WOLD ECOLOGY LTD

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Prospect House Farm, Suffield

Barn Owl Survey, June 2023.

	Staff Member	Position
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Report prepared by :	Abi Catherall M Sc.	Ecologist.
Notes :	This report contains sensitive information concerning protected species and caution should be exercised when copying and distributing to third parties.	

DOCUMENT CHECKING

Issue No.	Date.	Status.	Verified by.
1	23/06/2023	Draft for internal review.	Abi Catherall M Sc
2	27/06/2023	Submission of non-draft version for client.	Chris Toohie MSc MCIEEM
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1.0 EXECUTIVE SUMMARY

1.1 In May 2023, Wold Ecology was commissioned by Joe Marshall to undertake a barn owl *Tyto alba* survey at Prospect House Farm, Suffield. The site is located at approximate National Grid Reference SE 99206 90889, in North Yorkshire.

1.2 The field survey results are summarised below:

Application Site Status		
Mitigation required	**Barn owl**	Evidence (pellets) of barn owls *Tyto alba* was recorded in unit 3. No nesting birds were observed in the buildings.

1.3 Planning consent for a development does not provide a defence against prosecution under this act.

1.4 The data collected to support the output of this report is valid for one year. This report is valid until **May 2024**. After this time, additional surveys need to be undertaken to confirm that the status of the building for barn owls has not changed.

1.5 Species list within this report will be forwarded to the local biodiversity records centre to be included on their national database. No personal information will be sent. Please contact Wold Ecology if you do not wish the species accounts and 10 figure grid references to be shared.

Date	Taxon Name	Common Name	Location	County	Grid reference	Record Type
25/05/23	Tyto alba	Barn owl	Unit 3	E. Yorkshire	SE 99206 90889	Pellets

2.0 INTRODUCTION

2.1 In May 2023, Wold Ecology was commissioned by Joe Marshall to undertake a barn owl *Tyto alba* survey at Prospect House Farm, Suffield. The site is located at approximate National Grid Reference SE 99206 90889, in North Yorkshire.

2.2 The Application Site comprises the following:

- Unit 1
- Unit 2
- Unit 3

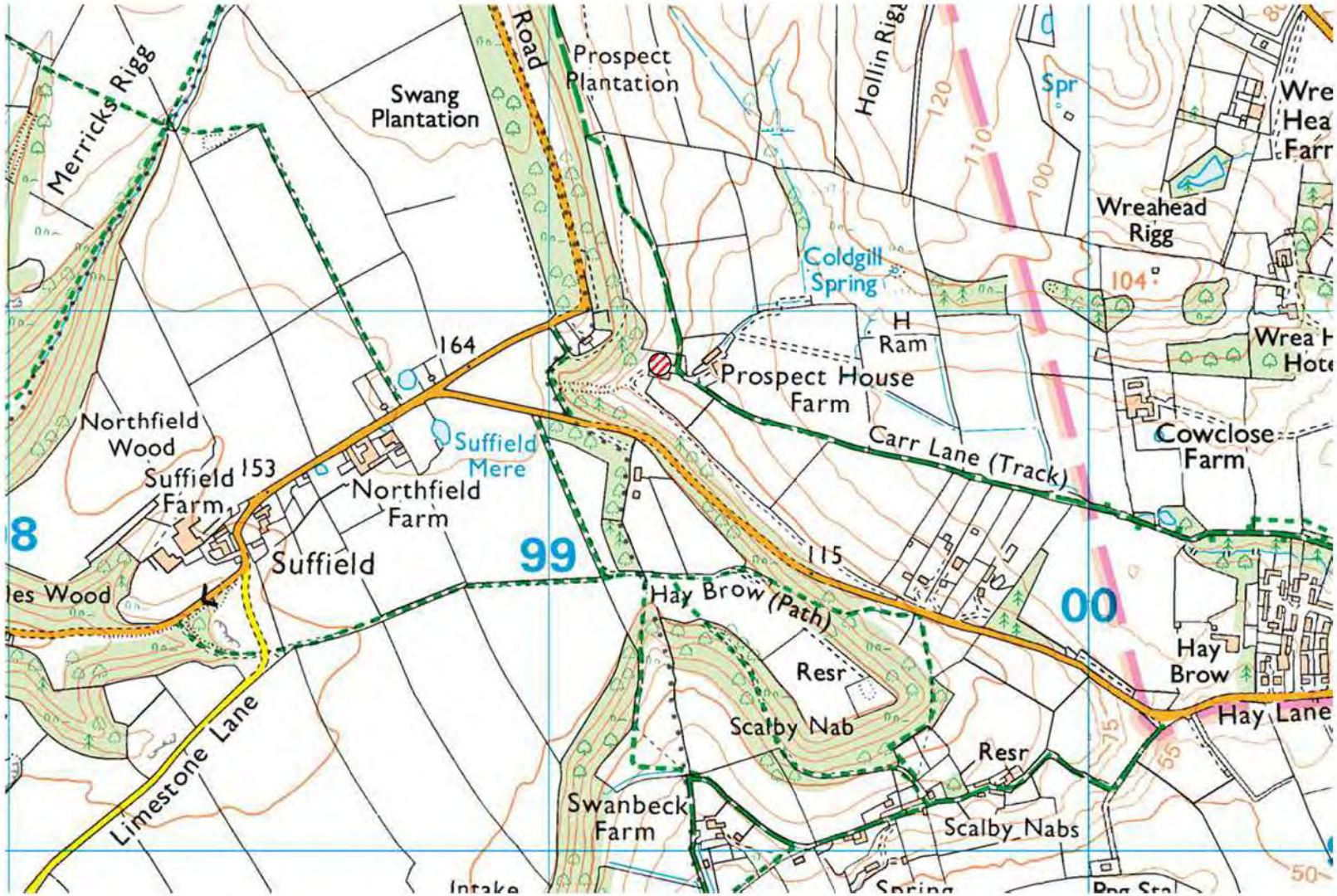
2.3 The proposed development includes the partial demolition and conversion works into holiday lets of the buildings on site.

2.4 The survey involved a detailed inspection of the buildings.

2.5 Survey Objectives

2.5.1 The site was visited and assessed on 25th May 2023 and 16th June 2023; this was to determine whether the buildings on site contained barn owls. The work involved the following elements:

Survey objective	Yes/No	Comments
Determine presence/absence of barn owls	Yes	A daytime, visual inspection for barn owls and evidence of barn owls.
Determine site usage	Yes	Assessment for nesting birds or individual roost site. An assessment of whether barn owls are a constraint to the development.
Other	Yes	The production of a non-technical summary of the legal implications behind barn owl presence.
		Report the findings of the field survey work and identify recommendations for a potential mitigation strategy.



