

Ecological Impact Assessment and Bat Survey

**THE APPLE STORE SANDHOE, HEXHAM,
NORTHUMBERLAND**

June 2023

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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.

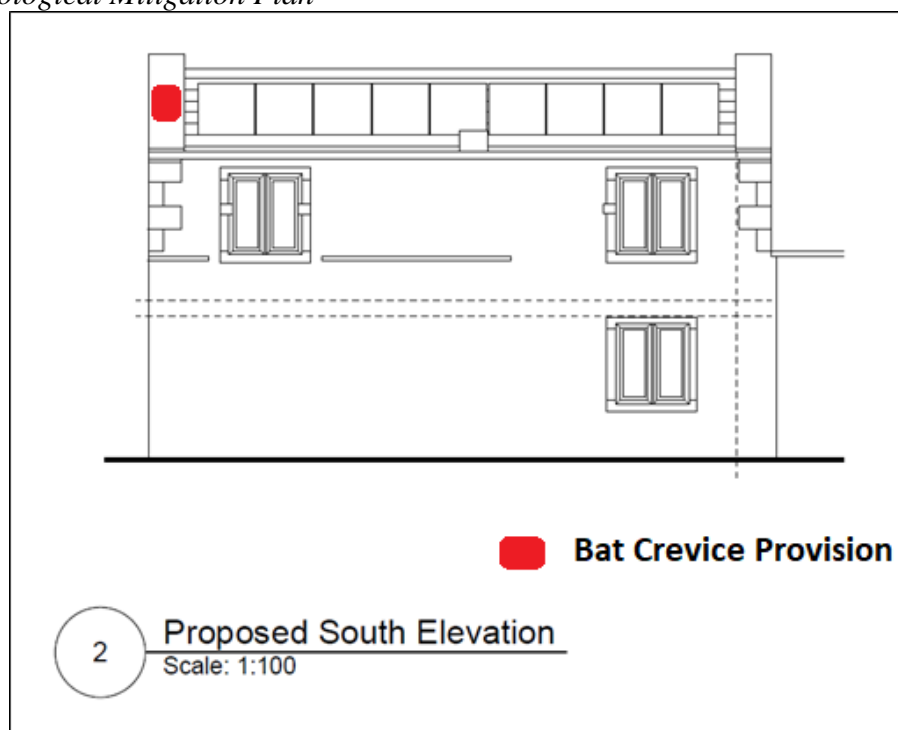
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Ecological Impact Assessment for The Apple Store Sandhoe, Hexham, Northumberland

Summary

- An ecological survey was requested primarily for bats and birds for The Apple Store Sandhoe, Hexham, Northumberland by Jason Gibbons on behalf of the owners.
- The building is a stone-built outbuilding, with pitched slate roof and is positioned against a hillside in a way that makes it two storey from the south and single storey from the north.
- The proposals are to add solar panels to the south facing roof aspect of the apple store.
- The immediate area is south facing wooded hillside, with good potential for feeding bats is present in the plantation immediately to the west of the site.
- Inspection results of the exterior revealed no evidence of bats externally or internally, which is now plaster boarded. The exterior of the building has crevices in the brick work. Due to the roost potential, one emergence and one re-entry survey were conducted.
- Previous surveys have identified bat activity on site including Pipistrelle 45kHz and 55kHz bats roosts, plus foraging Whiskered/Brandt's, Natterer's and Noctule bats were seen or heard over or around the building and garden.
- Within 2km there are pre-existing records of maternity roosts of Pipistrelle 45kHz 2km to the southwest (2009) and Pipistrelle 55kHz 3km to the southeast (2005) and 1km to the northeast (2002), with Pipistrelle sp. also known within 500m to the northeast (1997). Occasional roosts of Brown Long-eared bats are known 3km to the southeast (2014) and Whiskered/Brandt's 2.5km to the southwest (2014). In addition foraging records of Natterer's, Noctule and Daubenton's bats are also known within 2km (2003 – 2014). No bat roosts will be affected by the planned works.
- Mitigation will be put in place, to provide a bat crevice and the retention of the existing crevices on the south aspect not affected by the proposals.
- Timing of any destructive works to avoid the hibernation period (November to March inclusive), will ensure that the works have as little negative affect as possible on bats.
- Any nesting bird species though 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 Ben Hadden MSc an experienced Ecologist and Licensed Bat Surveyor.

