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Ecological Consultants
Environmental and Rural Chartered Surveyors

BAT, BARN OWL & NESTING BIRD SURVEY AT

Petersburgh Farm, Beckermet, CA21 2XW

Green at Heart BEN GOLD

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Accuracy of report

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, bats, nesting birds and barn owls are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and or in their interaction with bat species, nesting birds and or barn owls. If bats, nesting birds or barn owls are found during a work programme and continuing the work programme could result in their disturbance, injury or death either directly or indirectly an offence may be committed.

These species may only be disturbed, injured or killed under licence.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

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Signed

Andrew Gardner BSc (Hons), MSc, MRICS, Dip NDEA
Director

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1. EXECUTIVE SUMMARY

It is understood that the barns at Petersburgh Farm, Beckermet, will be altered and converted to create additional residential accommodation.

A daytime inspection was undertaken on the 19th October 2023. This involved a close inspection of the buildings for signs of use by bats, barn owls and birds both internally and externally.

A desk study and data search were also undertaken to ensure the reasonable probable use of the site by bats, barn owls and nesting birds could be determined.

The habitat around the site offers a moderate potential for foraging being open and exposed with water bodies and woodland fragments. There is poor connectivity between the site and higher quality foraging areas.

Building 1 has a moderate to high potential for use by bats, barn owls, and nesting birds. Bat droppings were observed throughout the upper floor of the building. Barn owl feathers were also found on the second floor. The building has a moderate potential for nesting birds. Evidence of nesting birds was observed.

Building 2 has a low potential for use by bats and barn owls, and a moderate potential for use by nesting birds. Recent bird nests were observed in the building.

Building 3 has a moderate potential for use by bats, a high potential for use by barn owls, and a moderate potential for use by nesting birds. Some bat droppings were observed on the floor of this building, but scattered indicating use for feeding and not roosting. A barn owl roost was observed at the South end.

Building 4 has a moderate potential for use by bats, a high potential for use by barn owls, and a low potential for use by nesting birds. A barn owl was observed roosting in the building during the survey.

Building 5 has a low potential for use by bats, a high potential for use by barn owls, and a moderate potential for use by nesting birds. An owl box is situated in the Southern part of the building. Bird nests, not barn owl, were observed in both sections of the building.

Building 6 has a low potential for bats, barn owls, and nesting birds, however, for safety purposes, a full internal inspection was not possible.

On the basis of the survey work carried out, under guidance provided in respect of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and considering the plans for the site, it is considered that a Protected Species Mitigation Licence (PSML) for bats will not be required prior to works being carried out.

A mitigation strategy has been prepared and should be followed in order to ensure that the welfare of the local bat population and barn owls is maintained during, and following the works.

2. INTRODUCTION

2.1 Site Description

The site lies in a rural location 800m South of the village of Beckermet. The surveyed buildings comprise of three rendered barns under slate roofs, one stone-built barn and one small stone-built building under slate roofs, and one rendered building under a flat corrugated roof.

There is fragmented woodland in the local area but the site is in an exposed position at NY 02181 05947, Figure 1 and 2.

Figure 1

Ordnance Survey map of site location

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Site Boundary

Building Number

Figure 2

Site Boundary

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2.2 Proposed Works

It is proposed that the buildings are converted to form additional residential accommodation. There will be significant internal and external alteration to the area of the buildings affected.

The timing of work is unknown.

2.3 Aims of Study

To ensure that the proposed development does not affect any bat species, barn owls or nesting birds which are listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and or the Wildlife and Countryside Act (1981) (as amended) the survey will:-

- ⇒ Identify past and/or current use of the site by bat species, barn owls and nesting birds.
- ⇒ Assess the likely impact of the proposed development on these species.
- ⇒ Provide an outline mitigation/compensation scheme (if required) for bat species, barn owls and nesting birds affected by the development.

3. METHODOLOGY

3.1 Bats

3.1.1 Rationale of Survey

The methods used **comply with those described in** Hundt (2012) and Collins, J (ed) (2016). The following extracts from Collins, J (ed) (2016) are used to determine the appropriate level of survey in accordance with the guidelines.

Key point 1: Guidelines should be interpreted using professional expertise.

> *"The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement.*
>
> *Equally, it would be inappropriate for someone with no knowledge or experience to read these guidelines and expect to be able to design, carry out, interpret the results of and report on professional surveys as a result, simply following the guidelines without the ability to apply any professional judgement."* Section 1.1.3

Key point 2: Guidelines are descriptive rather than prescriptive and must be adapted on a case by case basis.

> *"The guidelines should be interpreted and adapted on a case-by case basis according o site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive."* Section 1.1.3

Key point 3: Surveys should be undertaken where it is reasonably likely bats are present and may be affected by the proposal. Where bats are not likely to be present and or will not be affected by the proposal, survey could but need not be undertaken.

> *"It is reasonable to request surveys where proposed activities are likely to negatively impact bats and their habitats. However, surveys should always be tailored to the predicted, specific impacts of the proposed activities (see Section 2.2.2). Excessive, speculative surveys are expensive and cause reputational damage to the ecological profession."* Section 2.1

Key point 4: Surveys should be proportionate to predicated impacts.

> *"When planning surveys it is important to take a proportionate approach. The type of survey (or suite of surveys) undertaken and the amount of effort expended should be proportionate to the predicted impacts of the proposed activities on bats. Clause 4.1.2 of BS42020 (BSI, 2013) states that 'professionals should take a proportionate approach to ensure that the provision of information with the (planning) application is appropriate to the environmental risk associated with the development and its location"* Section 2.2.5

3.1.2 Desk Study

"The aim of a desk study for bats is to collate and review existing information about a site and its surroundings to inform the design of subsequent bat surveys." Section 4.2.1

"As a minimum, it is recommended that background data searches should be carried out upto 2km from the proposed development boundary." Section 4.2.2

Key point 5: A records search was undertaken of the Envirotech dataset. No additional data searches were considered necessary at this site as the bat species likely to be found in the local area could be adequately determined from the records searched.

"The desk study records provide contextual information for the survey design stage as well as the evaluation of the survey results. They should be interpreted to identify:

- *If proposed activities are likely to impact on a SAC or the qualifying feature of a SAC (this may trigger the need for a HRA);*
- *If the proposed activities are likely to impact on other designated sites and thus require consultation with relevant bodies;*
- *Any species (or genera) confirmed/thought to be present;*
- *Any bat roosts that will be impacted (on or off-site);*
- *If it is likely that the CSZs of bats from roosts off-site will be impacted (see Section 3.7);*
- *If there are any rare species in the area that may require species-specific survey methodologies."* Section 4.2.3

Key point 6: Likely bat roosting and feeding sites on and adjacent to the site were identified from aerial photography and the use of Google Street View for ground level analysis. This allows us to identify habitat connectivity and potential foraging areas at a landscape level. We are also able to relate the results of the records search against habitat types and the species of bat which could and or are recorded in the local area. Identification of bat species which may occur locally allows for additional field based surveys to be correctly targeted.

3.1.3 Field Survey

Key Point 7: To ground truth the desktop data (Key point 5) a field assessment of habitat at and adjacent to the site was made. This allows us to cross check our interpretation of aerial photography with actual habitat on the ground. There is occasionally significant change between landscape detailed on aerial photographs and habitat on the ground. Buildings, hedgerows and roads may be built or removed. For example occasionally woodland is felled or has been replanted.

"A preliminary ecological appraisal for bats is a walkover of the proposed development site to observe, assess and record any habitats suitable for bats to roost, commute and forage both on site and in the surrounding area (it is important that connectivity within the landscape is also considered at this stage). The aim is to determine the suitability of a site for bats, to assess whether further bat surveys will be needed and how those surveys should safely be carried out." Section 4.3.1

Key point 8: A thorough inspection of the walls and eaves was undertaken using a torch and short focus binoculars to locate potential bat roosts. Gaps and cracks in the walls or under the eaves and soffits may provide access to the buildings by bats. Where possible all gaps and cracks

judged to be of a suitable size for bats to take entry to the buildings were inspected either from the ground or the top of a ladder. Where appropriate an endoscope was used to fully inspect these gaps internally.

