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LANGLEEFORD BARN, LANGLEEFORD, PROPOSED DEVELOPMENT BAT AND BARN OWL REPORT – SUMMER 2018

SECTION 1 BACKGROUND AND SUPPORTING INFORMATION

A. Executive Summary

- Langleeford Barns, Langleeford are situated 7.5km to the southwest of Wooler, in Northumberland. The buildings surveyed are traditional farm buildings built from stone with slate and corrugated metal roofs and are Grade II listed.
- The proposals are to reroof and renovate the buildings as required.
- There is good feeding habitat within 25m of the site to the northwest in woodland that follows Harthope Burn that runs along the valley.
- The buildings are in a reasonable condition with an occasional gap under slates present. Evidence of bat droppings was located internally within open access sections of the buildings, giving a moderate risk that bats are present. Two emergence surveys were carried out to identify bat activity and to identify the type of roost present.
- The emergence surveys identified emerging Pipistrelle 45kHz bats in small numbers from the Rear Range during both surveys. Brown long-eared were present in the Cart Shed and Stable during the August survey only. In addition the occasional foraging Whiskered/Brandt's, Daubenton's and Pipistrelle 55kHz bats were identified during surveys.
- The proposals will affect several bat roosting locations in the buildings and will result in the loss of roosting crevices, if care is not taken. As the disturbance of a roosting place for bats is taking place the site will be registered under a Bat Mitigation Class Licence (Low Impact) from Natural England if bats are present, in the season of works. The occasional bat may also be present in any suitable crevice on the wall tops at any time of the year in small numbers. Timing of the roof works to avoid the hibernation period for all buildings will ensure that the development has as little negative affect on bat conservation status as possible.
- A tool box talk will be conducted prior to the removal of any roofing materials when a watching brief will also take place of the areas where bats may be present.
- Bat roost mitigation will be put in place with the provision of bat boxes which will be positioned on a tree to the south and bat crevices will be incorporated into the renovated building.
- The mitigation proposed will ensure that the development has as little negative affect on bat conservation status as possible and aims to meet Regulation 55(9)(a & b) and 55(2)(e)*
- **All contractors involved in the development will read the method statement, prior to commencing the work.**
- There were no traces of barn owls in or around the building. Any nesting bird species located during works will be allowed access to the nest until the young have fledged.

* The Conservation of Habitats & Species Regulations 2017. Regulation 55(9)(a) "*there is no satisfactory /alternative*", *55(9)(b) "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range" and 55(2)(e) "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".*

B. Introduction.

B1 Background.

Langleeford Barns, Langleeford are situated 7.5km to the southwest of Wooler, in Northumberland and are Grade II Listed. The buildings surveyed are traditional farm buildings built from stone with slate and corrugated metal roofs.

B2 Proposed Works.

The buildings will be renovated:

- The roof over the cart shed, the west face of the granary and stable, the rear range and the pig sty are all to be re-slated.
- The walls are to be subject to patch repointing and areas that are poor will be pointed.
- The granary and stable will be whitewashed.
- The wall heads to the wall at the metal roof shed to the west will be rebuilt.
- The window to the cart shed will be reinstated, doorways will have doors reinstated, and the open arches and doors ways to the rear range will have doors installed.

C. Survey and site assessment

C1 Pre-existing information on the species at the site.

There are no known pre-existing records on site.

C2 Status of species in the local/regional area.

Known bat activity in the area within 2km of the site is foraging bats of Pipistrelle sp., Natterer's, Pipistrelle 45kHz, Pipistrelle 55kHz and Whiskered/Brandt's species, all have been recorded along the track/road along the valley (Aug 2013), (ERIC North East). Pipistrelle 45kHz and Pipistrelle 55kHz were the only species recorded within 100m of the buildings.

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.

C2.1 Pipistrelle 45kHz Bats

Nationally - native and the most common bat throughout the United Kingdom. Population estimate for this species is UK 2,430,000*. In Northumberland the species is widespread and is the one bat that is most commonly found in the urban areas.

C2.2 Brown Long-eared Bats

Nationally – native and occasional bat throughout the United Kingdom. Population estimate for this species is UK 245,000*. In Northumberland the species is widespread and is a bat that is most commonly found close to woodland, roosting in dark lofts and buildings.