Figure 2. Survey area -labelled A

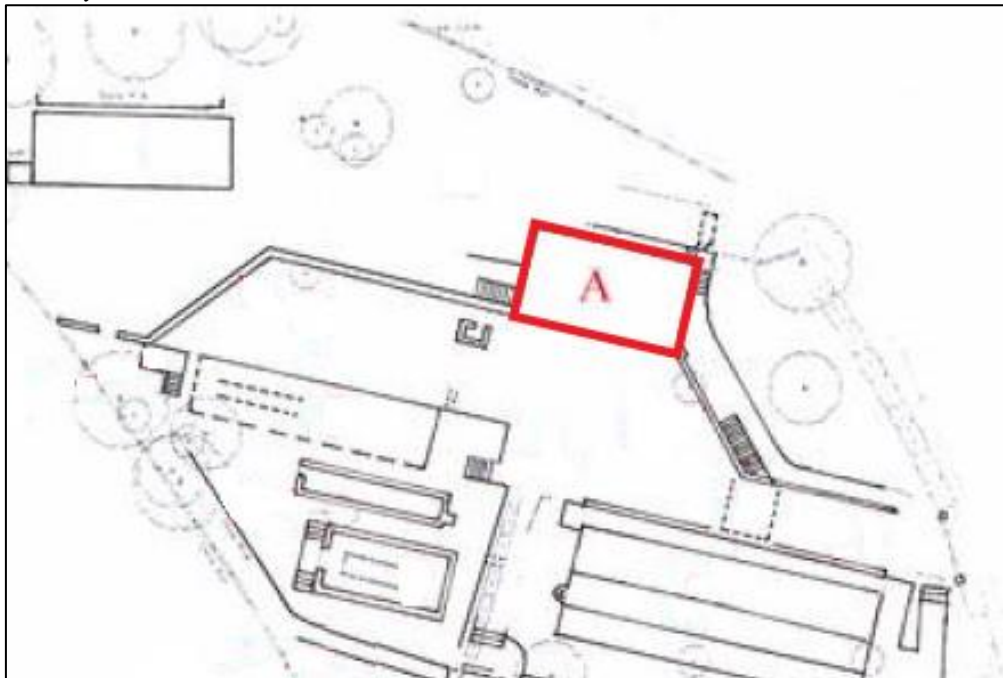
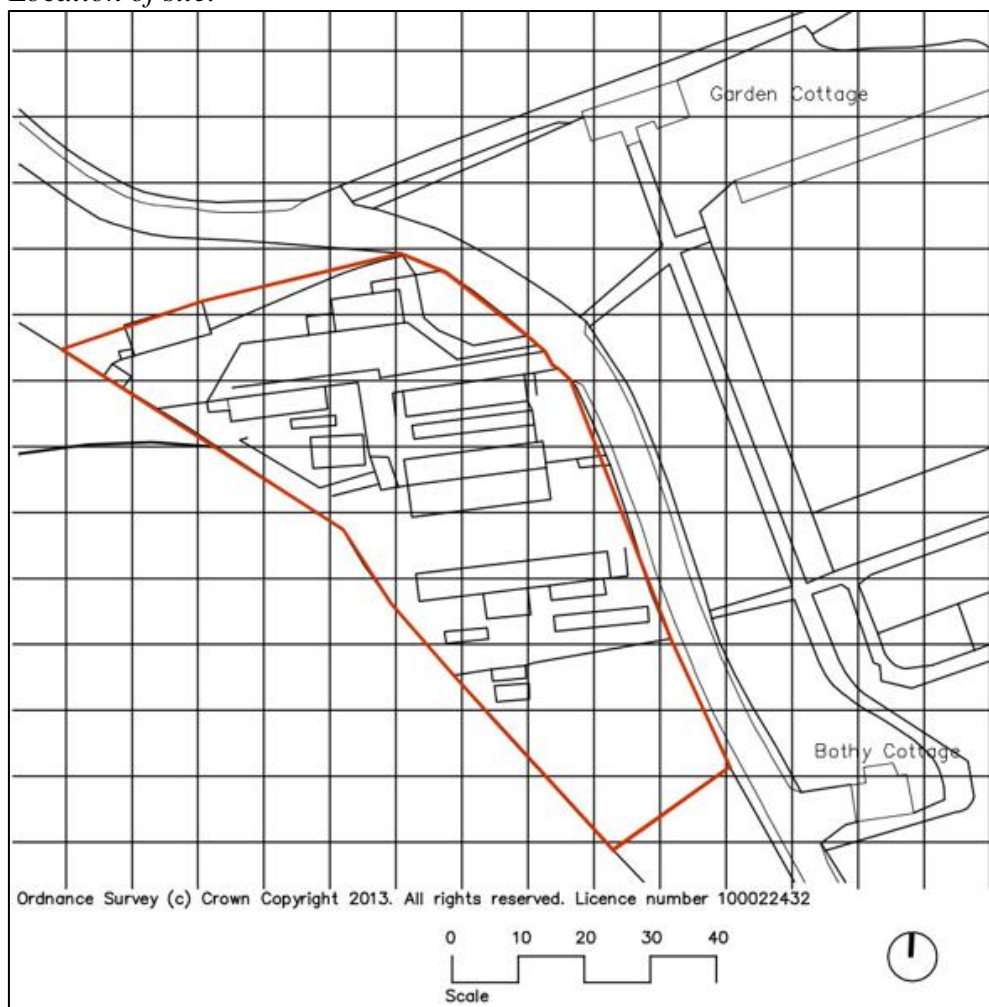