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Location Map

KEY

Application Site

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3.0 LEGISLATION

3.1 Legal Framework

3.1.1 The barn owl is associated with ruined farm buildings, church towers, and parks, mature trees in hedges, cliffs, and quarries. They nest in roof spaces, hollow trees (particularly elms and oaks), rock crevices, caves and buildings. Barn owls feed predominantly on small mammals especially the short-tailed field vole *Microtus agrestis* as well as insects and birds. Hunting takes place in a variety of grassland habitats such as linear verges and rough grassland where the leaf litter sward is suitable for their prey. Barn owls are largely crepuscular, hunting at dawn and dusk, as well as at night. They are protected under Schedule 1 and 9 of the Wildlife and Countryside Act 1981 as amended due to their susceptibility to disturbance causing a nest to be abandoned. Threats include:

- Climate; snow cover and low temperatures creating difficult feeding environments
- Deaths; poisoning, road deaths and destruction/disturbance of nesting sites
- Habitat Loss; Changes in land management reducing habitat for small mammals, fragmentation and direct loss of suitable grassland.
- Loss of nest sites; Loss of mature trees, changes in or loss of buildings without appropriate mitigation
- Human disturbance; nestlings taken for illegal purposes

3.1.2 Barn owls are protected under schedules 1 and 9 of the Wildlife and Countryside Act 1981 as amended. This is the highest level of protection afforded to a British bird. To disturb a nest recklessly or destroy a nest site or drive away a nesting pair can lead to a fine of up to £5000 or six months imprisonment. It is listed in the EC birds Directive and under Appendix II of the Bern Convention. Barn owl is on the 'amber' list in 'Birds of Conservation Concern' as a bird of unfavourable conservation status in Europe and it is included on the list of species of conservation concern in the UK Biodiversity Steering Group Report (1995).

3.2 Planning Policy Guidance

3.2.1 A barn owl survey is a requirement of the Local Planning Authority (LPA), as part of the planning application process. This is specified in the following government guidance:

- National Planning Policy Framework (NPPF): Conserving and Enhancing the Natural Environment.

3.2.2 To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

3.2.3 When determining planning applications, local planning authorities should apply the following principles:

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

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

3.2.4 The LPA has to assess whether the development proposal would breach Article 12(1) of the Habitats Directive. If Article 12(1) would be breached, the LPA would have to consider whether Natural England was likely to grant a European protected species licence for the development; and in so doing the LPA would have to consider the three derogation tests:

a) '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'.

In addition, the LPA must be satisfied that:

(b) 'That there is no satisfactory alternative'

(c) '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'.

4.0 SURVEY METHODOLOGY

4.1 The field survey on 25th May 2023 and 16th June 2023 was undertaken by Daniel Lombard B Sc. MCIEEM and Abi Catherall M Sc. who are experienced barn owl surveyors.

4.2 The following survey followed guidance and methods recommended within; Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester Shawyer, C.R. (2011) and Barn Owl *Tyto alba* Bird Monitoring Methods, a manual of techniques for key UK species Gilbert et.al RSPB 1998, Common Standards Monitoring Guidance for Birds JNCC 2004 and Survey Techniques Leaflet 8, The Barn Owl Trust.

4.3 Wold Ecology also conducts voluntary monitoring of barn owl nests within designated grid squares in East Yorkshire for the Wold Barn Owl Study Group (WBSG). Wold Ecology also liaises with the WBSG to ensure data is shared and good survey practice is maintained.

4.4 The daytime assessment identified whether the area had any signs of residency and/or barn owl usage. Specifically, the visual survey involved:

- An assessment of the suitability of buildings or stone feature to enable access for breeding barn owls.
- A thorough check for pellets, feathers or signs of old nest remains in the form of pellet debris and/or old broken egg shells.
- An assessment of the suitability of the habitat for hunting barn owls within and surrounding the study area.

5.0 SURVEY RESULTS

5.1 Habitat Assessment

5.1.1 Prospect House Farm is approximately 800m northeast of Suffield, in a rural location. The farm is surrounded by woodland and arable land with grazed pasture. Several grazed pasture fields and mixed broadleaf woodland lie adjacent to the buildings.

5.1.2 A summary of the surrounding habitat is (radius of < 2km from the site):

- Buildings – farm buildings and residential properties
- Hedgerow
- Hedgerow with trees
- Mature trees and woodland
- Arable
- Mature private gardens
- Ponds and watercourses
- Grazed pasture
- Suffield Moor
- Inn Moor
- Prospect Plantation
- Swang Plantation
- Northfield Wood
- Thirlsey Wood
- Greengate Wood
- Hilda Wood
- Bellsdale East Wood
- Crossdales Wood
- Intake Wood
- Hawthorn Wood
- Carr Wood
- Low Wood
- Washy Cote Beck
- Crossdales Beck
- North Back Drain
- Sea Cut
- Suffield Mere

5.1.3 Assessment of habitat quality relating to barn owl involves an appraisal of an ecosystem potential to hold prey items and the habitats associated connectivity and scale.

5.1.4 The majority of habitat adjacent and close to the buildings was assessed as **Type 2 and Type 3 Habitats**. Types 2 habitat is sub-optimal to field voles and is of intermediate and often transient value to barn owls. This type of improved or semi-improved grassland is characterised by having a homogeneous, more even-height sward, sometimes displaying some lush and emerging tussock structure but little sign of a litter layer or 'thatch'. Type 3 are those which offer very poor habitat for field voles and most other small mammals and as such are of low value to barn owls. These improved grasslands are characterised by having a homogeneous

sward, which is often kept short throughout much of the year, no tussock structure and are devoid of any litter layer at their base. They are usually mown closely for hay or silage, heavily grazed by sheep, horses or cattle.

5.1.5 In summary, the habitat within 2km of Prospect House Farm provides sufficient hunting potential to support breeding barn owls.

5.2 Barn Owl Presence: Building Survey

5.1 Within unit 3, several old (greater than 1 month) barn owl pellets were observed on the survey visits. The number of pellets indicated an occasional roost site.

5.2 These signs confirm barn owls were using unit 3 to roost before the survey visits. No active and/or old nest remains were found and no barn owls were observed roosting in the barn during the bat activity surveys. Access for adult barn owls is through the roof and open door on the west elevation.

5.3 As male barn owls often roost away from the nest site. There remains a possibility the roosting bird could be part of an active pair with the main nest being in the vicinity of Prospect House Farm.

6.0 MITIGATION AND METHOD STATEMENT

6.1 Barn owls are highly faithful to their roost and/or nest sites. Consequently, if barn owls are disturbed and/or lose a site through destruction or alteration of the site they are less likely to survive. Where barn owls have been lost from an area and years later new individuals arrive, the nest sites they select are usually the same sites that birds used previously.

6.3 There are two main concepts to managing barn owls within buildings and planning applications; **Continuity and Permanence.** The aim should always be to keep the birds on-site whilst the development takes place. It is highly likely the birds will not want to leave so the aim is to enable them to stay nearby whilst the development takes place.