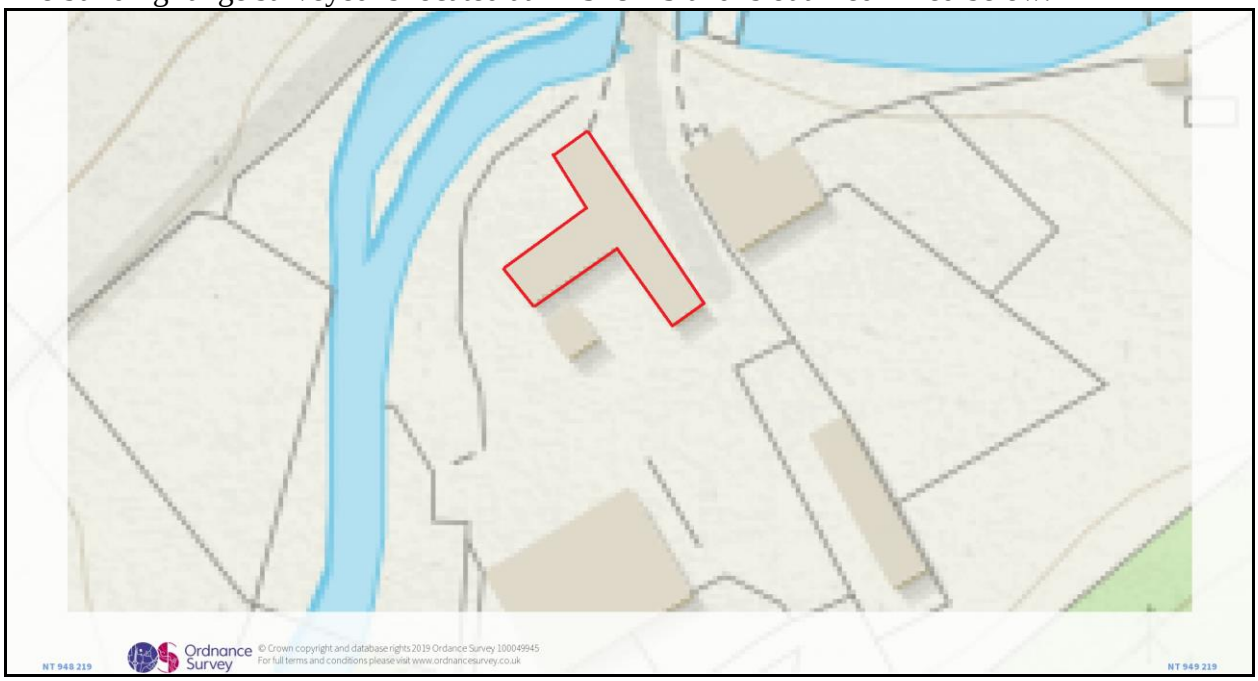
* *UK Mammals: Species Status and Population Trends*. JNCC/Tracking Mammals Partnership. 2005

C3 Objectives of survey

The survey was to determine as far as possible, the presence of barn owls, birds and bats including their roost sites in the buildings at Langleeford near Wooler affected by the proposals. The aim is to prevent any animal being physically harmed, to protect all roost sites where possible and to provide mitigation for the proposed development to maintain conservation status.

C4 Survey area Plan of Site – c. Scale 1:1250

The building range surveyed is located at NT948219 and is outlined in red below.



Photographs of the Site

Southwest wing of the barn viewed from the west.

Generator room viewed from the west.

Southwest wing of the barn viewed from the east.

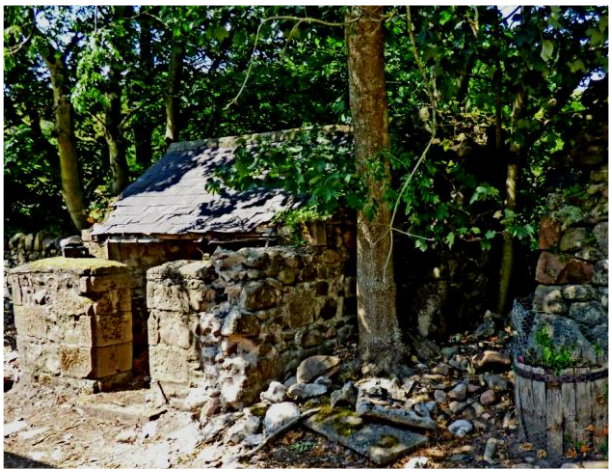
Southeast wing of the barns viewed from the east.