Figure 3. Location of site.



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 and 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 any destructive building works.

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 house 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 and internal 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. Emergence surveys were therefore used to check for the presence of bats missed during the visual inspections. Beneath ledges the ground was examined for feathers, pellets and birdlime that could indicate occupation by barn owls.

Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	23 January 2023	Externally (30 mins) Internally 30min	Fine and dry
Emergence	22 May 2023	9.05-10.55pm(Sunset 9.22pm)	Fine, clear and still 11- 9°C
Re-entry	7 June 2023	3.00-4.45am (sunrise 4:32 am)	Clear, fine, dry. 9°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. 19 years of experience. Qualifications MSc Ecological Consultancy, Newcastle upon Tyne.

Francesca Dearden, 2 years experience.

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.

4. Baseline Ecological Conditions

4.1 General

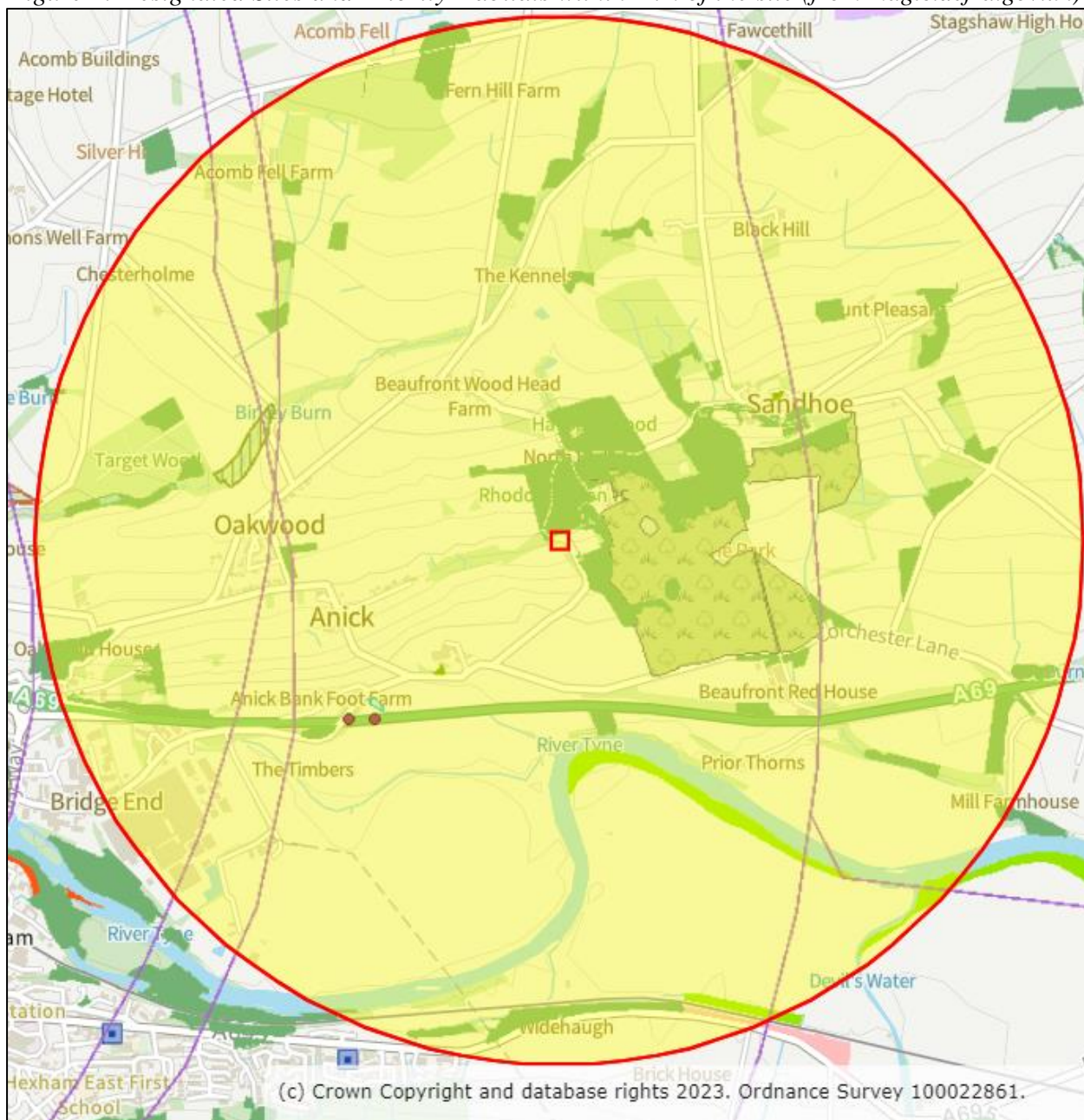
The building surveyed is located at NY96206577 as shown below:

4.2 Designated Sites

There are no statutory designated sites within 2km of the site. The development site does however fall within an impact risk zones for the SSSI's in the wider area including the Tyne Watermeet and Fallow Field Mine to the west and Corbridge Limestone SSSI to the east.

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

Figure 4. Designated Sites and Priority Habitats within 2km of the site (from magic.defra.gov.uk)



4.3 Habitats

Figure 4 shows BAP Priority Habitats, within 2km (listed under Section 41 of the Natural Environment and Rural Communities Act 2006). These habitats are mainly ancient woodland, deciduous woodland, traditional orchards, lowland dry acid grassland, lowland meadows and wood pasture and parkland within 2km of the site.

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. There are no ponds within 500m without dispersal boundaries. There are no granted European Protected Species licence for great crested newts and none for bats within 2km .

4.4.2 Habitat description

The Apple Store is situated 200m to the southwest of Beaufront Castle. The site is immediately surrounded to the north and south by mixed woodland giving good foraging for bats and to the east by parkland. The surrounding farmland consists of arable fields and improved grassland with boundaries of hedges and fences to the east and west. The River Tyne runs 700m to the south, leading to further good foraging habitat for bats. Other small plantations are present within 200m to the west and further afield to the southeast.

Bat roost potential will be available in Hexham, the scattered hamlets and dwellings in the area and any suitable tree.

4.4.3 Bats

Pre-existing information on the species at the site.

Surveys were conducted on site in 2015. The surveys identified emerging Pipistrelle 45kHz and 55kHz bats from the apple store wets gable and foraging bats seen entering the site from the woods to the north, with Noctule, Brown long-eared and Whiskered/Brandt's recorded.

Status of species in the local/regional area.

Known bat activity in the area within 2-3km of the site consists of maternity roosts of Pipistrelle 45kHz 2km to the southwest (2009) and 1km to the southwest (2017). Pipistrelle 55kHz 3km to the southeast (2005) and 1km to the northeast (2002), with Pipistrelle sp. also known within 500m to the northeast (1997). Occasional roosts of Brown Long-eared bats are known 3km to the southeast (2014) and Whiskered/Brandt's 2.5km to the southwest (2014). In addition, foraging records of Natterer's, Noctule and Daubenton's bats are also known within 2km (2003 – 2014). (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