6.2 Recommendations and Method Statement

6.2.1 There will be no timing constraints for sites that do not support a nest.

6.2.2 Although nesting has been recorded in every month of the year, most pairs lay eggs only in the spring. Nest sites must not be disturbed when active, this will be determined by a barn owl ecologist. Within 30 days prior to development works taking place, an inspection by a qualified barn owl surveyor must be undertaken to ensure the status of barn owls has not changed since the initial survey.

6.2.3 To enable continuity of the roost site, a single nest box must be erected on site (within 100 metres of unit 3) at least 30 days before disturbance works commence. This alternative provision must remain available to the birds until at least 30 days after permanent provision has been made within the development. Advice on design of the interior box can be found in Appendix 2 of this report. Additional on-site advice can be provided by Wold Ecology Ltd.

6.2.4 To enable permanence, it is recommended that a new permanent nesting/roosting place is provided inside a building on site or on a pole within 100m of the building. The aim of this provision is to ensure that a suitable roost/nest site remains available long beyond after the development has been completed. Recommendations within Barn Owls and Rural Planning Applications A guide for Planners should be followed. The relevant guidance on design and construction of an indoor box is included with this report in Appendix 2.

6.2.5 Permanent nest boxes should be carefully located away from any bat mitigation on site.

6.2.6 Wold Ecology recommends boxes made by Green Future Building (GFB):

- The tried and tested GFB 'Ecology Design' Barn Owl boxes are made using extreme fibreboard, which has a manufacturer's material guarantee of 50 years. Pinned, glued and screwed using stainless steel screws, GFB provides a guarantee of 15 years for these boxes. Access via a door at the front is provided in order for cleaning, ringing and research purposes. The front shelf allows an area for both mature and young owls to land and stand without the risk of baby owls falling out of the box. GFB believe these next generation boxes are the best on the market and our original design has been tried and tested through extensive use in the Yorkshire Wolds.

- The new barn owl box has been redesigned incorporating a new fibreboard material and finish guaranteed to repel all weathers and guaranteed to increase long term durability.
- All GFB boxes are constructed to a high standard and can be offered either as fully built-up units or in the increasingly popular flat-pack form. On the fully assembled boxes, panels are completely removable to help with positioning and fixing of boxes when working at heights. Self-assembly of our flat-packed box is easy as the five sections screw together neatly, requiring only a screw driver or power driver.
- Contact details for GFB are available at http://greenfuturebuilding.org.uk/

7.0 BIBLIOGRAPHY

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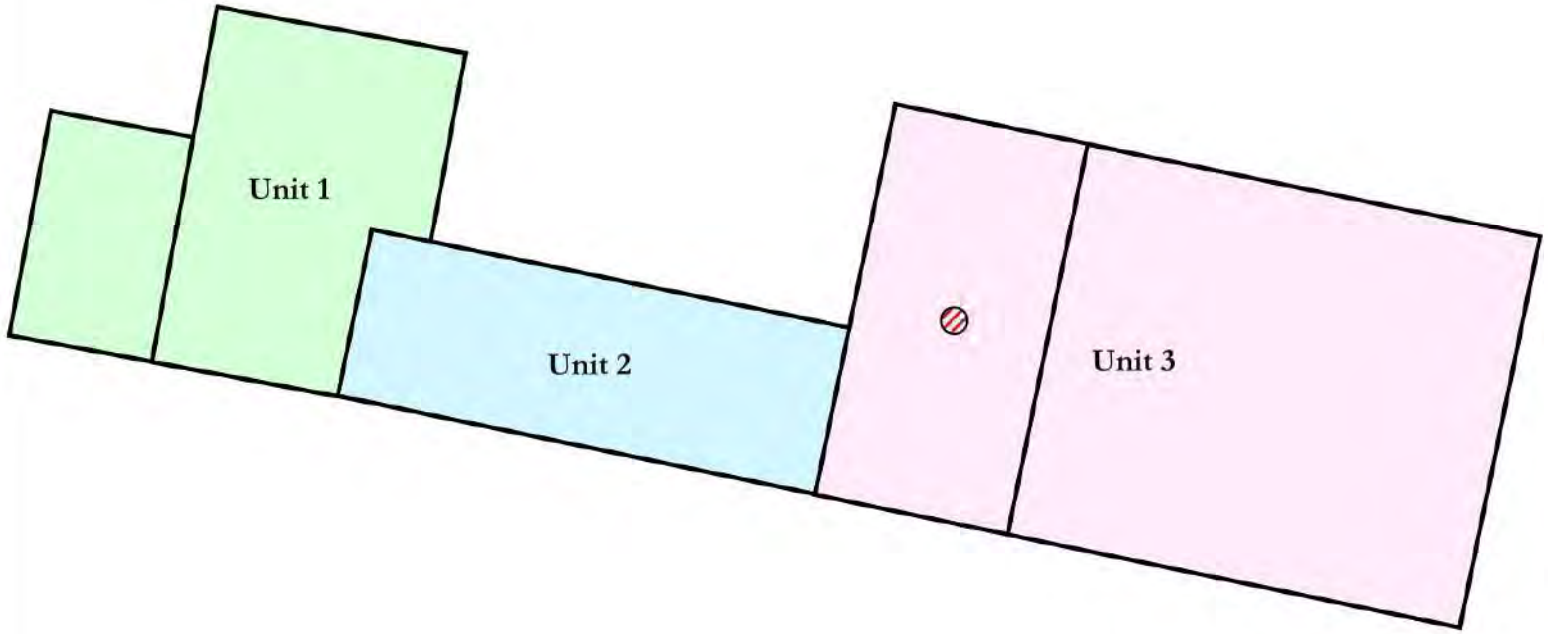
8.0 APPENDICES



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Appendix 1 – Site Plan and Location of Barn Owl Signs

KEY

Location of barn owl pellets.

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To be confirmed

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Appendix 2 – Location of mitigation

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Appendix 3 – Advice Notes: extracts from *Barn owls and Rural Planning a guide for Developers*

Making Provision for Barn Owls

A Guide for Planners, Applicants and Developers

Barn Owls are a specially *PROTECTED SPECIES*

- ❑ Wildlife and Countryside Act (1981) Schedule One
- ❑ Countryside and Rights of Way Act (2000)

PLANNING AUTHORITIES are required to consider biodiversity conservation:

- ❑ Natural Environment and Rural Communities (NERC) Act (2006)
- ❑ The Habitats Directive (EC directive 92/43/EEC)
- ❑ Environmental Impact Assessment (85/337/EEC as amended by directive 97/11/EC)
- ❑ Strategic Environmental Assessment (2001/42/EEC)
- ❑ The Environment Act (1995)

...and follow planning policy:

- ❑ Planning Policy Statement 1: Sustainable Development (2005)
- ❑ Planning Policy Statement 9: Biodiversity and Geological Conservation (DCLG 2005)
- ❑ ODPM Circular 06/2005 (Defra Circular 01/2005)
- ❑ ODPM (March 2006) Planning for Biodiversity and Geological Conservation