Pigsty from the southeast.

Southwest wing of the barn viewed from the south.

Southeast wing of the barn viewed from the south.

Generator room and southeast wing viewed from the north.



C5 Habitat description

Langleeford Barn, Langleeford is situated 7.5km to the south of Wooler in Northumberland. The site is surrounded by agricultural land consisting of semi-improved grassland with boundaries of fences. The area has excellent sheltered feeding and protection in the mixed woodland immediately surrounding site which would provide shelter and feeding corridors for bats leading away from the site to the north, east and southwest. The wooded banks of Harthope Burn designated as Tweed Catchment Rivers - England: Till Catchment run immediately north of the site through the woodland previously mentioned. The Cheviot SSSI surrounds the hamlet and is within 100m.

Foraging is available around Langleeford with some links to further feeding to the north, east and southwest. Bat roost potential is restricted to Langleeford, the scattered dwellings in the area and any suitable tree.

C6 Field Survey

C6.1 Visual Inspection

A close inspection of all the buildings were made in good light, and by torch where required. The interiors and exterior of the buildings were 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/slates. 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.

C6.2 Emergence Survey

As dusk fell 2 surveyors, each using visual observations and bat detectors (Echo Meter EM3 / Touch) and two-way radios, carried out the evening emergence surveys, covering all aspects of the buildings. As the site was more extensive than thought a bat recorder was placed to the northeast of the building to cover activity in that region. 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.

C6.4 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. Class Survey Licence CL15 2015-10388-CLS-CLS, (Volunteer Bat Roost Visitor Level 1).
Registered Consultant of the Bat Low Impact Class Licence. Reference number RC036
Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM
Ben Hadden - Class Survey Licence WML CL18 (Bat Survey Level 2). Registration number 2015-14223-CLS-CLS.

C6.5 Survey Summary

Survey	Date	Timings	Weather
Inspection	11 August 2018 &13 September 2018	Externally and internally on both visits (40min)	Fine and dry.
Emergence	11 August 2018	8.35-10.15pm (sunset 8.50pm)	Fine, cloudy and still. 14- 4 ˚C
Emergence	13 September 2018	7.15-9.00pm (sunset 7.29pm)	Fine, cloudy and slight breeze. 13-12 ˚C

C6.6 Constraints

The emergence surveys were carried out in the period for monitoring active bats including the maternity period. No cleaning of the floors or objects in the interiors had taken place and any recent droppings would not have deteriorated.

C7 Results

The buildings surveyed are a series of stone-built barns with pitched slate roofs on the southwest (Rear Range) and southeast wing with a corrugated metal roof on the generator section to the northwest. All sections are open access to some degree and bat droppings were found under the ridge of the Stable and Rear Range at the west gable wall. A wooden facia is present around the eaves of some of the buildings which provides suitable gaps for roosting bats. Please see Table 1 for further details.

No traces of bats were found externally.