Key Point 9: A thorough inspection of the roof was undertaken using a torch and short focus binoculars to locate potential bat roosts. Gaps under the roof coverings, ridge lines and flashing may provide suitable roost sites for bats. All gaps and cracks judged to be of a suitable size for bats to take entry to the buildings were inspected either from the ground or the top of a ladder. Using short focus high quality binoculars and a torch to illuminate any gaps underneath the roof coverings it is often possible to see residual evidence of bats such as droppings, scratch, grease and urine staining, lichen build-up from increase nutrient levels or bats themselves.

Key Point 10: A thorough inspection of the interior and exterior of the buildings to look for signs of bats such as grease or scratch marks, bat droppings and feeding detritus was made. Windows and or other items in and around the site were inspected for urine staining.

Key Point 11: A thorough search for detritus associated with bat feeding perches and roosts was undertaken. These roosts are usually in roof voids, under eaves and open buildings.

Key Point 12: Internal voids and rooms were assessed where it was considered bats may be able to take access. Indications of use such as grease and scratch marks, urine staining, droppings, desiccated young bats, dead bats in water tanks and cobweb free areas under the roof and roof supports were all assessed.

> *"The time needed for a preliminary roost assessment will vary according to the complexity of the structure and the number of ecologists deployed. Large structures with multiple roof spaces, multiple human access points and/or abundant voids and crevices will clearly take some time to understand and search thoroughly. Also, structures may contain several different bat roosts of different species each with their own access point and used at different times of the year. This all adds time to the survey."* Section 5.2.7

Key Point 13: It is the considered opinion of the surveyor who undertook this survey that the time taken to undertake the survey was sufficient given the complexity of the buildings, methods used, time of year and species of bat which may be present.

> *"If the structure has been classified as having low suitability for bats (see Table 4.1), an ecologist should make a professional judgement on how to proceed based on all of the evidence available.*
>
> *If sufficient areas (including voids, cracks and crevices) of a structure have been inspected and no evidence found (and is unlikely to have been removed by weather or cleaning or be hidden) then further surveys may not be appropriate.*
>
> *Information (photographs and detailed descriptions) should be presented in the survey report to justify this conclusion and the likelihood of bats being present at other times of the year estimated. If there is a reasonable likelihood that bat roosts could be present, and particularly if there are areas that are inaccessible for survey, then further surveys may be needed and these should be proportionate to the circumstances (see Section 2.2.5).*

If no suitable habitat for bats is found, then further surveys are not necessary. In this scenario, it is necessary to document how this decision has been reached; photographs and detailed descriptions should be made available as evidence of a robust survey and assessment." Section 5.2.9

Key Point 14: The suitability of a sites potential for roosting is categorised by BCT Collins, J (ed) (2016) as Negligible, Low, Moderate and High and then suggests a level of survey effort required to be confident in the absence of bats. We consider this range to be too course, there being a transition between each level of suitability which is not reflected in the guidelines. We have a modified schedule of suitability using a risk level between 0 and 7. See Key points 1, 2, 3, 4 and 13 which justify this approach.

Suitability Collins (2016)	Description Roosting habitats	Risk Level	Survey level
	Modified from Collins (2016)		
Negligible	No features on site which could be used by roosting bats.	0	No additional survey required
	Negligible habitat features on site likely to be used by roosting bats.	1	
	Features on site could only be used by bats occasionally, habitual use in or between years is unlikely	2	Surveyor to make judgement as to if additional surveys likely to provide useful information about the site. RAM's and provision of new roosting provision to be recommended
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically but no evidence of use found, could provide roost sites which are used in or between years.	3	
	One or more potential roost sites. Potential for habitual use in or between years. Unlikely to contribute to long term favourable conservation status of the species.	4	Single survey (dusk or dawn) at appropriate time of year May to August. Roosts are often transitional, surveys early and late in season may be appropriate (April and September)
	Potential for habitual use in or between years, roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). May be used for transitional or day roost sites by common bat species. Function likely to support favorable conservation status of bats locally.	5	Single survey (dusk or dawn) between May and August. Roosts are often transitional, surveys early and late in season may be appropriate. Consider additional survey in transitional period April and September
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	6	Two surveys (dusk or dawn) between May and August. Consider additional survey in transitional period April and September
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	7	Three surveys (at least one dawn) between May and August. Consider additional survey in transitional period April and September

Table 1 *Risk and need for additional survey following preliminary appraisal for bats.*

3.1.4 Timing

A table showing the timing of the survey in relation to the bat year is shown on Figure 3.

This site was assessed at the following period in the bat year. Some roost types can be clearly identified when not in use or can be inferred from habitat type/residual evidence.

Month of Year		Jan		Feb		Mar		Apr		May		June		July		Aug		Sep		Oct		Nov		Dec	
Survey timing at this site =		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐
		Hibernation; activity in mild weather						Becoming more active		Maternity sites. Babies born in late-May/June, independent by July-August						Mating & swarming sites						Hibernation; activity in mild weather			
Activity surveys																									
Inspection of buildings and structures for roosts																									
Tree Survey- Emergence or re-entry surveys																									
Tree Surveys- Observation from the ground																									
Bat detector surveys for dusk/dawn emergence/re-entry for	Transitional Roost																								
	Maternity roosts																								
	Satellite Roost																								
	Mating Roost																								
	Hibernation Roost																								
	Night Roost																								
	Day Roost																								
	Feeding Roost																								
	Swarming																								

Figure 3 *Survey timing in the bat year from Mitchell-Jones (2004).*

Date of visit		24th October 2023	Notes
Weather conditions	Cloud	100%	1
	Wind	Nil	1
	Rain	Intermittent light showers	1
	Temperature	14°C	1
Surveyors		AC	

Table 2 *Survey dates and times.*

1. Weather conditions were considered acceptable for a survey at the site given the potential for use of the site and species which may be present. Bats are usually active with temperatures above 7 degrees Celsius.

Surveyors

1. (AC) Miss Amy Cooke BSc (Hons)
   Natural England Bat Class Licence Agent (Level 1)

3.2 Barn Owls

3.2.1 Rationale

Shawyer (2011) states

> "Surveys are a sampling activity where discrete information is gathered from a specific site or wider area.
>
> They usually represent a single case study but can involve repeat visits to a site. A survey is distinguishable from monitoring which usually takes place at regular intervals, often yearly, the main aim of which is to investigate the progress of a research or conservation objective and may involve the study of population dynamics in the species concerned.

The purpose of this survey is, in accordance with Shawyer (2011) to determine the:

i. Distribution, abundance and breeding status of barn owls in the area of interest;
ii. Extent to which barn owls are likely to be affected by a proposed development, and where the presence of this bird has been confirmed;
iii. To enable an appropriate mitigation strategy to be designed and implemented.

In particular the survey is necessary for the purposes of:

i. Ensuring legal compliance;
ii. Determining a planning application;
iii. Avoiding the enforced cessation of development work should an active breeding site be discovered that would be directly or indirectly damaged or disturbed through continuance of the work.

3.2.2 Desk Study

Key Point 15: A desk study was conducted within 2km of the site. The purpose of this initial study was to assess the probability of barn owl occurrence on the site and to provide an estimate of its population size and relative abundance at the local, regional and national levels. This enables the significance of any adverse effect from a proposed development to be determined not only on the site itself but within the wider area and provides important guidance for any future mitigation strategy.

Key Point 16: Where the initial desk study has revealed a reasonable likelihood that barn owls may be present in the general area of interest (and in many rural areas of Britain this will be a high probability) or where a barn owl recovery programme is suspected or has been identified there, a field survey must then be undertaken.

