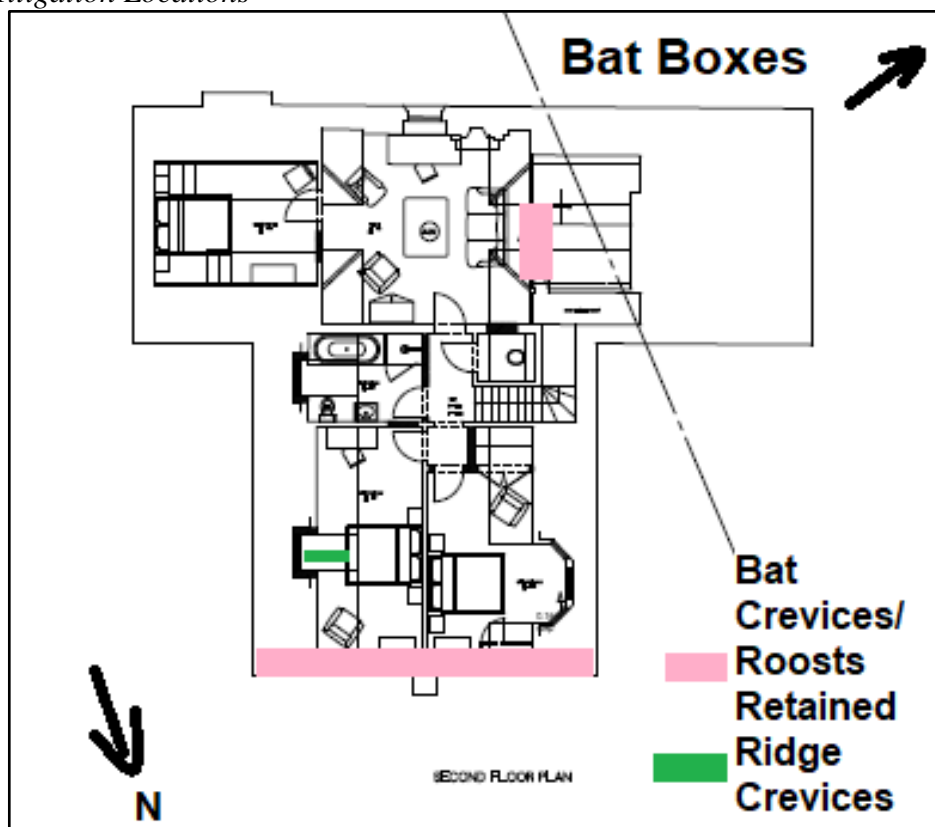


Table 1 Mitigation Summary

Location	Mitigation Type
Western Chimney	Maternity bat roost retained
Northeast gable wall top,	Bat crevices below the slates to be retained as at present
Northern Dormer window	One access crevice beneath the ridge.
Trees to southwest	Four Woodstone Low Profile bat boxes

8.4 Enhancement

Post construction, landscaping on the site will use locally native species and pollinator friendly species where possible.

In areas to be planted with hedging (such as the site boundaries) native shrubs are recommended for any plantings, these are Elder, Hawthorn, Crab Apple, Dog Rose, Field Maple, Guelder Rose, Honeysuckle and Hazel. A mix of species shown on the proposals will add a net gain to the biodiversity of the site.

If tree planting is carried out it is preferable to use native species of trees such as alder, willow, oak and birch, with native shrubs used around the perimeter will help to create the shelter.

In areas to be landscaped such as around any parking areas and driveway areas, the following garden plants are suggested to increase insect life, which in turn will be food for bats and birds. Ivy, honeysuckle, dog-rose, field-rose, lemon balm, thymes, evening primrose, campions, pinks and hebes. Sheltered corners created by tree planting, the building and fences are all beneficial to bats. Walls with sedums, pennywort and ivy leaved toadflax are attractive and also encourage insects. Any small area of shrubs and hedges planted throughout the site, and further garden plantings will enhance the feeding areas for bats and give cover for nesting birds.

8.5 Monitoring

Due to high bat activity on site, monitoring after the development is completed will be required to assess the success of mitigation. This will be a summer count carried out for one year between June and July (Bat Mitigation Guidelines 2004, Section 7.2). Ruth Hadden available to liaise with the owners as required regarding the mitigation.