Table 1 Observations

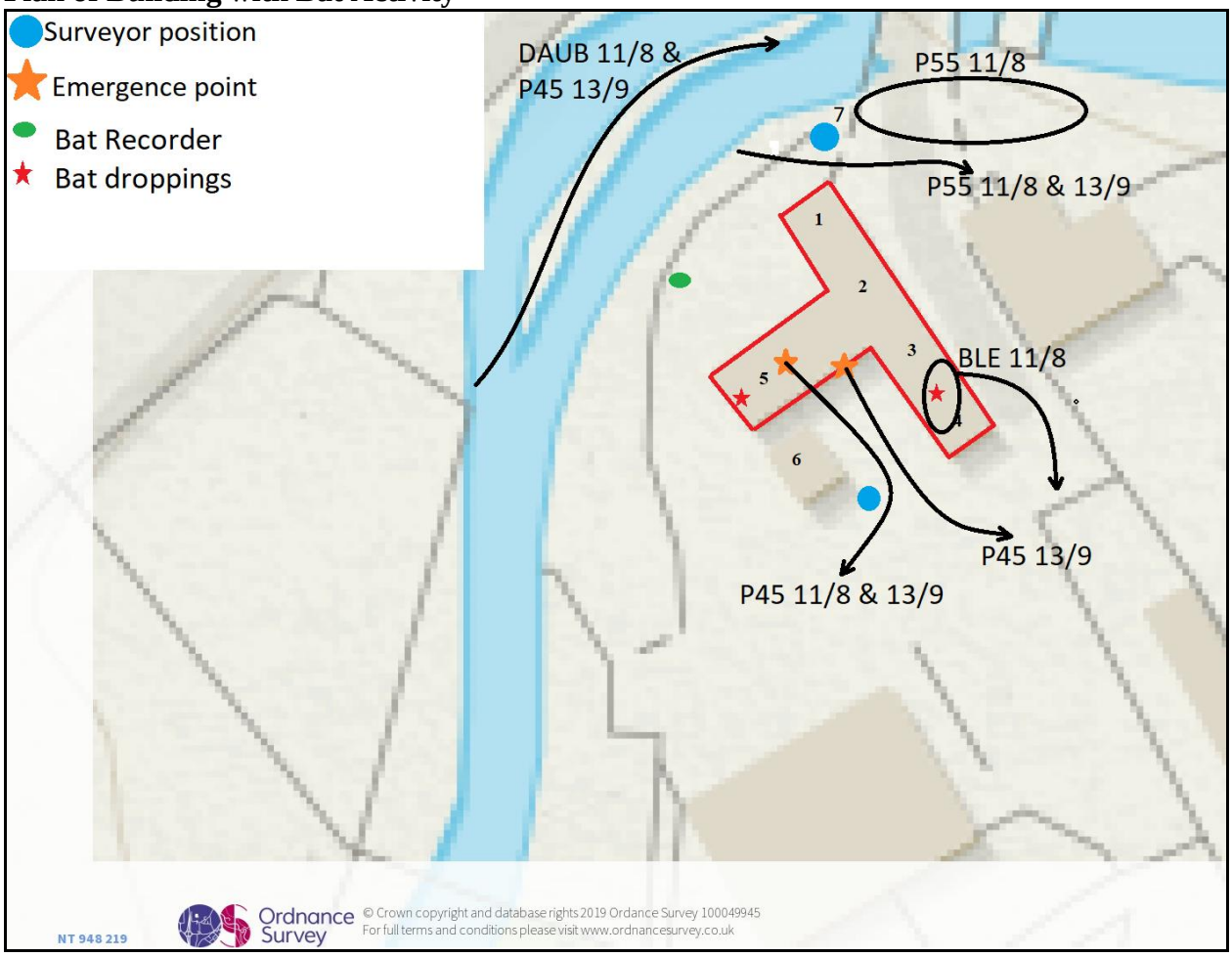
Building/ Section	Description	Comments
1 Generator	Stonewalls with corrugated metal roof Single storey with open wall tops. Doors left open.	No evidence of bats internally or emergence of bats. Swallow nests present.
2 Kennels/Granary	Stonewalls with a slate roof with no sarking on the west aspect, bitumen felt on the east aspect. Two storey, open walltops.	Butterfly wings present, no further evidence of bats internally or emergence of bats. Swallow nest present
3 Stables	Stonewalls with a slate roof with no sarking on the west aspect, bitumen felt on the east aspect. Two storey, open walltops.	Bat droppings beneath the ridge One Brown long-eared seen and emergence of bat. Swallow nest present
4 Cart Shed	Stonewalls with a slate roof with no sarking. Single storey, open walltops.	One Brown long-eared seen, open access due to open window.
5 Rear Range and Store	Stonewalls with a slate roof with torching. Single storey with open wall tops. Open access. Fascia present.	Small bat droppings located below the west gable wall. Pipistrelle 45kHz bats emerged from interior. Swallow nest present.
6 Lean-to Shed	Corrugated metal and wood lean-to on a L-shaped stone wall	No evidence of bats internally or emergence of bats.
7 Pigsty	Single storey, stone walls with slate roof.	No evidence of bats internally or emergence of bats.