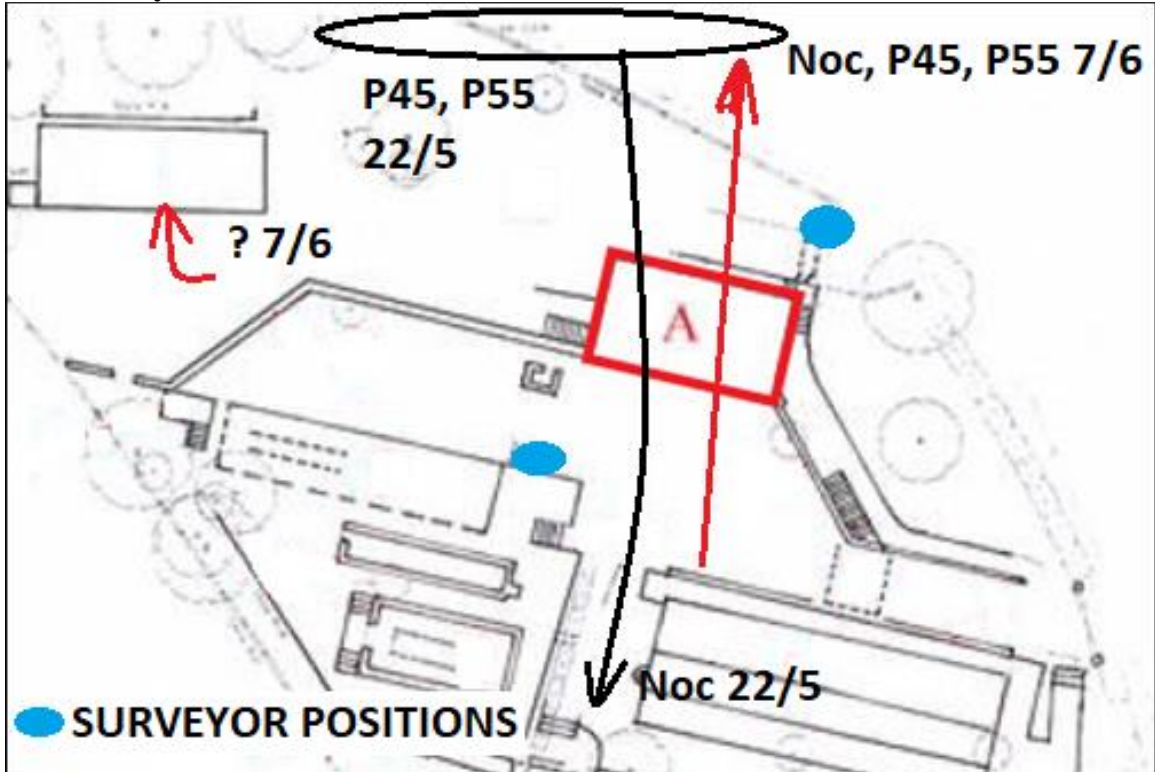
The building is a stone and brick built outbuilding, with pitched slate roof and is positioned against a hillside in a way that makes it two storey from the south and single storey from the north. No evidence of bats were identified however the exterior of the building has crevices in the brick work. Due to the moderate roost potential in the area of works, a dusk and dawn survey were recommended.

No potential bat hibernation sites were identified in the building; however, bats may be present in any suitable crevice, in the pointing crevices or on the wall top.

Bats – Activity Surveys

No roosting bats were identified in the Apple Store during the surveys. Foraging Pipistrelle 45kHz, Pipistrelle 55kHz, Daubenton's and Noctule bats were heard foraging or commuting. One unidentified bat was seen re-entering an outbuilding to the west (distance too great for detectors). Please see Appendix 2 for survey data.

Bat Activity



4.4.4 Bird Assessment

Records of Curlew and Lapwings are present within 2km of the site (magic.defra.gov.uk). Wrens, Blackbirds, Robins, Song thrush and Chiffchaffs were heard or seen on site during the surveys. No nesting birds or evidence of nests were identified.

4.4.4 Great Crested Newts

Status of species in the local/regional area.

Great Crested Newts have been identified 930m to the southwest (2019 Magic Site).

Survey

No standing water is present on site. There is no pond within 500m with without dispersal barriers.

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.

Survey

No invasive species were noted on site.

5. Photographs of the Site



Viewed from the northwest.

Apple store viewed from the south, crevices in the brickwork and around the lintels.



West gable, all stone work well pointed.