8.6 Conclusions

- Without any mitigation the proposed works will result in moderate impact on the bat and bird population present.
- The provision of mitigation in the form of bat boxes and provision of a bat crevice as well as the retention of the bat maternity roost and crevices for the occasional bat will maintain and give a small net biodiversity gain over the existing development site.

9. References

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Build-in WoodStone Bat Box <https://www.nhbs.com/build-in-woodstone-bat-box>
Barn Owl Box : <http://www.barnowltrust.org.uk/infopage.html?Id=41>
Sparrow Terrace: www.nhbs.com/1sp-schwegler-sparrow-terrace
Swift boxes: <https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>
Bird box: <https://www.nhbs.com/1b-schwegler-nest-box>

APPENDIX 1. LEGISLATION RELATING TO PROTECTED SPECIES

Bats

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Barn Owls

Similarly, the Barn Owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Biodiversity

The National Planning Policy Framework (NPPF) 2012 requires Local Planning Authorities (LPA's) to seek to deliver biodiversity enhancement through the planning system, see paragraphs 9, 109 and 118. In particular Paragraph 109 includes a statement:

The planning system should contribute to and enhance the natural and local environment by:

- 'minimising impacts on biodiversity and providing net gains in biodiversity.'

APPENDIX 2. SURVEY DATA

Table 2 Emergence survey results.

Date	Bat Activity
7 August 2022 8.59pm 9.01-9.50pm 9.13pm 9.20pm 9.22pm 9.25-10.01pm 9.25-9.50pm 9.33pm 9.50-10.15pm 10.05pm 10.30pm	Sunset. 181 Pipistrelle 55kHz bats emerged from the west chimney Stack and mainly flew to the southwest . 2 Pipistrelle 55kHz bats emerged from the south eaves of the garage. 3 Pipistrelle 45kHz bats emerged from north gable apex, east of chimney buttress. Pipistrelle 55kHz bat flew northeast 6 Daubenton's bats emerged from north gable from below the slates, west aspect. 2 Pipistrelle 55kHz bats emerged from the north gable from below the slates, east aspect Pipistrelle 45kHz bat emerged from the north gable from below the slates, east aspect Intermittent foraging by Pipistrelle 55kHz bats to the southwest Social call by a Brown long-eared bat heard. Survey concluded.
13 September 2022 5.00-5.02am 5.03-5.25am 5.17am 5.18am 5.26-5.35am 5.52am 5.56-6.02am 6.05-6.25am 6.35am 6.50am	Noctule bat heard but not seen. 4 passes by Pipistrelle 55kHz bats to the northwest. Pipistrelle 55kHz bats foraging to the west Noctule bat heard but not seen. Social calls by Pipistrelle 55kHz bats. 2 Pipistrelle 55kHz bats chasing at the northeast corner eaves 2 Pipistrelle 55kHz bats chasing at ridge height. 25-30 2 Pipistrelle 55kHz bats entered crevice on west chimney stack. Sunrise. Survey concluded.

APPENDIX 3. BAT METHOD STATEMENT FOR CONTRACTORS

This statement should be copied to the site owner, architect, clerk of works and to those contractors whose work may affect bat roosts including those involved in conversion, stone treatment, roofing and building works.

Bats are fully protected by law. To avoid breaking the law by damaging or disturbing bat roosts, resulting in possible imprisonment, fines or confiscation of equipment, certain procedures have to be followed.

Legislation

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Similarly the Barn Owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Identifying roosts

Pipistrelle the most common bat, favours small crevices and spaces between brickwork, stone and roofing felt. Bats are small mammals and when at rest the bodies are only 4-6 cm long, their fur colour can range from brown to pale and dark grey. When disturbed the bat is likely to be torpid and unable to fly effectively for some minutes, because of this they are vulnerable to injury as they are not fast moving and may fall to the ground, breaking bones or be accidentally crushed. Basically, when material from the roof and tops of the walls is removed any crevices underneath should be checked to ensure that no bat has been disturbed.