The emergence surveys identified emerging Pipistrelle 45kHz in small numbers from the Rear Range (Building 5) during both surveys. Two Brown long-eared bats were present in the Cart Shed and Stable during the August survey only. In addition the occasional foraging Whiskered/Brandt's, Daubenton's and Pipistrelle 55kHz bats were identified during surveys. Please see the plan below and Table 2 for details.

Table 2 Emergence survey results.

Date	Bat Activity
11 August 2018	
8.50pm	Sunset.
8.57pm	**Pipistrelle 45kHz bat emerged from the Rear Range (Building 5) interior.**
9.00pm	Pipistrelle 55kHz bat commuted from west to east north of the site.
9.04-9.45pm	Pipistrelle 55kHz bat foraging intermittently north of the site.
9.13pm	Whiskered/Brandt's heard but not seen north of the site.
9.20pm	**2 Brown long-eared bats inside the stable and cart shed (Buildings 3 and 4).**
9.40pm	**Brown long-eared bat emerged from the stable and flew to the south.**
9.50pm	Daubenton's bat commuted along the burn north of the site.
9.54pm	Brown long-eared and Daubenton's bat heard but not seen to the southeast.
10.20pm	Survey concluded.
13 September 2018	
7.29pm	Sunset.
7.42pm	3 Pipistrelle 45kHz commuted from south to north past the site.
7.46-7.49pm	**2 Pipistrelle 45kHz bats emerged from the Rear Range (Building 5) interior.**
7.48pm	Pipistrelle 55kHz bat commuted from west to east north of the site.
7.49pm	**Pipistrelle 45kHz bat emerged from the eaves of Rear Range (Building 5)**
8.16pm	Daubenton's bat heard to the northwest.
9.00pm	Survey concluded.

Plan of Building with Bat Activity



Possible hibernation sites include any deep cavities, where present, in the walls of the buildings.

No evidence of barn owl was seen in the buildings inspected. Swallow nests were present in some sections of the buildings.

Interior of the south wall of the Stables

Bat droppings on objects below

Bat droppings in the Rear Range

Gable wall of the Rear Range, well-sealed from the exterior.

C8 Interpretation and evaluation

Bat presence and populations at certain times of year are only best estimates.

C8.1 Presence

Roosting Pipistrelle 45kHz and Brown long-eared bats are present in the buildings.

C8.2 Population size

Pipistrelle 45kHz < 4 bats
Brown long-eared < 3 bats

C8.3 Site status

The buildings due to be renovated have moderate conservation significance for bats as a roost site at present. The site appears to be used as a non-breeding roost and a day roost by two species. (the Brown long-eared bats were in two separate sections of building with no

interconnecting crevice of access point and were unlikely to be mother and pup). This assessment takes into account the good feeding habitat within 300m, the results of the inspection, survey and the potential of the buildings as a maternity bat roost site. The occasional male or non-breeding female bat may also be present on the gable wall tops where they may be present in any crevice at any time throughout the year.

D Impact assessment in absence of mitigation

D1 Short-term impacts

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 bats being located during works or entombed by inadvertently by the repointing.

Even with mitigation some disturbance will occur but carrying out the development in a less sensitive time of year will avoid disturbing hibernating bats. In the short term, the works will disturb any bats still present during the spring or autumn period.

D2 Long-term impacts: roost modifications - Not applicable.

D3 Long-term impacts: roost loss

The roosts in the buildings at Langleeford may be inadvertently lost when the building is renovated, when doors and windows are incorporated and repointing occurs.

D4 Long-term impacts: fragmentation and isolation

The proposals will not affect bat flight lines around the buildings and sheltered alcoves will still be present for foraging bats.

D5 Post-activity interference impacts

Any additional floodlights that would increase light levels and shine on any bat access points or foraging areas would be a high impact.

D6 Predicted scale of impact

The impact level on bats will be moderate on site, minimal in the county and at regional level without mitigation, however the proposed mitigation and compensation will reduce the impact level to minimal for any of the species present on site.

E Land ownership – Mitigation sites

E1 Mitigation site ownership

Mitigation will be carried out on this site, which is all in same ownership.

F References

Barn Owl Trust (2002), Barn Owls on Site. English Nature
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.

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-ornearwater.pdf
Joint Nature Conservancy Council (2004) The Bat Workers Manual. JNCC.
Institution of Lighting Professionals/Bat Conservation Trust (2018) Bats and artificial lighting in the UK, Guidance Note 08/18.