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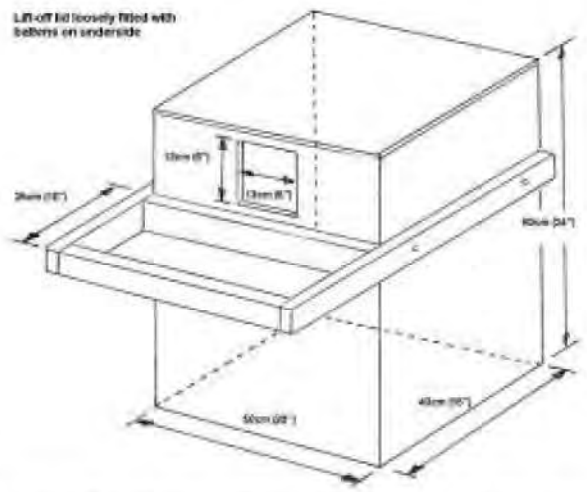
Funded and supported by Natural England, Peterborough.

ALTERNATIVE PROVISION
BOXES IN BUILDINGS

How to make and erect a Barn Owl nestbox suitable for a barn or other building

Background
Nestboxes can be of great benefit, especially in areas where there is plenty of food available but a shortage of suitable nesting or roosting sites. When you are considering an area for nestboxes remember that the Barn Owl is not a woodland species but a bird of open country, most of which is farmland. See Optimum habitat in Britain

Many old barns and almost all modern farm buildings are far from ideal for Barn Owls as they lack suitable cavities for the birds to nest in. Barn Owls like to roost out of sight of humans and are much less inclined to be flushed from a building if they have a box to hide in. In fact, it is amazing how much disturbance Barn Owls will tolerate at sites with a suitable nestbox. Almost any tall rural building can become an ideal roosting and nesting site when a nestbox is provided.



Indoor nestboxes can be constructed from 9mm ($^3/_8$") softwood ply with 50mm x 25mm (2" x 1") batten along all the edges on the inside. Please avoid using hardwood ply unless it is stamped 'FSC Approved'.

As a cheaper alternative, a tea-chest can be simply adapted by cutting an entrance hole, fixing on an exercise platform and adding a removable lid. In this case, do ensure the foil lining and any sharp nails or strips of metal which may injure the owls are removed.

The platform on the front gives more air space for the young owls to exercise their wings before their first flight. The removable lid is essential as occupied boxes do need to be cleared out occasionally.

The internal depth of the box is important as it reduces the chances of a nestling Barn Owl falling from the box and dying as a result of neglect or predation. Therefore, it is important that the box depth is maintained by clearing out the box once it has more than about 3 inches of nest debris. If Jackdaws use the box it must be cleaned out every year (wear gloves and a dust mask). Boxes only used by breeding Barn Owls will need clearing out every two or three years, ideally in November or December.

NOTE that it is illegal to disturb wild Barn Owls whilst they are breeding. It is not even permitted for the provider of the nestbox or the site owner to inspect the nest unless they have a current licence to do so. Legal protection

When siting your indoor nestbox, remember:

1. Fix it as high up as possible. However, remember that fully enclosed modern barns with little ventilation can become very hot in fine weather - in this type of building the box should be placed below the apex but at least 3 metres (10ft) above ground level. Bear in mind that you also need to place the box to allow removal of the lid.
2. Position the box so that an owl entering the building through the most likely opening will see the entrance hole and have an easy flight path to it.
3. If possible, position box so that emerging nestlings can walk onto beams or other flat surfaces.

4. Consider your own safety (for which you are responsible). Try to position the box where it can be easily and safely inspected at a later date.

5. The box must be in a completely dry position.

6. Avoid placing boxes within 1km (half a mile) of a motorway, dual-carriageway, or similar (if in doubt please seek advice info@barnowltrust.org.uk)

7. Avoid buildings subject to irregular loud disturbance.

There is no need to line the nestbox. Eggs are usually laid on top of the birds' own pellet debris which is a wonderfully absorbent material - much better than anything you might provide.

Permanent access into the building for the owls is obviously essential. If there is no existing access for owls you can create access using the following guidelines:

1. Make the entrance hole about 12cm (5") wide x 25cm (10") high (minimum 4" x 4").

2. Make the hole as high up the wall as possible and at least 3 metres (10') above ground level.

3. Position the hole so that it is likely to be noticed by a passing bird. Don't face it towards a close tree or other tall building which will obscure it.

Safety

When erecting your nestbox please have due regard for Health and Safety.

Positioning requirements - for Barn Owl nestboxes in buildings

- Boxes should be erected at a height of not less than 3 metres above ground level.
- The building chosen should have an owl access hole at high level and no less than 100x100mm, ideally 125mm wide x 250mm high.
- The box should be positioned so that it will remain completely dry.
- The box should be positioned so its hole can be easily seen by a bird entering the building.
- Provision for Barn Owls should not be made within 1km of a motorway, dual-carriageway or similar (if in doubt please seek advice info@barnowltrust.org.uk)

Essential design requirements - for Barn Owl nestboxes in buildings

- Entrance hole: minimum size 100mm x 100mm, optimum size 125mm x 125mm, maximum size 150mm x 150mm.
- Floor area of nest chamber: absolute minimum 0.16m^2. Good size range 0.2 to 0.4m^2.
- Depth from bottom of entrance hole to nest must be not less than 460mm.
- There must be an exercise/landing platform below the entrance hole that allows climbing/jumping young birds to get from the platform onto the roof of the box and (ideally) onto other nearby perching places. The platform must have a generous raised edge suitable for Barn Owls to grip easily.
- Human access for easy clearing-out of nest debris is essential.
- Measures aimed at reducing the chances of entry by other species (such as Jackdaws) are to be encouraged, provided that they do not significantly reduce the box's suitability for Barn Owls.
- Should be substantially constructed yet light enough to permit safe erection using basic equipment. Normal indoor-box weight range is 10-15kg. Total weight should not exceed 18kg and an indoor-box under 8kg is probably not substantial enough.
- Should not be constructed from tropical hardwood unless the timber is certified as sustainably grown.

ALTERNATIVE PROVISION cont.

BOXES IN TREES

How to make and erect a Barn Owl nestbox suitable for siting on a tree

Suitability of the area

The Barn Owl is not a woodland bird. It hunts mainly by flying over areas of rough grassland, ditches, hedgerows, young tree plantations etc. that support a high population of small mammals. In areas with an abundance of food but a shortage of suitable sites, nestboxes can be of great benefit. They should always be placed in areas with some good Barn Owl habitat or they are unlikely to be used. For further information, see Optimum habitat in Britain.