Other traces that can indicate a past presence of bats are their droppings. These resemble mouse droppings but unlike mouse droppings can be crumbled to dust between finger and thumb. Droppings may be found on wall tops and beneath slates and tiles on top of any sarking.



Photo showing disintegrated bat droppings beneath coping stones. If examined carefully, in the black dust exoskeletons of insects can be seen shining.

Timing

As several bat roosts are present which will be impacted, the site will require a Natural England Mitigation Licence before the works can proceed. This is applied for after any necessary consents are granted and can take up to 6+ weeks (30+ days). Surveys have to be current in the year of registration. The surveys described in this report are current up to April 2023. Surveys have to be current in the year of registration.

Any development work involving the removal of the existing roof materials or stonework will be carried out avoiding the hibernation period (November to March inclusive) for all works and the maternity period will also be avoided (May to September inclusive) for the replacement of the barge boards and construction of the dormer windows. This is to prevent any disturbance to the roosts that exit via the northeast gable. This will also avoid the House Martin nesting period.

Periods of cold weather (below 5°C including night temperatures) will also be avoided if possible as any bats present will be in hibernation torpor and be extremely vulnerable. If torpid bats are encountered and disturbance is unavoidable the bat will be taken into care and fed until suitable conditions for release at the site is possible.

Contractors

All contractors will be aware that bats may be present in the area and could be present within the loft space and may be found torpid in crevices if any. Table 1 below highlights where bats may be found and the recommendations. Any bats found during operations will have the cavity re-covered for its safety and any work in the vicinity will cease. Ruth Hadden to be informed for advice immediately (01661 886562). As only licensed bat handlers can move bats and the contractors are not permitted to handle bats, the bat will be allowed to disperse of its own accord overnight.

Table 1 General Methodology for Extension Works

STRUCTURE	METHOD	INSPECT
Roofs	Remove any ridge tiles, tiles/slates or roof coverings including loose felt by hand, lifting vertically to prevent any bats from being crushed. Removal of any timbers/beams.	Check any crevices underneath the roofing materials including the underside, as it is removed. Check any crevices around the beams as work proceeds.
Wall Eaves	Expose the wall tops. Remove any gutters. Dismantle any walls required, by hand.	Examine for bat droppings and any wall cavities for bats.
Wall - Pointing	Only point crevices where the full depth can be seen otherwise leave as at present.	Check deep crevices for the presence of bats using a torch.

Windows/doors	Remove windows, doors and frames by hand, where gaps exist around the frames.	Examine any wall cavities exposed. Avoid blocking any external pre-existing gaps.
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Any nesting bird species will be allowed access to the nest until the young have fledged between April and October.

Mitigation Summary

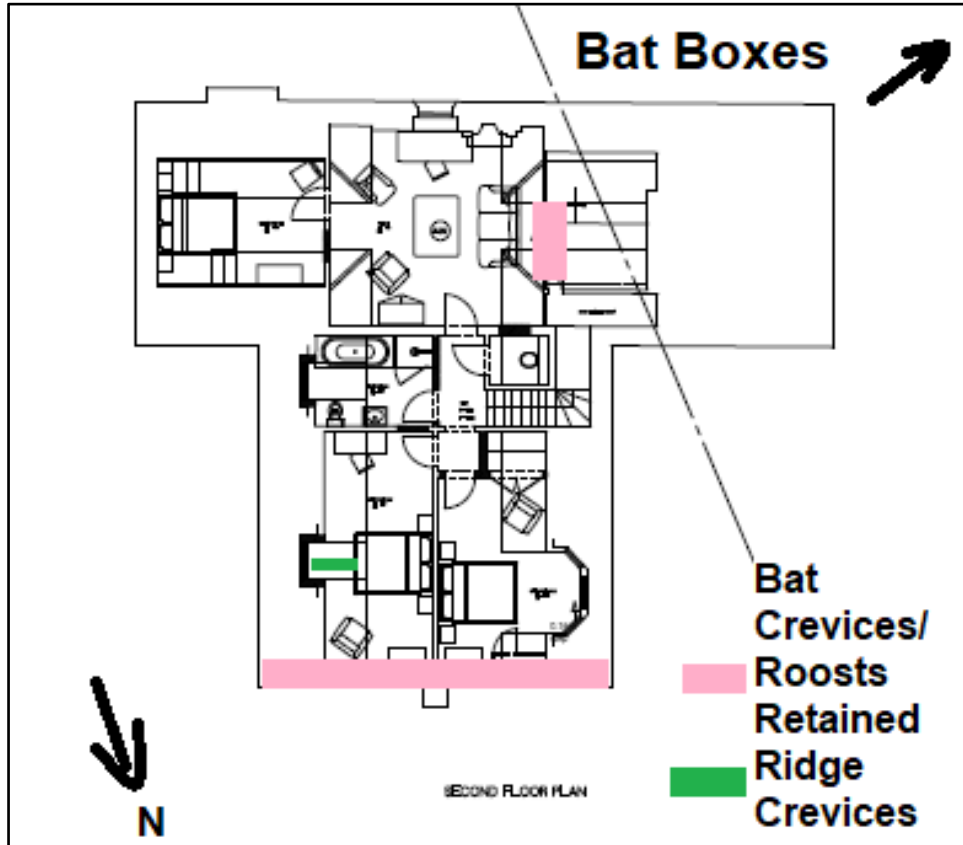
To maintain bat populations in the area the following will be carried out:-