Bat boxes : www.nhbs.com/2f-schwegler-bat-box-general-purpose
Barn Owl Box : http://www.barnowltrust.org.uk/infopage.html?Id=41

SECTION 2
DELIVERY INFORMATION/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 demolition, timber 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 of Habitats and Species 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.

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.'

Identifying roosts
Pipistrelle the most common bat, favours small crevices and spaces between stonework, timber 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, that and 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 slates 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.

A Mitigation and compensation.

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

- Prior to the development two Schwegler 2F bat boxes will be erected on a tree to the north.
- Sensitive timing of any initial destructive roof works in spring to autumn to avoid hibernating bats for the stables and cart shed (Buildings 3 and 4). Allowances and timing for any active swallow nests to be made to avoid any disturbance.
- Contractor induction on bat presence, provide Method Statement to contractors;
- Bat licensee (licensed bat ecologist) will supervise the hand-removal of any roof materials wherever bats are likely to be present, when slates are removed.
- Advice given for the safe removal of any bats found from harm during the development under different weather conditions.
- Provision of bat crevices on the renovated building for crevice loving bats to be made and access incorporated to the interior for Brown long-eared bats and swallows.
- External lighting will be on a relatively short timer, directed downwards away from bat roost access points and flight paths and motion-sensitive only to large objects.
- Any nesting birds located during works will be allowed access to the nest until the young have fledged.

Architect
The bat provision specified below will be incorporated into the plans submitted to planning to prevent delays. This will show the location of the bat boxes and crevices to be created as in this report.

Timing
As a bat roost is present within the building being renovated the site will be registered by a consultant holding a Bat Mitigation Class Licence (Low Impact) from Natural England before the renovation can proceed. This is applied for after any necessary consents are granted and can take up to 2 weeks. Surveys have to be current in the season that work is planned.

Any development work on the buildings involving dismantling any brickwork and the removal of the existing roof materials will be carried out avoiding the hibernation period (November to March inclusive. Periods of cold weather (below 5ºC including night temperatures) will be avoided 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 when removing roof coverings, ridge slates, etc and may be found torpid on wall tops and in wall cavities if any. Table 1 below highlights where bats may be found and the recommendations.

Table 1 General Methodology for Repair Works

STRUCTURE	METHOD	INSPECT
Roofs	Remove any ridge tiles or slates by hand, lifting vertically to prevent any bats from being crushed. Removal of any timbers/beams. Avoid blocking any external pre-existing gaps by leaving 15 x 20+mm access point.	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 walls, by hand.	Examine for bat droppings and any wall cavities for bats.
Walls - Pointing	**Only point crevices where the full depth can be seen.** Leave two crevices per wall beneath the eaves that are 10cm deep and long and 2 to 1cm wide	Check deep crevices for the presence of bats using a torch.

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.

The same will apply 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.

B Works to be undertaken by the ecologist or suitably experienced person.

B1 Capture and exclusion

Only an ecologist licensed to handle bats will handle any bats found on site. Ruth Hadden or a suitable ecologist will brief the contractors and carry out a watching brief when any roof materials are removed affecting the bat roosts at the ridge, wall tops of Stables, Cart Shed or Rear Range (Buildings 3, 4 and 5).

If bats are located during the supervised works, the licensed bat handler will capture the bat with thinly gloved hands and place in a drawn-string cloth bag/small terrarium lined with paper kitchen towel enabling the bat to be conveyed to a bat box (locations as shown on plan at C1.4). Injured bats will be immediately taken into care. 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.

If any bat is found unexpectedly during operations the cavity will be recovered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance. Ruth Hadden or a suitably licensed ecologist will release any active bats handled in the previously erected bat box.

C works to be undertaken by the Developer/Landowner

C.1 Bat roosts

C1.1 In-situ retention of roost(s)

Bird Provision
Access will be created for nesting swallows. This can be a slot in the doors measuring c 225x75mm, allowing access to both bats and swallows. Please see plan below showing locations.

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. Pipistrelle bats, the commonest species, and Whiskered/Brandt's bats prefer to roost in small cavities/crevices often staying on top of the wall and do not enter the open roof spaces. Natterer's, and Brown long-eared bats also use crevices but will also use loft spaces.