3.2.3 Field Survey

Field surveys are essential to determine the full status of the species in the study area, the potential effect of the development and the mitigation, compensation or enhancement measures to be applied. They should aim to locate and confirm the distribution, abundance and

breeding status of barn owls as well as the relative importance of the habitats they utilise within the survey area.

Cavities, mostly those located in the main trunk or crown of mature hollow trees, provide almost one third of natural breeding sites in the UK Shawyer (2011). Fissures in rock faces, including quarries, make up a small proportion of other breeding sites, particularly in northern Britain.

3.2.3.1 Defining and recording a Potential Nest Site (PNS)

Key Point 17: Trees and built structures were observed at close quarters to establish if they possess any holes, cavities or chambers and where these were identified, using appropriate techniques, they were checked to determine if they were of a suitable size and structure to provide a suitable barn owl nest site. Only those sites which possess a hole of at least 80 mm diameter (about tennis ball size) or vertical slot of this width backed by a sufficiently large and dark chamber with a floor area greater than 250 mm x 250 mm, were recorded, as a Potential Nest Sites (PNS).

3.2.3.2 Defining and Recording an Active Roost Site (ARS)

Key Point 18: These are defined as a place at which breeding does not occur, but where the bird is seen or heard regularly or its current or recent presence (last 12 months) can be recognised by signs of thick, chalky-white, streaky droppings (commonly referred to as 'splashing', 'whitewash', 'mutes' or 'liming') which is usually accompanied by regurgitated pellets and moulted feathers. Pellets and feathers are diagnostic and provide evidence that the roost site is that of a barn owl rather than another bird of prey such as a kestrel (*Falco tinnunculus*), little owl (*Athene noctua*) or tawny owl (*Strix aluco*) which also excrete, projectile chalky-white droppings but whose feathers and pellets differ in appearance.

Key Point 19: Any ARS were recorded as being occasionally-used or regularly-used, depending on the number of pellets, droppings and feathers that are revealed at the site. ARS were also recorded as a winter, spring, autumn or summer roost. This can usually be determined by the age of pellets and the presence or absence of moulted wing and tail feathers at the site.

3.2.3.3 Defining and Recording a Temporary Rest Site (TRS)

Key Point 20: Small spots of thick, chalky cream-coloured droppings that can often be seen underneath a tree, in a building or on a fence post and which are sometimes accompanied by an occasional pellet or body feather, can indicate a temporary night-time stopping-off place of a barn owl. Although this level of observation is not an essential requirement of a barn owl survey, when these signs are identified they are best described and recorded as a Temporary Rest Site (TRS) rather than an ARS.

3.2.3.4 Confirming an Occupied Breeding Site (OBS)

Key Point 21: To confirm the presence of an Occupied Breeding Site (OBS), e.g. one where breeding was taking place or where it had done so in the recent past a detailed inspection of the PNS and ARS previously identified is carried out. This is accomplished by checking for the presence of adult barn owls, their moulted feathers, pellets, eggs, egg shells, chicks or down.

3.3 Nesting Birds

3.3.1 Rationale

The purpose of the survey is to determine the:

i. Distribution, abundance and breeding status of birds in the area of interest;
ii. Extent to which birds are likely to be affected by the proposed work; and where the presence of nesting birds has been confirmed;
iii. To enable an appropriate mitigation strategy to be designed and implemented.

In particular the survey is necessary for the purposes of:

i. Ensuring legal compliance;
ii. Determining a planning application;
iii. Avoiding the enforced cessation of development work should an active breeding site be discovered that would be directly damaged or disturbed through continuance of the work.

3.3.2 Desk Study

Key Point 22: A desk study was conducted for the area within 2km of the site. The purpose of this initial study was to assess the probability of nesting birds' occurrence on the site and to provide an estimate the population and relative abundance at the local, regional and national levels. This enables the significance of any adverse effect from a proposed development to be determined not only on the site itself but within the wider area and provides important guidance for any future mitigation strategy.

Key Point 23: Where the initial desk study has revealed a reasonable likelihood that nesting birds may be present in the general area of interest (and in many rural areas of Britain this will be a high probability) a field survey must then be undertaken.

3.3.3 Field Survey

Field surveys are essential to determine the full status of the species of nesting bird in the study area, the potential effect of the development and the mitigation, compensation or enhancement measures to be applied. They should aim to locate and confirm the distribution, abundance and breeding status of birds as well as the relative importance of the habitats they utilise within the survey area.

Key Point 24: Cavities, mostly those located in the main trunk or crown of mature hollow trees, gaps, cracks and the eaves and internal spaces of buildings, shrubs, scrub and hedges on and adjacent to the development area may all provide suitable nest sites. These were all inspected for indications of past or current nesting and roosting by birds. The species of bird and its relative abundance on site was also assessed were possible based upon droppings, nest shape, size and location, egg remains, feathers and birds seen on site which from their behaviour indicate nesting may occur.

4. DEFINITIONS

Definitions used in this report are detailed here, in reference to Hundt (2012) and Collins ed. (2016).

Building

A structure with walls and a roof, for example a residential property, block of flats, office block, warehouse, garden house, folly, barn, stable, lime kiln, tower, church, former military pill box, school, hospital or village hall. Some buildings have cellars (underground sites) beneath them.

Built structure

A structure that was made by humans but cannot be described as a building or as an underground site, for example a bridge, wall, monument, statue, free-standing chimney, or derelict building consisting only of walls.

Underground site

A human-made or natural structure that is entirely or partially underground, for example a cave, cellar, subterranean, mine, duct, tunnel, military bunker, well, or ice house.

Roost (breeding site / resting place)

The implementation of the EU Habitats Directive provides general definitions for breeding sites and resting places. For bats the two often overlap, which is why in many cases they are both referred to as roosts. Any interpretation of the terms 'breeding sites', 'resting places' and 'roosts' must take into account the prevailing conditions.

Natural England licensing guidelines (Natural England, 2011) discusses the age of roosts and mitigation requirements as well as the period of time bat roosts are protected when not used. The following is reproduced from this document.

> "Q. The development site ceased to be inhabited last year and it is prone to vandalism. I found evidence of a maternity roost but all current signs suggest that the site is now abandoned by bats. What should I mitigate for?
>
> Wildlife Advisers do not use a tightly defined period within which bat need to have used a structure beyond which it is no longer regarded as a bat roost. A structure can be regarded as a bat roost even if not knowingly occupied by bats for a year or two."
>
> The Method Statements mitigation should reflect compensation for a roost at its highest status within recent years. For example, meagre mitigation for an occasionally used, summer, non-maternity roost that had declined from a maternity roost as a result of human induced change to the roosts conditions e.g. vandalism, may not be acceptable to the Wildlife Adviser.
>
> A demolished structure, irrespective of its previous bat occupancy, clearly, ceases to be a bat roost. An intact structure without bat occupancy perhaps after a few years, and more assuredly after five years, also ceases to be a bat roost". [Emphasis added]

Natural England's guidelines are derived from the European Commission's Article 12 guidance on the definition of resting places for European Protected species.

European Commission (2021), section (54) and (59) state

> The 2021 guidance states of this offence: *"The protection applies all year round if these sites are used on a regular basis" (pg 32). It goes on to state: "Thus, it follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are used only occasionally or are even abandoned but where there is a reasonably high probability that the species concerned will return to these sites and places. If, for example, a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can reuse it in winter"* (pg 33).
>
> The guidance also states that breeding sites and resting places "that are used regularly either within or between years, must be protected even when not occupied" (pg 33 and pg 35).

Resting places: a definition

> Resting places are defined here as the areas essential to sustain an animal or group of animals when they are not active. For species that have a sessile stage, a resting place is defined as the site of attachment. Resting places will include structures created by animals to function as resting places, such as roosts, burrows or hides. Resting places that are used regularly, either within or between years, must be protected even when not occupied.
>
> Resting places essential for survival may include one or more structures and habitat features required for:
>
> 1. thermoregulatory behaviour, e.g. Lacerta agilis (sand lizard);
> 2. resting, sleeping or recuperation, e.g. Nyctalus leisleri (Leisler's bat) roosts;
> 3. hiding, protection or refuge, e.g. Macrothele calpeiana burrows; and
> 4. hibernation, e.g. bat dormitories, and Muscardinus avellanarius (common dormouse) hides.