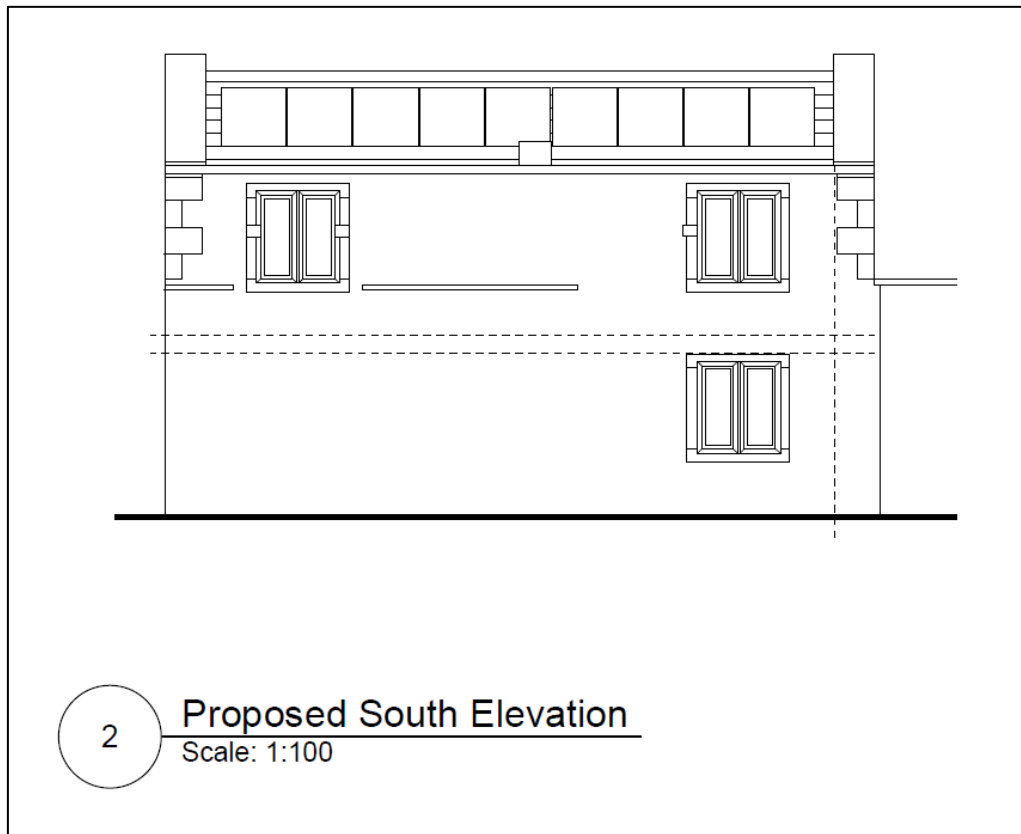
Crevices present in the brick work



6. Description of Proposed Development.

The proposals are to add solar panels to the south facing roof aspect of the apple store. Slates will be removed to allow fixing points on the rafters.

Figure 6. Proposed Works



7. Assessment of Impacts

7.1 Constraints

No constraints.

7.2 Site Based Impacts.

The area of building due to be affected by the solar panels has negligible conservation significance for bats as a roost site at present. This assessment takes into account the location of the building and the good feeding habitat and shelter within 300m, the results of the inspection, the crevices within the building and the potential of the building as a maternity bat roost site.

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

Mid-activity impacts will be minimal for bats. The works may cause disturbance, injury and death to bats or birds, if no mitigation is carried out in the eventuality of an animal being located during any destructive works.

Site Assessment

The area of the works is considered to have negligible conservation significance for amphibians, nesting birds and for bats.

7.3 Impacts on the SSSI.

The development site falls within the risk impact zones for nearby SSSI's in the area, however the works are unlikely to greatly impact the designated area.

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, 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

An external crevice will be created on the west gable walltop to provide a roosting site for crevice-loving bats. This will be in the form of an access gap measuring 20mm by at least 20mm created between the slates and the gable wall top through the mortar fillet into a larger crevice on the wall top below the watertable, resembling a 'flattened bottle' measuring c.100 x c.200 x 20mm. This provides a small space that acts as a suitable bat roost for the occasional bat. Please see Appendix 3 for detail.

Crevices in the brick work will be retained as at present.

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. Please see references Bat Conservation Trust/Institute of Lighting Engineers' Guidance 2018.

8.3 Mitigation Summary

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

- An external crevice will be created on the west gable walltop.
- Any 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.
- Any nesting bird species that may be present will be allowed access to the nest until the young have fledged between April and October.
- A Method Statement will be followed for bats and birds, please see the Appendix 3.