A traditional bitumen felt or wood sarking that would give bats some grip will be used in the region of the 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 provision.**

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.

Any external lights will be set on a motion detector and short timer and be positioned pointing downwards 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.

C1.2 Modification of existing roost(s)

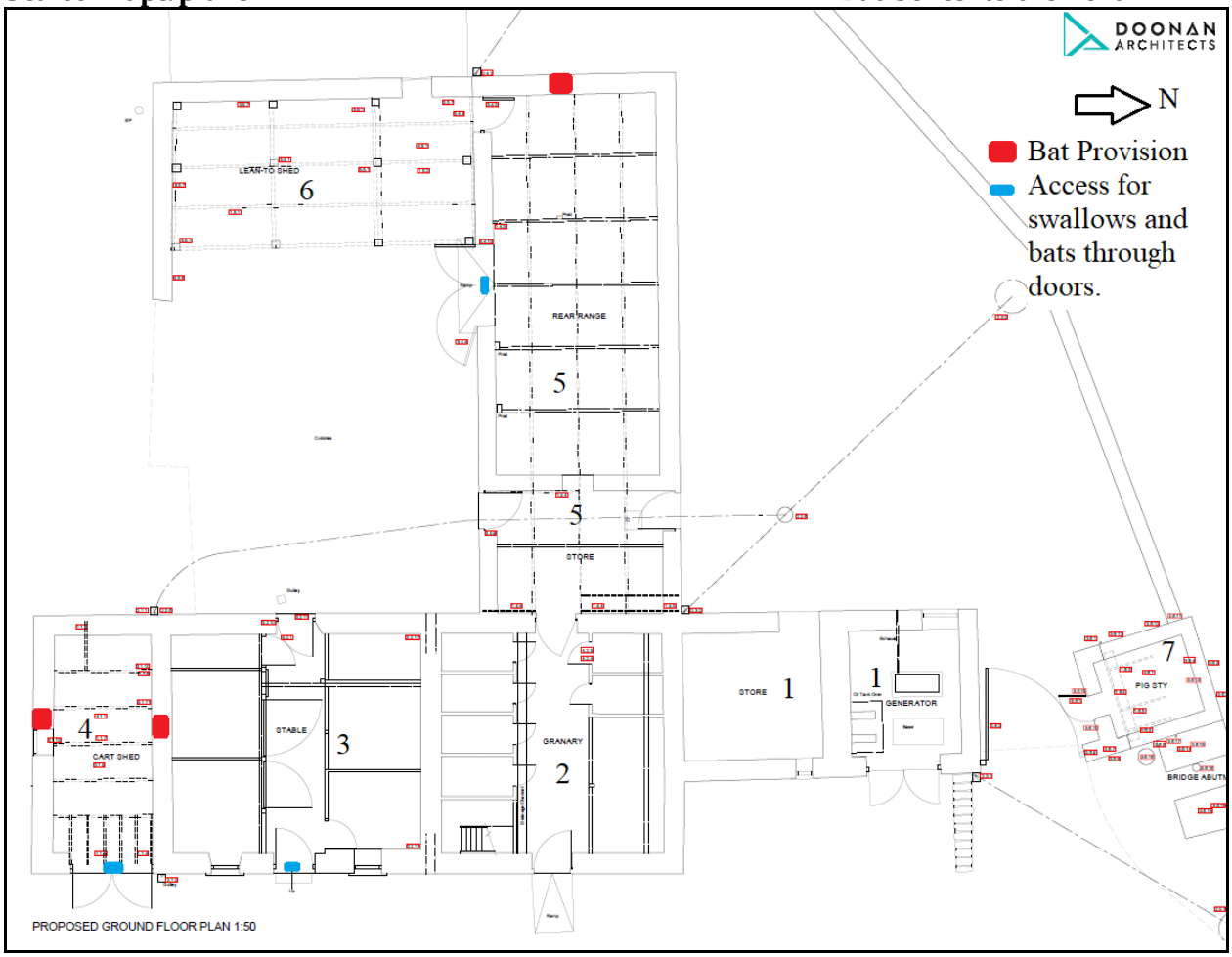
A crevice will be retained on the west gable wall top (southern aspect) of the Rear Range (Building 5) and the southern (west aspect) wall tops of the Stables and Cart Shed (Building 3 and 4 respectively) to provide roosting sites for crevice-loving bats. This will be in the form of an access gap measuring 20mm by at least 20mm created between the slates and the wall top from the interior into a larger crevice on the wall top below the water table, 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.