It is clear that for a site to be classified as a roost when not occupied there must have been past habitual and the probability of future use within at least a two year period as defined as "within or between years".

European Commission (2021) summaries the requirement for the protection of resting sites thus

> "Breeding sites and resting places must be strictly protected because they are crucial to the life cycle of animals and are vital elements of a species' entire habitat. Article 12(1)(d) should therefore be understood as aiming to safeguard the continued ecological functionality of such sites and places, ensuring that they continue to provide all the elements needed by the animal to rest or to breed successfully. The protection applies all year round if these sites are used on a <u>regular basis</u>." [Emphasis added}

As the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 derives and is guided by legislation and guidelines issued by the European Commission, this definition is still valid within the transition period.

Summary

"Breeding site"

Breeding is defined here as mating, giving birth to young (including egg laying) or production of offspring where reproduction is asexual. A breeding site is defined here as the areas needed to mate and to give birth in, and covers also the vicinity of the nest or parturition site, where offspring are dependent on such sites. For some species, a breeding site will also include associated structures needed for territorial definition and defence. For species that reproduce asexually, a breeding site is defined as the area needed to produce offspring. Breeding sites that are used regularly, either within or between years, must be protected even when not occupied.

The breeding site may thus include areas required for:

1. courtship;
2. mating;
3. nest construction or selection of egg laying or parturition site;
4. places used for the purpose of parturition or egg laying or production of offspring where reproduction is asexual;
5. places of egg development and egg hatching;
6. nest or parturition sites when occupied by young dependent on that site; and
7. wider habitats that make reproduction successful, including feeding grounds.

Resting place

Resting places are defined here as the areas essential to sustain an animal or group of animals when they are not active. For species that have a sessile stage, a resting place is defined as the site of attachment. Resting places will include structures created by animals to function as resting places, such as roosts, burrows or hides. Resting places that are used regularly, either within or between years, must be protected even when not occupied.

1. Thermoregulatory behaviour
2. Resting, sleeping or recuperation
3. Hiding, protection or refuge
4. Hibernation

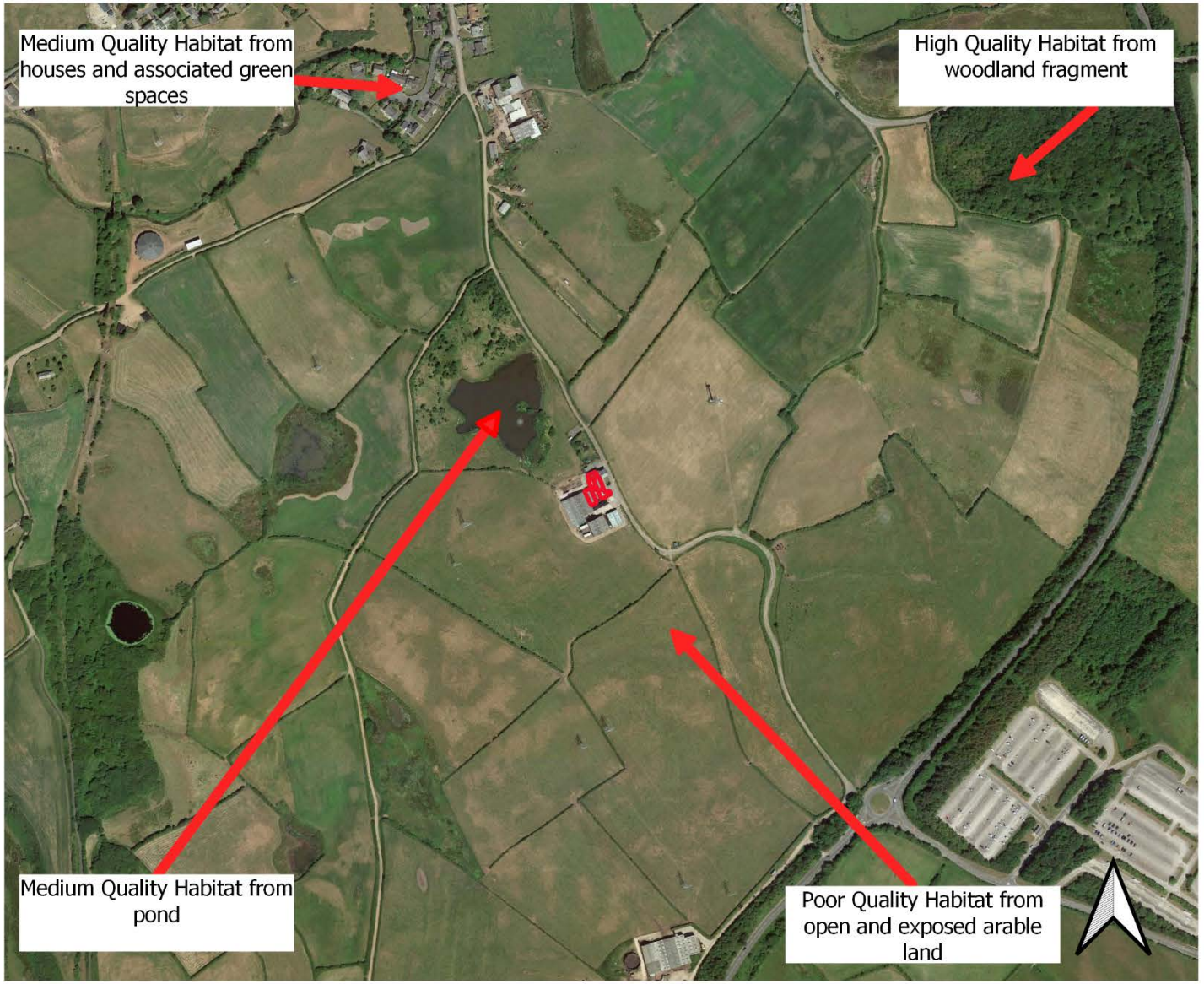
5. RESULTS

5.1 Desk Study

A search of the Envirotech dataset returned four records of three bat species within 2km but no records for the site.

Records are shown on Figure 4.

The habitat at and adjacent to the site was assessed from satellite imagery this was then ground truthed, Figure 5.



Site Boundary

Figure 5

Habitat Adjacent Site

envirotech

From the pre-existing records, a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur on or adjacent to the site and the rationale for this decision are detailed in Table 3. This assessment does not look at the roosting potential of the site. The assessment of bats which are indicated as potentially occurring on the site or local area is based on the initial largely desk based scoping survey. Additional site-specific assessment is provided later in this report. This assessment does however allow for the scope of site survey to be refined.

BAT SPECIES	ROOST PREFERENCE*			NICHE*	SUITABLE HABITAT		RECORDED WITHIN 2KM
	Crevice	Void	Tree		Locally	On site	
Common pipistrelle *Pipistrellus pipistrellus*	✓	×	✓	Generalist	☒	☒	☒
Soprano pipistrelle *Pipistrellus pygmaeus*	✓	×	✓	Riparian/Generalist	☒	☒	☐
Nathusius pipistrelle *Pipistrellus nathusii*	✓	×	✓	Enclosed woodland	☒	☐	☐
Brown long-eared *Plecotus auritus*	×	✓	✓	Enclosed woodland	☒	☐	☒
Whiskered *Myotis mystacinus*	✓	✓	✓	Linear vegetation	☒	☐	☐
Brandt's *Myotis brandtii*	✓	✓	✓	Linear vegetation	☒	☐	☐
Natterer's *Myotis nattereri*	×	✓	✓	Enclosed riparian	☒	☐	☐
Daubenton's *Myotis daubentonii*	✓	×	✓	Open aquatic	☒	☐	☐
Alcathoe's *Myotis alcathoe*	×	×	✓	Enclosed woodland	☒	☐	☐
Noctule *Nyctalus noctula*	×	×	✓	Above woodland/water	☒	☐	☐

Table 3 *Bat species whose geographical range extends to the region in which the site is located. *Typically, but not exclusively.*

Barn Owls

There are no records of barn owls within 2km of the site on the Envirotech datasets. The habitat around the site appears to be suitable for hunting barn owls as there are areas of rough grassland which are suitable for voles and other small mammal prey. A barn owl was observed on site during the survey in building 4, and is known to utilise the bat box in building 5, and an evident roost in building 3.