Most nestboxes for Barn Owls are erected within buildings; see Getting the best nestbox for your site. However, where a suitable location for an indoor box is not available, outdoor nestboxes are often the next-best option.

Construction

The basic box should be built using rot-resistant or treated sheet material. The Barn Owl Trust uses 9 or 12mm tanalised ($^{3}/_{8}$"-$^{1}/_{2}$") softwood ply, 25 x 50mm (2" x 1") tanalised batten and 30mm (1¼ ") rust resistant screws. Please avoid using hardwood ply, unless it is stamped "FSC Approved". You may use any type of preservative on the box where tanalised ply is not available, but always follow the product instructions and always ensure the box is completely dry before erection. The dimensions are given as a guide, variations of + or - 10% are quite acceptable.

The front of the box should have an access panel to enable nest debris to be cleared out periodically. Under the Wildlife and Countryside Act 1981, it is an offence to disturb breeding Barn Owls so nestboxes should only be cleaned out between November and January. The top of the box should be covered with heavy duty roofing felt and a waterproof sealant in all the wood joints to increase weather protection (such as *Ever-Build Weather-Mate)*. If you need proof that this is necessary, try leaving your nestbox under a sprinkler for a few hours. Large drainage holes (20mm - ¾" - diameter) are also drilled in the floor of the box. The front, back and sides MUST overhang the floor of the box.

Selecting a suitable tree

Within 200 metres of the development you should look very carefully at all available large trees and select the most suitable one. Do not rush this. The success of your nestbox will depend partly on the size and shape of the tree, its position and the position of the box when erected. If there are no suitable trees, then a pole box may be the only remaining option.

An isolated tree overlooking an area of good habitat is ideal. Whenever possible, choose a tree with rough bark to enable owlets to climb back up to the box should they fall out. A tree on the outside of a copse is acceptable but avoid trees within woodland. Avoid siting your box within 1km (½ mile) of a dual-carriageway, motorway or similar (if in doubt please seek advice info@barnowltrust.org.uk). If possible, choose a deciduous tree or a Scots Pine. Often there is no choice, but do have a good look around. Time spent in reconnaissance is seldom wasted.

The ideal tree is old and very big. Pick a tree where the box will be visible below the crown (twigs/leaves) of the tree so that Barn Owls can see it and can fly in and out from various directions without having to negotiate small branches in the dark. Some old Oak trees, dead trees and Scots Pines are particularly accommodating in this respect. If ivy is growing on the tree, it may soon grow over the entrance hole of the box. Anything that makes the hole less visible will reduce the chances of the box being used.

ALTERNATIVE PROVISION cont.

Advantages of this design
The main advantage of the box described in this leaflet is that it's fairly difficult for the young to get out. This reduces the chances of them falling from the box before they can fly and dying as a result of neglect or predation. Another advantage of this style of box over some other designs, is that it provides an exercise area outside the box for the young and the flat roof allows the young to hop from the tray to the roof and then to the tree to exercise, and the reverse if they fall and need to climb back up. Many nestbox designs are impossible for the young to get back into unless they are already able to fly.

Siting the nestbox
Having found a suitable tree for your box, take your time in deciding where in the tree you are going to put it. Several factors need to be considered. The box must face open ground so that the entrance hole is obvious to a passing owl. Do not hide it behind the tree - if the hole cannot be seen the box is unlikely to be used. Try to avoid facing the entrance into the prevailing wind and rain. Generally this means avoiding the west or south-west. South-east is generally a good direction. If you know which way the birds are currently flying into the site you should take this into account and face the box towards the flight path.

Birds roosting low to the ground probably feel vulnerable and at higher levels birds can feel safer. Within reason, the higher the box is above ground level the more likely it is to be occupied. A height in the region of 4.5-7 metres (14'-24") may be achieved depending on the tree concerned. Boxes placed less than 3 metres above ground level are much less likely to be successful. It is a good idea to ensure that, when erected, the box is slightly lower at the front. This will help prevent rain water splashing in through the entrance hole.

Although young Barn Owls do not start to fly until eight weeks old, they begin to walk at only three weeks. There is often an age difference of two weeks between the oldest and the youngest owlet. As the oldest ones become more and more mobile they emerge from the nestbox to stretch, flap their wings and attempt short flights within the tree. It is at this stage that an owlet is most likely to fall to the ground. The chances of this can be reduced by positioning the box so that the owlet can jump easily from the tray or roof of the box into nearby branches. You should also position the box so that it can be inspected safely.

Erecting the box
Tanalised 50mm x 50mm (2"x 2") timber and galvanised nails can be used to secure the box; often this is the only practical option. Alternatively you can drill holes and use nylon bolts, or use ratchet straps.

A piece of tanalised timber 50mm x 50mm x 750mm (2" x 2" x 30") should be attached to the trunk of the tree, making sure that it is level and VERY secure. This should have 'hooks' made out of 25mm x 50mm (1"x 2") tanalised timber attached to each end. These should be approximately 75mm (3") long and the top 25mm (1") will protrude above the top of the ends of the 50mm x 50mm timber (see diagram). The purpose of this is to enable the box to be placed so that it is held in place by the hooks, allowing the person erecting the box to have both hands free whilst attaching it.

A second piece of 50mm x 50mm tanalised timber should be attached firmly to the back of the box approximately 200mm (8") from the top (see diagram). Screw from the inside of the box through to the timber. This joint will take all the weight of the box so it needs to be very secure. The piece that is attached to the box will rest on the piece that is attached to the tree. Holes should be drilled to enable the two pieces to be nailed or screwed together when the box is in position. Bear in mind that it will be difficult to get at some parts of the timber to hammer or screw once the box is in position so drill the holes close to each end.

Clearing out your Nestbox
The internal depth of the box is important as it reduces the chances of a nestling Barn Owl falling from the box and dying as a result of neglect or predation. Therefore, it is important that the box depth is maintained by clearing out the box once it has more than about 3 inches of nest debris. If Jackdaws use the box it must be cleaned out every year (wear gloves and a dust mask). Boxes only used by breeding Barn Owls will need clearing out every two or three years.

ALTERNATIVE PROVISION cont.

Safety
When erecting your nestbox please have due regard for Health and Safety.

Positioning requirements - for Barn Owl nestboxes in trees

• Barn Owls are NOT woodland birds and will not usually enter dense woodland. The chosen tree should be isolated or on the very edge of a wood or copse facing open ground.

• Boxes should be erected at a height of not less than 3 metres above ground level. The box should be positioned so the hole can be seen easily by a Barn Owl flying past (not hidden by branches, twigs or leaves).

• Provision for Barn Owls should not be made within 1km of a motorway, dual-carriageway or similar (if in doubt please seek advice info@barnowltrust.org.uk)

Essential design requirements - for Barn Owl nestboxes in trees

• Entrance hole: minimum size 100mm x 100mm, optimum size 100mm x 125mm, maximum size 150mm x 150mm.