Figure 7. Mitigation Locations

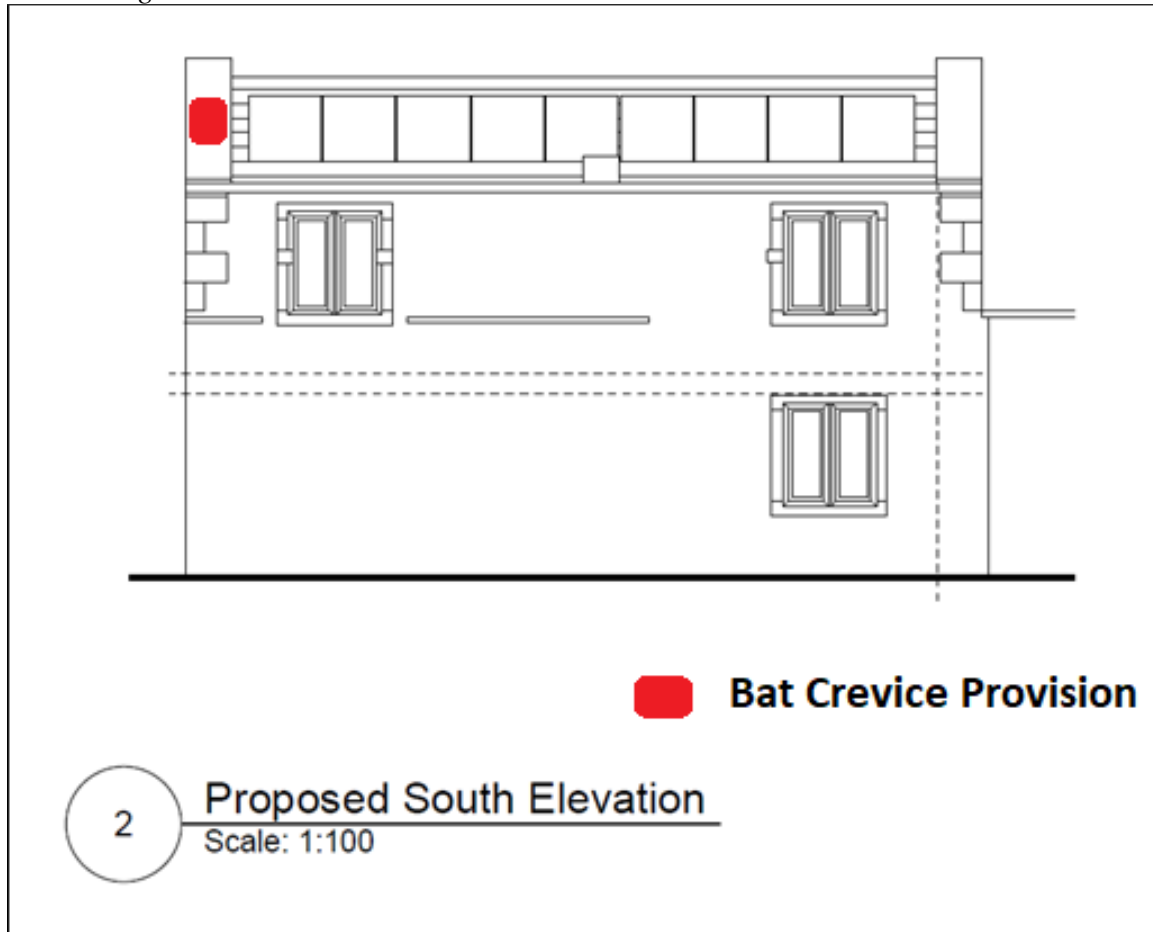


Table 1 Mitigation Summary

Location	Mitigation Type
West gable wall top	Bat access will be created to the wall top below the watertable.

8.4 Enhancement

Not applicable.

8.5 Monitoring

Due to low impact on bat activity on site, by the proposals no monitoring after the development is completed will be required to assess the success of mitigation. (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 low impact on the bat and bird population present.
- The provision of mitigation in the form of a gable wall top crevice for bats will maintain and give a net biodiversity gain for this site.

9. References

- Barn Owl Trust (2002), Barn Owls on Site. English Nature
- Chartered Institute and Ecology and Environmental Management (CIEEM) (2017). Guidelines for Ecological Report Writing 2nd Ed.
- Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London.
- Corbet and Harris (1991). The Handbook of British Mammals. Blackwell.
- Durkin J L (2016) Amphibian Atlas of North East England.
- English Nature (2004) Bat Mitigation Guidelines. EN
- Environment Agency's (2007) Pollution Prevention Guidelines: Works and maintenance in or near water: PPG5 <https://www.sepa.org.uk/media/100531/ppg-5-works-and-maintenance-in-or-near-water.pdf>
- Institution of Lighting Professionals/Bat Conservation Trust (2018) Bats and artificial lighting in the UK, Guidance Note 08/18.
- Joint Nature Conservancy Council (2004) The Bat Workers Manual. JNCC.