Birds

The surrounding habitat would offer suitable nesting and foraging areas for birds. Birds reliant upon buildings for nesting such as swallow are likely to occur at high densities on site due to the provision of multiple farm buildings. The ground surrounding would be ideal for large numbers of invertebrates.

5.2 Field Survey

5.2.1 Habitat Description

The habitat on and adjacent to the site identified from satellite images was ground truthed. Details of the habitats found on and adjacent to the site are detailed in Figure 5.

It is judged that the most suitable commuting route for bats into and out of the site is the road adjacent to the site that runs North-west to South-east and connects the site to wet areas, and woodland fragments. The surrounding habitat is considered to have moderate foraging potential.

The site is considered to offer moderate foraging opportunities. There are animal manures associated with the surrounding land, however, there is limited vegetative diversity around the buildings which are in an exposed location.

5.2.2 Bat Roost Survey

5.2.2.1 General description

There are six buildings on site which are included in the proposal. These comprise of three rendered barns under slate roofs, one stone-built barn under a slate roof, a small stone-built building under a slate roof, and a rendered building under a flat corrugated roof.

5.2.3 Building 1

5.2.3.1 External walls/ Eaves

The walls of the building are rendered and are in excellent condition with no gaps or cracks in the rendering. There are decorative spaces in the walls on the upper storey which may act as access points for bats and small nesting birds, such as swallows.

There are no soffit or eaves boards, but under the eaves are well sealed. There were no indications of roosting by bats in these areas.

5.2.3.2 Roof

The roof of the building is made from slate and is lined. The slates were in excellent condition

and non were raised over either roof pitch. The ridgeline was also in excellent condition with no gaps. The roof was assessed from the ground with close focus binoculars and a 1,000,000-candle power torch. Some bat droppings were observed scattered throughout the first-floor of the building. These could not be correlated to a roost site but were too numerous to be solely from flight droppings/ foraging bats.

5.2.3.3 Internal walls

The internal walls of the barn are available to roosting bats as there are decorative gaps along the East-facing walls which extend into the building. The North wall has some gaps towards the tops of the wall which may be suitable for roosting bats.

5.2.3.4 Roof Voids/ Roof structure

There were no roof voids in the building. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. The roof of the first floor is flat and wooden as it is the floor of the first floor. No bats were observed to be roosting within the building on either floor at the time of the survey.

5.2.3.5 Summary

To summarise the building is of moderate size and the external walls are in excellent condition. The eaves lines are well-sealed. There are no roof voids, but the beams in the roof are in excellent condition. The roof coverings are in excellent condition with no raised slates. Overall, this building has moderate potential for use by bats, our categorisation would be 6. Further details of our categorisation can be found in Table 1.

5.2.4 Building 2

5.2.4.1 External walls/ Eaves

The walls of the building are rendered and are in excellent condition. There is one gap on the East-facing wall of the building just below the wall top.

There are no soffit or eaves boards, small gaps from under the corrugations do however extend over the eaves into the roof. There were no indications of roosting by bats in these areas.

5.2.4.2 Roof

The roof of the building is flat, made from corrugated material, and is unlined. The roof was assessed from the ground with close focus binoculars and a 1,000,000-candle power torch. No indications of use by bats could be found. As the roof is unlined any use of the roof would also result in droppings being deposited internally.

5.2.4.3 Internal walls

The internal walls of the building are available to roosting bats due to the gaps under the eaves.

5.2.4.4 Roof Voids/ Roof structure

Due to the flat roof, there are no roof voids. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. Due to

the unlined roof, any droppings would have been deposited internally. No indications of use by bats could be found.

5.2.4.5 Summary

To summarise the building is of moderate size and the external walls are in excellent condition. The eaves lines have small gaps over them which are draughty and cold. The roof voids are also draughty and there is a good covering of cobwebs in them. Small gaps under the roof coverings had no indication of use by bats but are shallow and exposed. Overall, this building has negligible potential for use by bats, our categorisation would be 2. Further details of our categorisation can be found in Table 1.

5.2.5 Building 3

5.2.5.1 External walls/ Eaves

The walls of the building are made from natural stone and are in good condition. There are some gaps between the stones where the mortar is missing. There are evenly spaced gaps along the East-facing wall which are likely for ventilation.

There are no soffit or eaves boards, under the eaves were well-sealed. There were no indications of roosting by bats in these areas.

5.2.5.2 Roof

The roof of the building is made from slate and is lined. There are several raised slates over both roof pitches, and there is a large gap under a section of the ridgeline where the mortar is missing and it appears that the ridgeline has risen and the slates slipped. The roof was assessed from the ground with close focus binoculars and a 1,000,000-candle power torch. Several bat droppings were observed scattered intermittently over the floor throughout the building, indicating use of the barn for feeding rather than roosting.

5.2.5.3 Internal walls

The internal walls of the building are available to roosting bats due to the gaps in the wall that are likely for ventilation.

5.2.5.4 Roof Voids/ Roof structure

There are no roof voids. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. No indications of use by bats could be found.

5.2.5.5 Summary

To summarise the building is of moderate size and the external walls are in good condition with some gaps and cracks, and holes for ventilation. The eaves lines are well sealed and the roof is lined. There are several gaps under the roof coverings, and a large gap under the ridgeline, none of which had any indication of use by bats. Overall, this building has low potential for use by bats, our categorisation would be 5. Further details of our categorisation can be found in Table 1.

5.2.6 Building 4

5.2.6.1 External walls/ Eaves

The walls of the building are stone and are in moderate condition with gaps and cracks between the stones where the mortar is missing. There is a gap/window with no glass, and a gap at the top of the door. There were no indications of roosting by bats in these areas.

There are no soffit or eaves boards, and no gaps were observed extending under the eaves into the building.

5.2.6.2 Roof

The roof of the building is made from slate and is in excellent condition with no raised tiles. There is one missing slate, but the gap where it once was is shallow and exposed and had no indication of use by bats. The roof was assessed from the ground with close focus binoculars and a 1,000,000-candle power torch. No indications of use by bats could be found.

5.2.6.3 Internal walls

The internal walls of the building are available to roosting bats due to the gaps in the walls and around the door.

5.2.6.4 Roof Voids/ Roof structure

There are no roof voids. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. No indications of use by bats could be found.

5.2.6.5 Summary

To summarise the building is small and the external walls are in moderate condition. The eaves lines are well sealed. There are no roof voids, and the and the roof is lined. The roof tiles are in excellent condition, with only one missing covering causing a small, shallow gap which showed no signs of use by bats. Overall, this building has a low potential for use by bats, our categorisation would be 4. Further details of our categorisation can be found in Table 1.

5.2.7 Building 5

5.2.7.1 External walls/ Eaves

The walls of the building are rendered and are in excellent condition. There is one crack on the pillar between the two entrances which is not wide enough or deep enough for use by bats.

There are no soffit or eaves boards, but under the eaves is well-sealed. There were no indications of roosting by bats in these areas.

5.2.7.2 Roof

The roof of the building is slate and in excellent condition. The roof was assessed from the ground with close focus binoculars and a 1,000,000-candle power torch. No indications of use by bats could be found.