• Floor area of nest chamber: absolute minimum 0.16m^2. Good size range 0.2 to 0.4m^2.

• Depth from bottom of entrance hole to nest must be not less than 460mm.

• There must be an exercise/landing platform below the entrance hole that allows climbing/jumping young birds to get from the box into the tree and vice versa. The platform must have a generous raised edge suitable for Barn Owls to grip easily and it should be positioned, and have sufficient shelter and drainage, to prevent rainwater being deflected into the box entrance.

• Interior must remain dry during prolonged heavy rain coming from any direction. All sides should overhang the floor and the floor should have adequate drainage. The installation of a (drier) false floor can be an advantage.

• There must always be sufficient height difference between the nest and the external platform so as to prevent the accumulation of a continuous (internal/external) layer of pellet debris allowing rainwater to soak through the debris to the inside thereby chilling the nest contents.

• Roof should be covered in thick roofing felt guaranteed for not less than 10 years or an equally long-lasting material. Very steeply sloping roofs may not need covering but any apex join must be permanently waterproofed.

• Human access for easy clearing-out of nest debris is essential.

• Timber liable to decay within 20 years must be treated with long-lasting preservative: either pressure treated (CCA) or surface treated including all edges of all component parts.

• All screws/nails and any metal fittings used should be rust proof.

• Measures aimed at reducing the chances of entry by other species (such as Jackdaws) are to be encouraged provided that they do not significantly reduce the box's suitability for Barn Owls.

• Should be substantially constructed yet light enough to permit safe erection using basic equipment. Normal tree-box weight range is 13-18kg. Total weight should not exceed 25kg and a tree box under 10kg is probably not substantial enough.

• Should not be constructed from tropical hardwood unless the timber is certified as sustainably grown (FSC approved).

ALTERNATIVE PROVISION cont.

BOXES ON POLES

An outdoor Barn Owl nestbox suitable for erection on a large pole

Nestboxes in buildings are generally the best option, followed by nestboxes in trees. Pole boxes are usually only erected where these options are not available, see Getting the best nestbox for your site. Nestboxes should never be erected on operational telegraph/electricity poles and erecting your own telegraph pole is expensive. Building and erecting a pole nestbox is a lot of work so before deciding to proceed make sure there is no alternative.

Suitability of the area

The Barn Owl is not a woodland bird. In the UK, Barn Owls hunt mainly by flying over areas of rough grassland, ditch sides, young tree plantations etc. that support a high population of small mammals. See Optimum habitat in Britain. At development sites pole boxes are used as temporary alternative provision where there are no suitable buildings or trees within 200 metres of the development site.

Selecting a suitable pole

A pole box is big and heavy and cannot be adequately supported by a thin or flexible pole. A good pole will not only support the box for many years but will also be strong enough to take the weight of someone climbing a ladder leaned against it during inspection or clearing out. Most proper telegraph or electricity poles are suitable and just need to be cut to the right length.

You should be aiming for an erection height over 4 metres above ground level using a substantial pole of not less than 150mm diameter and 6 metres long (1.5m underground and 4.5m in height). In areas where climbing nest-predators are a problem position the pole away from buildings or trees and wrap a 1.5m section of the pole with thin aluminium or other very slippery material.

Pole-box construction

The basic box should be built using exterior grade rot-resistant or CCA-treated sheet material. The Barn Owl Trust uses 12mm tanalised ($^1/_2$") softwood ply, 25 x 50mm (2" x 1") tanalised batten and 30mm (1¼ ") rust resistant screws. There's also a small amount of 50 x 50mm timber and a piece of 18mm ply used in this design. Please avoid using hardwood ply, unless it is stamped "FSC Approved".

You may use any type of wood preservative on the box where tanalised (CCA-treated) ply is not available. The preservative should be applied to all component parts before the box is assembled so that all the edges are properly treated. Make sure the treated wood is dry before you assemble the box. During construction a waterproof sealant (such as *Ever-Build Weather-Mate*) should be applied to all the wood joints to increase weather protection. If you need proof that this is necessary, try leaving your box under a sprinkler for a few hours and then look inside it. Although tanalised timber is very rot-proof it's not very waterproof so the roof sheets should also be treated with Creosote or some other water-resistant preservative. The apex should be covered with a strip of aluminium or copper. The front, back and sides **MUST** overhang the floor of the box and as an extra precaution a large drainage hole (20mm - ¾" - diameter) should be drilled in each corner of the floor of the box.

All the dimensions are given as a guide and variations of + or - 10% are quite acceptable. The box must have a large access panel to enable nest debris to be cleared out periodically.

ALTERNATIVE PROVISION cont.

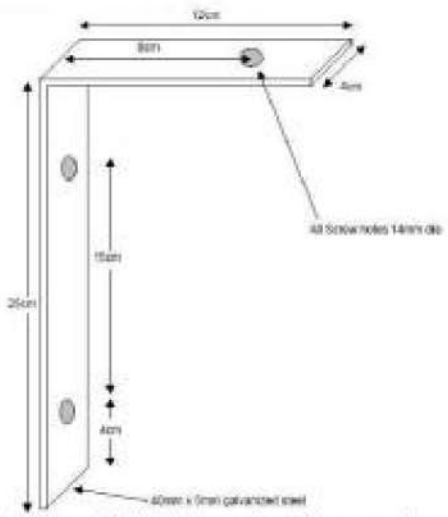
Siting the pole-box

Time spent in reconnaissance is seldom wasted. Please avoid siting your box within 1km (½ mile) of a dual-carriageway, motorway or similar (if in doubt please seek advice info@barnowltrust.org.uk). Nestboxes placed in a patch or strip of good (rough grassland) habitat are likely to be discovered more quickly as are boxes placed at existing roost sites. However, neither of these factors is essential.

The box should face open ground so that the main entrance hole is obvious to a passing owl. Do not hide it between big trees or tall buildings – if an entrance cannot be seen easily the box is less likely to be discovered. Try to avoid facing the box towards prevailing wind and rain. Generally this means avoiding the west or south-west (with the ridge of the roof lying north-south or northwest-southeast). If you know which way the birds are currently flying into the site you should take this into account and face the box towards the flight path.

The box will need to be cleaned out in future so think about where the ladder could stand and position the box so that this can be done safely.

POLE-BOX BRACKET DIMENSIONS



Erecting the box

By far the simplest and safest option is to attach the box to the pole before the pole is erected. If the pole has already been erected you may consider the use of tower scaffolding or a "cherry-picker" hydraulic platform. It is possible to erect a pole-box (on a pole that is already up) without using any machinery. However, a pole-box is heavy and awkward to lift by hand and the use of ladders is potentially dangerous. The Barn Owl Trust has placed pole-boxes onto previously-erected poles on numerous occasions with a team of three people using three ladders but a detailed description of the method is beyond the scope of this leaflet. Heavy duty galvanised steel brackets, coach bolts and coach screws are used to secure the box to the pole.