The site requires to be registered under a Natural England Low Impact Licence before work can commence.

- All bat roost crevices to be retained as at present below the slates on the northeast gable wall top when the bargeboards are replaced.
- Bat access will be created through the mortar fillet to beneath the ridge tiles and above the ridge/sarking board in one location on a new dormer window by ensuring that the ridge tile is not totally filled with mortar. Access through the mortar fillet measuring 20x20+mm will be created leading to a larger gap measuring 400mm long below the ridge tile, a section of split pipe can be used to give access from ridge tile to ridge tile. Please see plan below for locations.
- To ensure that bats have an alternative site available during the works, four low profile WoodStone bat boxes will be located on trees 30m to the southwest of the house. The boxes will have an access gap of 15-20 mm wide and be permanently positioned to provide roosting places for bats, **prior to the works commencing**. They will be positioned at a height of 3m facing southwest and southeast with nothing obstructing the flight path.
- All additional crevices not affected by the development are to be retained.
- Bats will roost in wall cavities, on the wall tops; hang from the ridge board or between the roofing felt and slates, depending on the species. Brown long-eared and Natterer's bats like to use the roof space, hanging from the ridge beam and only require an access hole. Pipistrelle species and Whiskered/Brandt's bats prefer to roost in small cavities often staying on top of the wall and do not enter the open roof spaces.
- Wooden beams and timbers will be treated only with 'bat friendly' products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.
- A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.
- Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Any external lighting will be designed to meet the minimum recommendations of the Guidance Note 8 - Bats and Artificial Lighting in the UK, published in 2018 by the Bat Conservation Trust and Institute of Lighting Professionals.
- Any trenches or excavations to be closed overnight or provided with an earth or timber ramp not less than 300mm wide and no steeper than 45 degrees to provide an escape route for ground animals that might otherwise become entrapped.
- To prevent any disturbance to the trees or hedges on this site the tree root protection areas will be cordoned off to prevent machinery access and excavated soils from being dumped in between trees causing damage and disruption to vegetation and the tree roots.

- Care to be taken to prevent spread on Montbretia to the woodland areas. Dig up and bag any corms of the plant prior to any earth movement from around the garage.
- If a barn owl is found unexpectedly during operations the cavity will be re-covered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance.

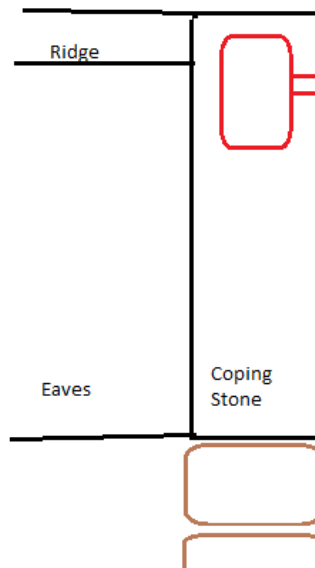
Mitigation Locations



Low Profile Bat Box



Gable wall crevice



Cavity for bats
100x200x 20mm with
access 15 x 20+mm