5.2.7.3 Internal walls

The internal walls of the building are available to roosting bats due to the permanently open entryways.

5.2.7.4 Roof Voids/ Roof structure

There are no roof voids. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. No indications of use by bats could be found.

5.2.7.5 Summary

To summarise the building is of moderate size and the external walls are in excellent condition. The eaves lines are well-sealed. There are no roof voids. The roof coverings are in excellent condition. Overall, this building has a low potential for use by bats, our categorisation would be 3. Further details of our categorisation can be found in Table 1.

5.2.8 Building 6

5.2.8.1 External walls/ Eaves

The walls of the building are rendered and are in excellent condition with no gaps or cracks.

There are no soffit or eaves boards, and under the eaves is well-sealed. There were no indications of roosting by bats in these areas.

5.2.8.2 Roof

The roof of the building is slate and in excellent condition. It is lined, and there are no raised tiles. The roof was assessed from the ground with close focus binoculars and a 1,000,000-candle power torch. No indications of use by bats could be found.

5.2.8.3 Internal walls

The internal walls of the building are available to roosting bats through the trapdoor from the ground-floor up to the first floor.

5.2.8.4 Roof Voids/ Roof structure

There are no roof voids. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. The roof of the ground floor is flat and wooden as it is the floor of the first floor. No indications of use by bats could be found on either floor.

5.2.8.5 Summary

To summarise the building is of moderate size and the external walls are in excellent condition. The eaves lines are well-sealed. There are no roof voids. The roof coverings are in excellent condition with no raised slates. The floor of the first floor could not be thoroughly assessed due to safety reasons. Overall, this building has low potential for use by bats, our categorisation would be 5. Further details of our categorisation can be found in Table 1.

5.2.9 Barn Owls

5.2.9.1 Potential Nest Sites (PNS)

There is one confirmed nesting site in building 5 in the owl nesting box. The site owner confirmed the box has been an active nesting site "for years".

5.2.9.2 Active Roost Sites (ARS)

Aside from the nesting box, one other roost site was identified through "white wash" and significant collections of fresh barn owl pellets on the floor and on surfaces inside the building, confirming that barn owls have an active roost site within the buildings. A small amount of white was observed in the North end of building 1, along with some barn owl feathers.

A barn owl was observed roosting in building 4 during the survey, confirming another roost site. There was not as much white wash or as many pellets observed in this building.

5.2.9.3 Temporary Roost Sites (TRS)

There was "white wash" and or old barn owl pellets on the floors or on surfaces inside three of the buildings (1, 3, 4, & 5) which suggest that barn owls have a temporary roost site within the buildings.

5.2.9.4 Occupied Breeding Sites (OBS)

There were significant collections of barn owl pellets, chick down, chick leg bones, "white wash", moulted feathers indicating an occupied breeding site in building 5 below the nesting box. However, the survey was undertaken outside of the nesting season and the chicks from this year had fledged and were not present during the survey.

5.2.10 Nesting birds

Several swallow nests were found around the site in all the buildings. The nests were all found to be vacant at the time of the survey.

Overall, it was considered that the building offers good nesting potential for birds due to the feeding opportunities adjacent to the site.

6. CONSTRAINTS

6.1 Bats

We judge that the site survey is not sufficient to address the risk to bats at the site based on the species present in the local area, construction of the buildings and nature of the proposed work. The level of survey effort does not yet accord with the recommendations of Collins ed. (2016). The reasonable probable use of the site by bats has not been determined, and further surveys are required.

6.2 Barn Owls

Surveys were undertaken outside the nesting season but this is not considered to be a significant constraint as the nest site was still identifiable and site conditions are not likely to have changed since the previous breeding season.

6.3 Nesting Birds

Surveys were undertaken outside the nesting season but this is not considered to be a significant constraint as old nest sites were still identifiable and site conditions are not likely to have changed since the previous breeding season.

7. INTERPRETATION

7.1 Presence / absence

One potential bat roosting site was identified during the survey in building 1 where there were groups of droppings clustered together. There were signs of feeding activity in several of the other buildings.

We cannot yet determine the level of use of the buildings for roosting bats. It is not yet known whether the buildings are essential for species survival.

7.2 Population size class assessment

From a review of adjacent habitat, the maximum number of bats that are likely to use an area within 250m of the site is of the magnitude 10 – 99 (medium).

Barn owls are currently considered to be present. The site can be considered significant for Barn owls.

There was indication of recent use of the site by nesting birds.

7.3 Site status assessment

Whilst the site itself is likely to be used as a roost by bats, there is also use of the adjacent landscape. Bats are likely to rely on some roost sites in buildings and trees in the local area. It is currently unknown what the significance of the site is to bats. We cannot yet judge whether the Continued Ecological Functionality of the site is likely to be affected as a result of the proposal.

We are of the opinion that the buildings are currently used by barn owls and have a moderate-high significance for this species.

The buildings may be used by a low to moderate number of swallows and other nesting birds. The buildings are however not likely to have a high significance for these species.

8. POTENTIAL IMPACTS

8.1 Bat Roosts

8.1.1 Pre- and mid-activity impacts

A worst case scenario will be considered in addressing potential impacts at the site without mitigation.

8.1.1.1 Maternity Roosts

No signs of past maternity or gathering roosts were found at the site during the survey. The potential for a maternity or gathering roost in the buildings is judged to be very low due to the absence of highly suitable roost sites. Evidence of past use of the site by large numbers of bats such as would occur in a maternity or gathering roost, such as staining on the roof or walls, was absent. Evidence of intensive/ regular use such as occurs in such roosts can usually be found at any time of year. **We judge there is no risk to a maternity colony or gathering roost at this site from the proposed work.**

8.1.1.2 Satellite Roosts

We do not consider that satellite roosts will be affected by the proposal. We consider the local environs are unlikely to support linked maternity roosts. There was no indication of elevated use of the site such as would occur if this roost type were present. **We judge there is no risk to a satellite roost at this site from the proposed work.**

8.1.1.3 Transitional and day roost sites

We judge there may be a risk of disturbing bats in or loss of transitional or day roost sites. We cannot yet judge whether it is likely this sites potential for use for these purposes will be degraded by the proposed work. There are, however, likely to be other sites in other buildings and trees in the wider area. The buildings may offer significant roosting potential, but emergence surveys are required to determine this.

8.1.1.4 Night Roosts

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for night roosting.

8.1.1.5 Feeding roosts

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for feeding roosts.

8.1.1.6 Lek sites

In our experience lek sites are commonly found in proximity to the main feeding and commuting routes. The primary commuting and feeding area at the site was judged to be the woodland some distance from the site to the West. There were no potential lek sites identified in the buildings facing this commuting route which are also close enough to it to be used by male bats for leks. It is therefore unlikely there will be use of the buildings by bats for lekking.

8.1.1.7 Hibernation

There are no areas of rotten wood in the buildings and or damp walls which also offer crevices which could be suitable for hibernating *Pipistrelle* spp. bats.

There are no areas of the buildings which are sufficiently damp, cool and darkened which would be ideal for hibernating *Myotis* spp. bats. There is very little evidence and limited potential for hibernation at the site; it is therefore unlikely there will be loss of hibernation sites.

8.1.1.8 Swarming

There is unlikely to be any loss of a swarming site. Swarming sites are generally found at or near hibernation sites. We judge that the site is unlikely to be used by *Myotis* spp. bats and brown long-eared bats which have been known to swarm as there are no hibernation sites for these species in the buildings.

8.1.1.9 Summary

Without further surveys, the potential for the alteration or loss of occasional, unconfirmed roost sites for bats at the site cannot be judged, nor can the impact on their local distribution.

8.1.2 Long term impacts

The long-term risk on the favourable conservation status of bats in the local area as a result of the proposed work is thus far unknown, and further emergence surveys are required to determine this. However, with precautionary mitigation strategies regardless of the results of the emergence surveys, it is possible the risk to bats can be reduced.