The most important thing when erecting the box is your own safety (for which you are responsible), the safety of your helpers and the safety of anyone going up to the box in future years. Make sure you carry out a detailed assessment of the risks associated with whatever method you choose and do not attempt to erect a pole-box when working alone!

Each half of the exercise platform should be slid onto the box after erection and retained by screwing through the two outer battens. To facilitate this, the box has ladder rests on both sides as well as below the inspection hatch.

Important advantages of this pole-box design

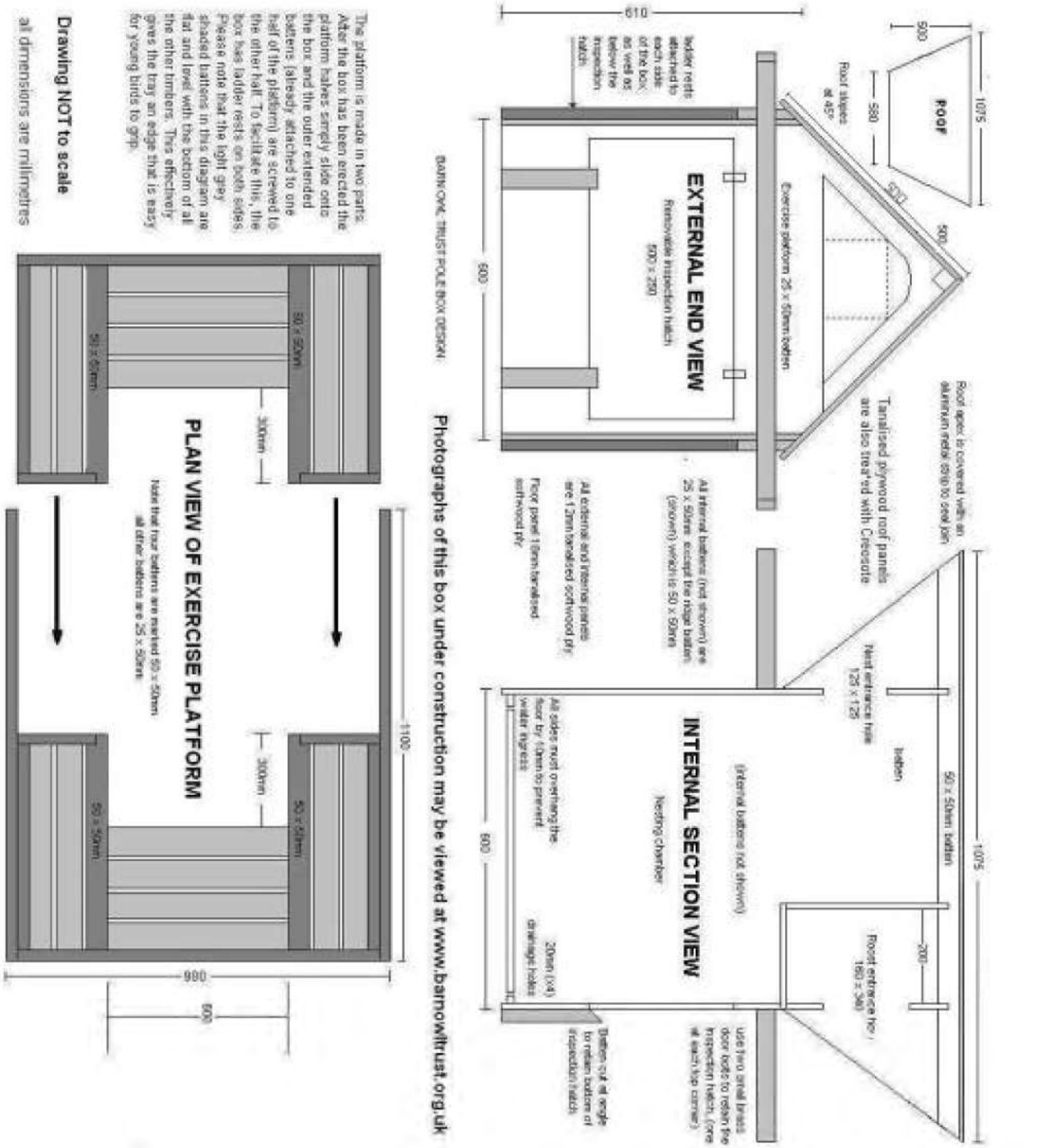
The nestbox described in this leaflet is very deep which makes it almost impossible for the young to emerge prematurely. This reduces the chances of nestlings falling from the box and dying as a result of neglect or predation. By the time a young Barn Owl is big and strong enough to get out of the box it will soon be fully fledged. The design also provides emerging young with a very generous exercise platform enabling them to do lots of wing-flapping before their first flight. They can even get onto the roof of the box and safely back inside before they are able to fly.

The combination of box depth and safe exercise area means that when a young owl leaves the box for the first time it stands a very good chance of being able to fly up and get back inside. This period of returning to the box is important for their survival. Boxes with low entrance holes allow young to leave the box before they are big or strong enough to fly back up again. Young on the ground are generally ignored by the adults and either starve or are predated. Whereas young emerging from a tree-mounted nestbox stand some chance of being able to climb back up, a pole box does not allow the same possibility.

This design has other important features, see How to choose the best nestbox design

ALTERNATIVE PROVISION cont.

POLEBOX DESIGN



BARN OWL TRUST POLE BOX DESIGN

Photographs of this box under construction may be viewed at www.barnowltrust.org.uk

The platform is made in two parts. After the box has been erected the platform halves simply slide onto the box and the outer extended battens (already attached to one half of the platform) are screwed to the other half. To facilitate this, the box has ladder rests on both sides. Please note that the light grey shaded battens in this diagram are flat and level with the bottom of all the other timbers. This effectively gives the tray an edge that is easy for young birds to grip.

Drawing NOT to scale

all dimensions are millimetres

PERMANENT PROVISION

How to make permanent provision for Barn Owls in a barn conversion or other development

Background

The loss of traditional agricultural buildings through unsympathetic conversion into dwellings has frequently resulted in the loss of roosting and nesting sites, many of which were available to Barn Owls for hundreds of years. Far from being the worst-case scenario, re-development can be a potential lifeline, safeguarding the site for future generations. Experience shows that Barn Owls can continue to use sites during the development phase and adapt to radical alterations, provided that their needs are catered for.

Barn Owls have lived alongside man for thousands of years and some old farmhouses have had owls in the attic for countless generations. Although they are rather shy, Barn Owls will readily occupy dwellings, or any other type of building, provided they can enter and hide unseen. The range of site-types they will use includes: churches and chapels, barns, houses, modern farm buildings, industrial units, ruins, hollows in trees, rock crevices and occasionally even mine shafts. For many years Barn Owls were actively encouraged into buildings, evidence of which can still occasionally be seen in the form of owl windows, usually in the gable ends of traditional agricultural buildings.