Bat boxes: <https://www.nhbs.com/low-profile-woodstone-bat-box>
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
22 May 2023 9.22pm 9.29pm 9.34- 9.40pm 9.40pm 9.45pm 9.46 – 10.45pm 9.58 -10.13pm 10.55pm	Sunset. Pipistrelle 45kHz bat heard very faint to the north of the building. 4 Noctules commuting north to south. Pipistrelle 55kHz bat foraging above woodland trees to the north. 3+ Pipistrelle 45kHz bats foraging above trees to the north. Intermittent foraging from Pipistrelle 45kHz and Pipistrelle 55kHz bats social calling. 3 passes by Noctule bats heard not seen Survey concluded.
7 June 2023 3.25am 3.39am 3.41am 3.48am 4.01am 4.17am 4.25am 4.32am 4.50am	Intermittent foraging by Pipistrelle 55kHz bats social calling. Daubenton's bat heard not seen foraging to the north Pipistrelle 45kHz bat heard not seen. Pipistrelle 55kHz bat commuting south to north high over the trees Pipistrelle 45kHz bats commuting south to north high over the trees 5 Noctule bats seen commuting south to north. Bat seen entering outbuilding (Pantiled roof) to the west. 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, wood 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 stonework, 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

Any development work involving the removal of the existing roof materials will be carried out avoiding the hibernation period (November to March inclusive). 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 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.
Walls/Eaves	Expose the wall tops. Remove any gutters. Dismantle any walls required, by hand.	Examine for bat droppings and any wall cavities for bats.
Walls - 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.

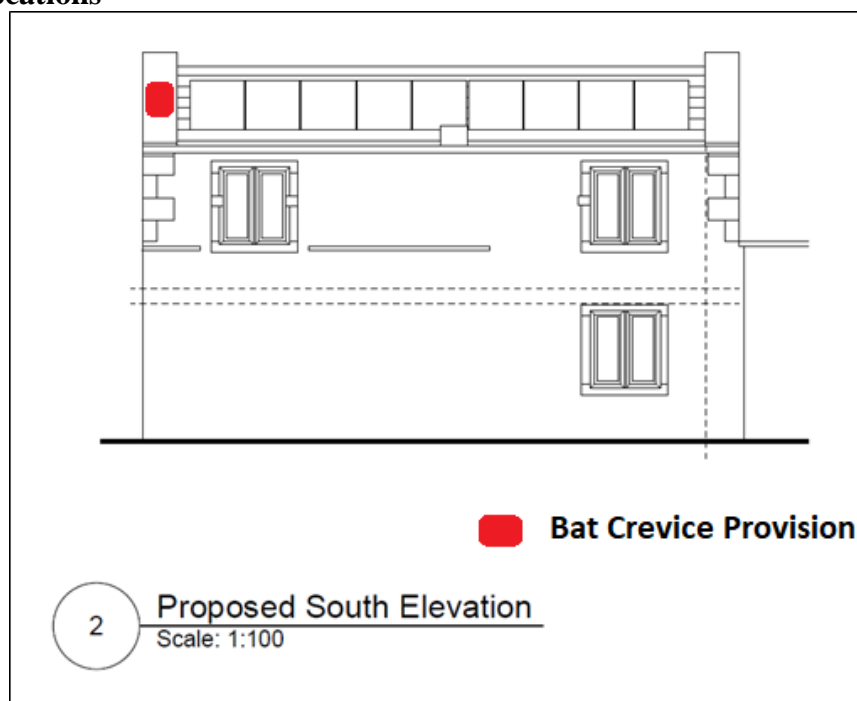
If a barn owl is found unexpectedly during operations the cavity will be re-covered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance. Any nesting bird species will be allowed access to the nest until the young have fledged between April and October.

Mitigation Summary

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

- An external crevice will be created on the west gable walltop to provide a roosting site for crevice-loving bats. This will be in the form of an access gap measuring 20mm by at least 20mm created between the slates and the gable wall top through the mortar fillet into a larger crevice on the wall top below the watertable, resembling a ‘flattened bottle’ measuring c.100 x c.200 x 20mm. This provides a small space that acts as a suitable bat roost for the occasional bat.
- Crevices in the brick work will be retained as at present.
- 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. Please see references Bat Conservation Trust/Institute of Lighting Engineers’ Guidance 2018.
- To protect any nearby waterways, 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.
- Any nesting bird species will be allowed access to the nest until the young have fledged.
- 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



Gable Wall Top Crevice