8.1.3 Post activity interference impacts

The disturbance to roosting bats during the post construction phase of the project cannot yet be determined. However, there is already significant disturbance at the site from existing use of the site and surrounds, and it is possible that the change of use may result in less disturbance.

8.1.4 Other impacts

It is our opinion that there will be no significant other negative impacts relating to the proposed work which may affect bat species.

8.1.5 Bat Foraging and Commuting Habitat

There is unlikely to be a disruption to any commuting routes at the site. The site does not lie on or near to a high-quality commuting route.

There is unlikely to be a disturbance to feeding bats during and after the construction phase of the project. It is judged that the foraging areas near the site will be unaffected by the proposed work.

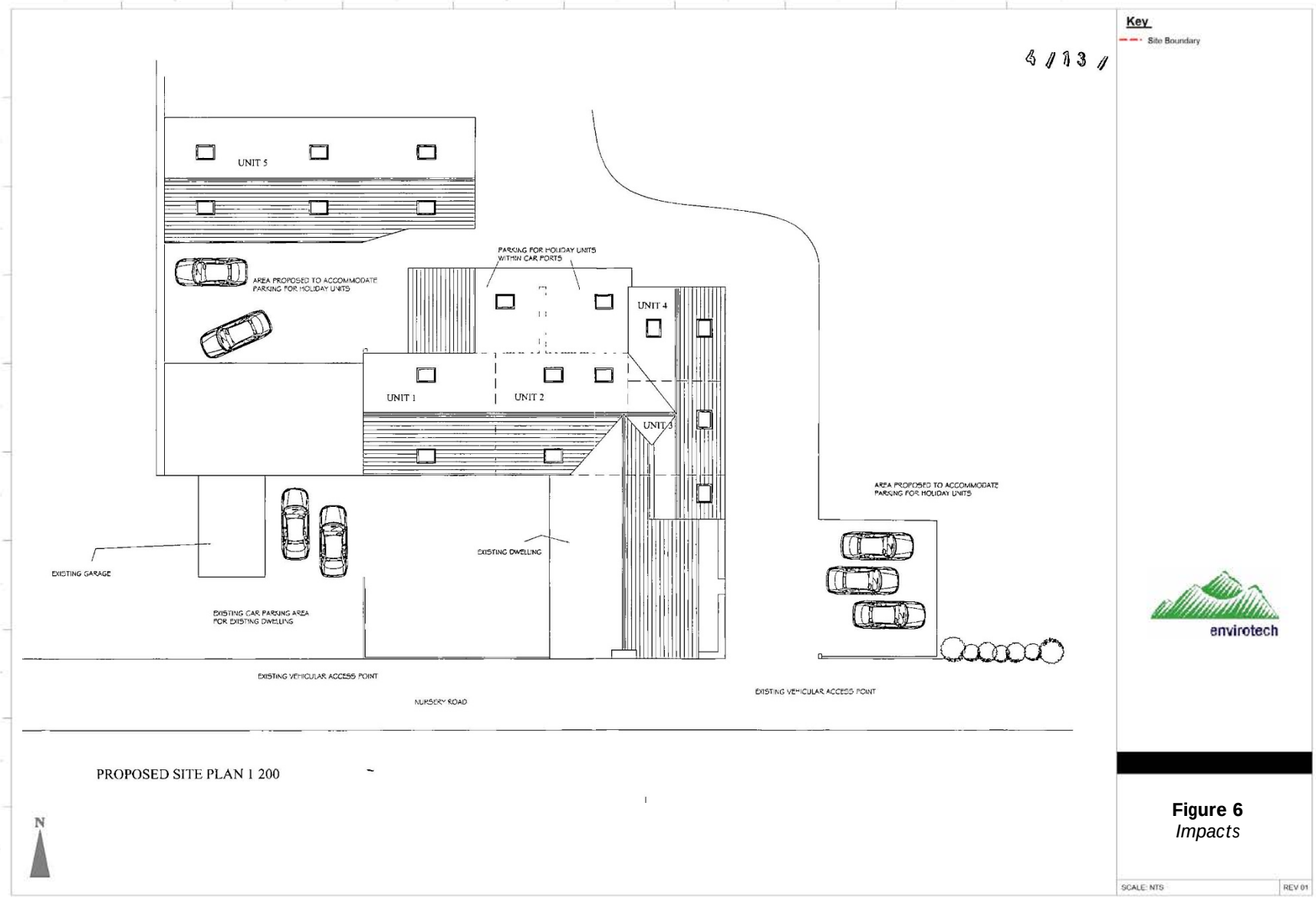


Figure 6
Impacts

8.2 Barn Owls

There is a high potential for use of the site by barn owls. There is one confirmed nest site in building 5 which indicates both past and recent use.

8.3 Nesting birds

A number of old swallow and other bird nest sites were found at the site. There is the potential for a disturbance to nesting birds during the construction phase. It is unlikely that the loss of potential nest sites would have significant long-term impacts on local bird populations. The habitat around the site is open and exposed; it offers low quality foraging opportunities.

9. RECOMMENDATIONS AND MITIGATION

9.1 Further Survey

We consider that the risk to bats in the buildings is moderate to high, and additional survey work is required prior to the determination of the commencement of work.

The site should be rechecked for nesting birds if work is to commence in the period March-September inclusive.

9.2 Mitigation Measures

9.2.1 Bats

Natural England requires that mitigation addresses the impacts picked up by the site assessment, as follows: -

- Quantitative characteristics: There should be no net loss of roost sites, and in fact where significant impacts are predicted there will be an expectation that compensation will provide an enhanced resource compared with that to be lost. The reasoning behind this concept is that the acceptability of newly created roosts by bats is not predictable.

- Qualitative characteristics: the plans should aim to replace like with like. As an extreme example, it would be unacceptable to replace maternity roosts with hibernation sites.

- Functional characteristics: compensation should aim to ensure that the affected bat population can function as before. This may require attention to the environment around the roost.

Natural England also recommends that precautions are taken to avoid the deliberate killing or injury of bats during development work at the site.

The site survey found evidence of habitual use of the buildings by roosting bats in or between years.

9.2.1.1 Bat Roosts

As a precautionary approach the following guidelines will be adhered to.

1. All contractors on the site will be made aware of the possible presence of bats prior to the commencement of work.

2. Contractors will be provided with the contact details of an appropriately qualified individual who can provide advice in relation to bats at any time during work. In the event that bats are found during work, unless the action has already been cleared by a suitably qualified individual, **all work will cease** and an appropriately qualified individual will be contacted for further advice.

3. Contractors will be observant during demolition work for bats which may use the buildings if new areas of the roof are exposed and left open overnight. Bats are opportunistic and may make use of gaps opened up during work overnight.

4. If it is necessary to remove a bat to avoid it being harmed, gloves should be worn. It should be carefully caught in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the building, with outside access, and placed in a location safe from predators.

5. **If bats or bat roosts are found during work, all work should cease**. The site will need to be re-assessed in regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of roost site.

6. Remove all roof coverings by hand only.

7. Retain at least 8 gaps along the eaves lines of the buildings which allow access to the wall tops under the eaves during any re-roofing which is undertaken. A plan for this type of roost is shown on Figure 7. These potential roost sites will be a significant improvement on existing site conditions.