C1.3 New roost creation

Not applicable.

To ensure that bats have an alternative site available during the development two Schwegler 2F bat box will be erected on a tree to the north. The box will have an access gap of 15-20 mm wide and be permanently positioned to provide roosting places for bats, **prior to the development commencing**. The boxes will be positioned at a height of 3-4m on the southeast and southwest side with nothing obstructing the flight path. Please see plan at C.1.4 for location.

Scaled maps/plans **Bat boxes to the north ---->**



D Post-development site safeguard

D.1 Habitat/site management and maintenance

Any water tanks present in the buildings will be covered to prevent debris and bats from falling in.

D.2 Population Monitoring

Due to low bat activity on site, monitoring will be required for one year after completion 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.

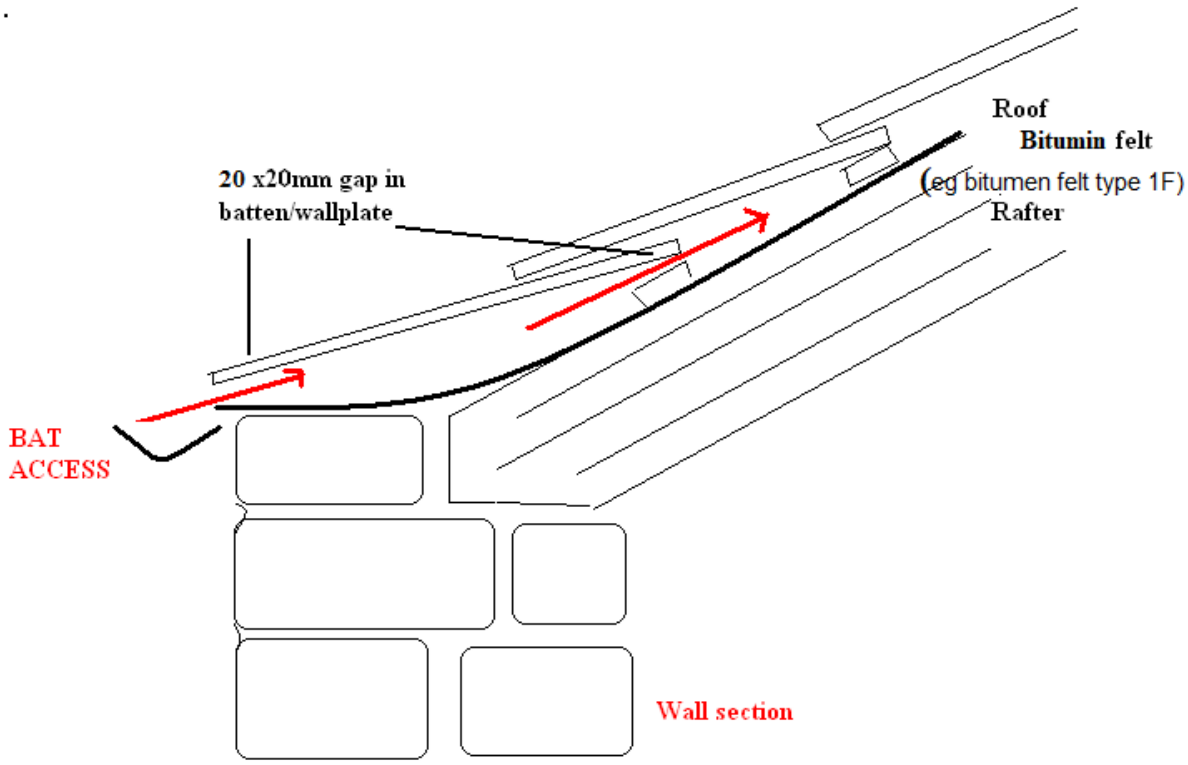
D.3 Mechanism for ensuring delivery

Bat mitigation as shown on the plans will be subject to the conditions of the grant and registration under a Natural England Mitigation Licence.

E Timetable of works

Not known at present.

Eaves Crevice Provision



Gable Wall Bat Crevice