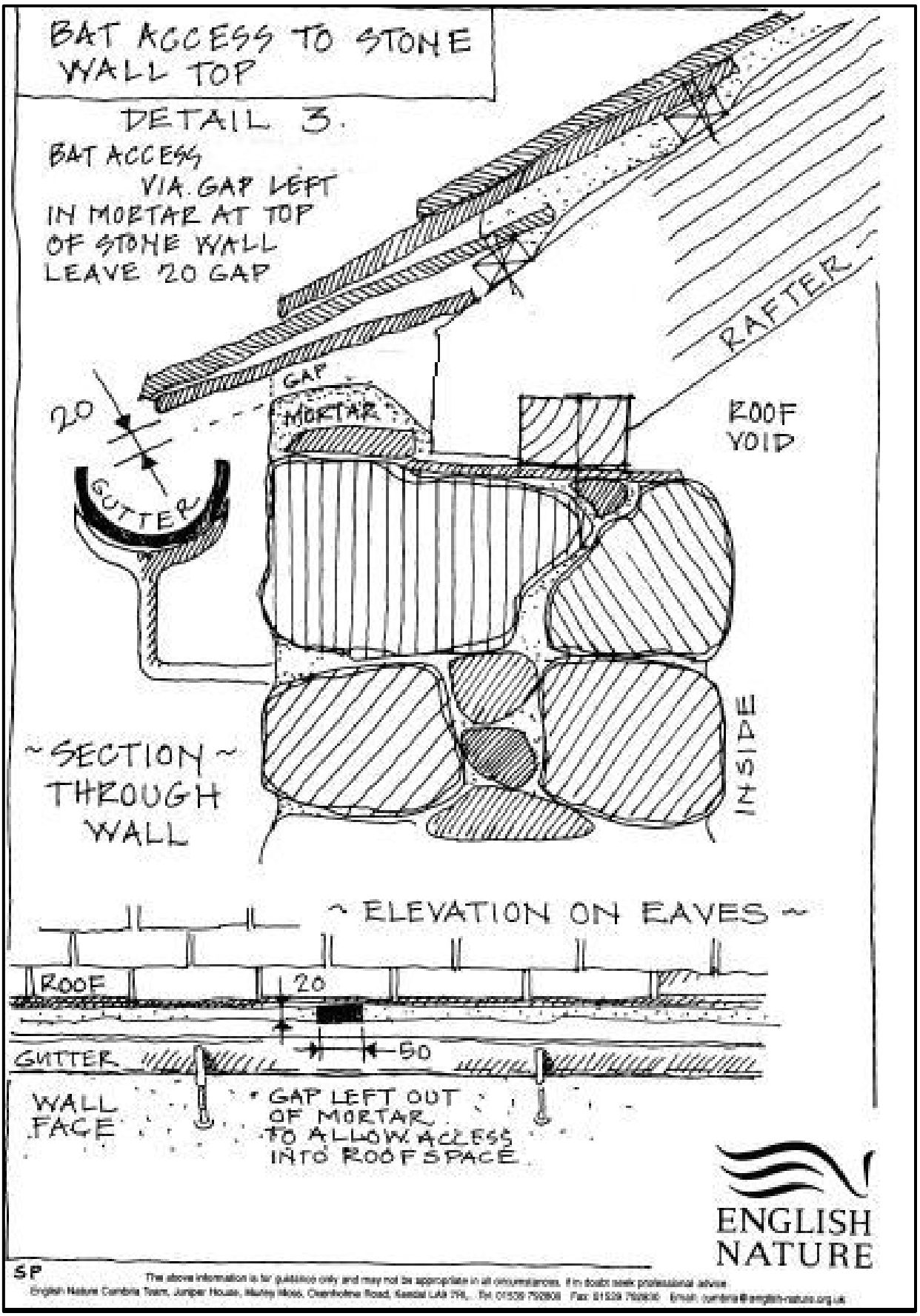


Figure 7 *New roost site creation.*

9.2.1.2 Mitigation for Foraging and Commuting Habitat

No specific mitigation for foraging and commuting habitat is necessary. The habitat surrounding the site does not change significantly.

9.2.1.3 Requirement for Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 Licence

At this stage, we cannot judge whether a Natural England licence will be required to cover work on the buildings. No bats were confirmed as breeding or roosting at the site during the daytime survey. It is unknown if the loss of potential roost sites will be avoided and if significant disturbance to bats will occur. Further surveys are required to determine this.

9.2.2 Barn Owl Roost / Nest sites

As barn owls are known to nest at the site, work should be undertaken outside of the nesting season between September and March.

9.2.3 Bird Roost / Nest sites

Work should not commence while any swallow or other bird nests are still in use. Birds usually finish nesting by early September. A check of the site for active nest sites should be made prior to work commencing if this is in the period March –September. A delay in the start of work may be required if active nest sites are located.

10. MITIGATION SUMMARY

The site survey found potential evidence of bats roosting in one building although there is a possibility of opportunistic use by low numbers of bats at some times of the year of other buildings. The level of use is not considered likely to be significant and with the retention/creation of gaps at the eaves and precautionary mitigation, a significant disturbance and or the loss of roost sites is unlikely to occur.

There was no evidence of birds currently nesting. Work will not be commenced or undertaken in such a way as active nest sites are disturbed.

There is evidence of recent and past use of the buildings by barn owls for roosting and nesting.

On the basis of survey information, specialist knowledge of bat species and the mitigation that has been proposed, it is considered that on balance the proposed activity is reasonably likely to result in an offence under regulation 39 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. We consider there is likely to be a need for a Natural England licence at this time.

11. REFERENCES

Information from the following sources has been used in preparing the survey report.

Altringham J, (2003). *British bats*. London: HarperCollins

Altringham J, (1996). *Bats and Behaviour.* Oxford University Press

Collins, J (ed) (2016). Bat Surveys for Professional Ecologists- Good practice guidelines (3rd Edition)

English Nature (2004). *Supplementary guidance note: surveying for bats following the publication of English Nature's national bat mitigation guidelines (January 2004).* English Nature, Northumbria Team

Entwistle, A. C. *et al.* (2001). *Habitat Management for Bats*. JNCC

Greenaway, F. and A.M. Hutson (1990) *A Field Guide to British Bats.* London: Bruce Coleman Books.

Hundt, L (2012) *Bat Surveys: Good Practice Guidelines, 2nd edition*. Bat Conservation Trust

Loller, A and Schmiot-French, B (2002). *Captive care and medical reference for rehabilitation of insectivorous bats*. Bat World

Mitchell-Jones, A (2004) *Bat mitigation guidelines*. English Nature

Mitchell-Jones, A. J. & McLeish, A. P. (1999). *The Bat Workers' Manual.* JNCC

Neuweiller, G (2000). *The Biology of Bats.* Oxford University Press

R. E. Stebbings (1998). *The conservation of European Bats.* Christopher Helm

Russ, J. (1999). *The Bats of Britain and Ireland, Echolocation, Sound Analysis and Species Identification.* Alana Books

Swift, S. (1998). *Long-eared bats.* Cambridge University Press

Shawyer, C. R. (2011). *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting.* IEEM

APPENDIX 1 PHOTOGRAPHS

Photograph	Notes
	**Building 1** Roof verge well-sealed Well-sealed walls Decorative gaps
	Roof coverings in excellent condition with no raised slates
	Roof lining in excellent condition Wooden beams in excellent condition

	Evidence of bats (droppings) birds and barn owls (feathers and white-wash) on first floor
	Ground floor ceiling is wooden and flat
	**Building 2** Walls in excellent condition Small gaps under corrugations extending into roof

Flat corrugated roof

Wooden beams in excellent condition

Birds' nests on beams

Building 3

Slates in excellent condition

Some gaps between stones where mortar is missing

Evenly-spaced ventilation gaps

Timber beams in excellent condition

Skylights in roof make barn light and airy

	Evidence of barn owl roost at South end of building
	**Building 4** Walls in moderate condition with some gaps and cracks where mortar is missing
	Roof tiles in excellent condition with no raised slates Gap above door providing direct access inside building Gap/window with no glass providing direct access inside building

	Barn owl roosting on beam during the survey Timber beams in excellent condition
	**Building 5** Roof in excellent condition One crack which is not suitable for use by bats
	Timber beams in excellent condition Barn owl box known to be used by breeding barn owls Internal walls not suitable for roosting bats

	**Building 6** Roof coverings in excellent condition with no raised slates Rendering in excellent condition with no gaps or cracks
	First floor of building 6 Roof lining and timber beams in excellent condition Floor too unstable to assess properly