Not every building or tree is suitable and some basic requirements must be met. Obviously the birds must be able to get in and will sometimes use surprisingly small entrance holes. They must be able to perch out of sight somewhere that is always dry and for nesting they need an adequately-sized dry ledge or cavity. The vast majority of holes, perches and nests used by Barn Owls are more than three metres above ground level and low-level opportunities are generally ignored.

PLEASE NOTE: provision for Barn Owls should not normally be made within 1km of a motorway, dual-carriageway, or similar (if in doubt please seek advice info@barnowltrust.org.uk)

The importance of making a space for owls INSIDE one of the developed buildings

You may think that the best way to provide a long-term nesting place is to fix a wooden nestbox on the outside of one of the buildings or perhaps on a nearby tree. However, an outdoor nestbox will, at best, last about fifteen years so cannot be considered as permanent provision. You cannot be certain that such boxes will ever be replaced. Most traditional barns have been available for Barn Owls to use for hundreds of years. Making permanent provision means making sure the site continues to be available for at least another hundred years and this is why it really needs to be inside a permanent structure. However, there are lots of different ways in which permanent provision can be made and provided that the owls' needs are taken into account, you can choose exactly where and how you do it within your development.

PERMANENT PROVISION cont.

Deciding on the best way to do it
First of all, check your wildlife survey report. If you employed an ecological consultant he/she should have recommended where permanent provision is made within the development. You may wish to take further advice or simply proceed once you've read the "essential requirements" and "positioning" information below.

In a single-building development it's simply a question of choosing the best place for the hole - the most suitable gable end, or part of the roof. In a group of buildings you should be choosing one of the tallest. However, provided that it is high enough (and meets the other requirements) the provision could be made in a new or redeveloped outbuilding such as a garage overlooking open countryside. Although most holes are incorporated into walls, owl holes have been successfully made through re-thatched roofs and through slate/tile roofs either by constructing a miniature dormer or fashioned in lead. The hole itself is quite small (see below) and the nesting space can be immediately inside the hole, you can create a tunnel that leads to the nesting space, or in the case of a large loft, the birds can fly from the entrance hole to a conventional indoor nestbox. If necessary, a tunnel or passageway can slope upwards to discourage the ingress of rainwater, or downwards, or turn horizontally. Where a nesting space is being built-in, you can make it any shape provided that it meets the "essential requirements" (see below).

If there is no residual loft space, then the box can be partly contained within the wall and the remainder incorporated into a room as an interesting feature. Provided that it is done properly there are no health, nuisance, or condensation problems. For viewing the owls, one-way glass and peep holes can be problematic. However, where a range of barns are converted for holiday accommodation, customers will often return year after year to watch the owls through a CCTV system or webcam. Please note that artificial lighting of nests or nest inspections have licence implications and the relevant Country Agency must be consulted.

PERMANENT PROVISION cont.

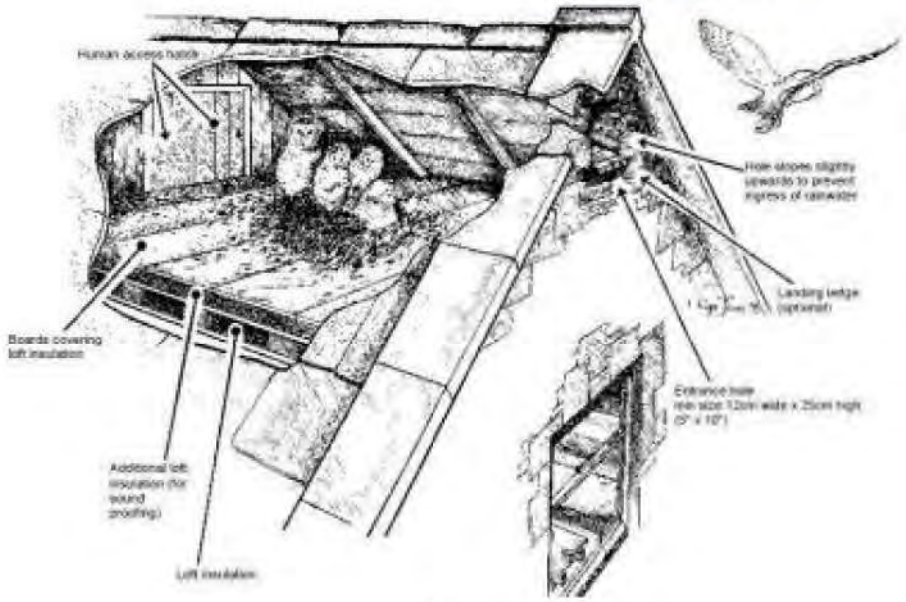
Positioning requirements - for permanent provision in barn conversions etc.

The owl hole should be at a height of not less than 3 metres above ground level and positioned so that it is easily noticed by a bird flying past over open ground (i.e. - not screened by other buildings or trees).

At sites with evidence of occupation by Barn Owls, the position of the owl hole and the proximity of the new nest-place should replicate (as far as possible) those already used by the bird(s). However, where birds may have been "forced" to use one of the lower buildings (because, for example, the larger buildings had no owl hole or no nest-ledge) the permanent provision should be made in one of the tallest buildings irrespective of which building birds are currently using.

Essential design requirements - for incorporating a nesting space (for Barn Owls) into barn conversions, other redeveloped buildings and new build

- Entrance hole: minimum size 100mm wide x 200mm high, optimum size 130mm W x 250mm H, maximum size 200mm W x 300mm H.
- Floor area of nest chamber: absolute minimum 0.4m^2, ideal size is 1m^2 (These dimensions are bigger than those for nestboxes because built-in provision usually lacks external exercise areas that would permit maximum wing stretching prior to fledging).
- Depth from bottom of entrance hole to floor of nesting area must be not less than 460mm.
- Interior must remain dry during prolonged heavy rain coming from any direction.
- Human access for easy clearing-out of nest debris is essential (probably once every 3-4 years or less).
- Measures aimed at reducing the chances of entry by other species (such as Jackdaws) are to be encouraged provided that they do not significantly reduce the box's suitability for Barn Owls.
- Should be substantially constructed and well-insulated against condensation and noise.
- Should not be constructed from tropical hardwood unless the timber is certified as sustainably grown (FSC).
- Hipped roofs, and pitched roofs where optimal siting of the access is through the roof rather than the wall/gable end, will require the use of a specially built miniature dormer or owl-hole 'tile'.
- Where the access is in a vertical structure such as a wall or gable end, there should be an external landing platform or perch below the entrance hole to facilitate the Barn Owls' arrival and departure.
- Owners of buildings with permanent provision in the roof space should also be aware of the following subjects: foraging habitat requirements, the need for clearing out debris so as to maintain internal depth, what to do if a young Barn Owl is found and human safety issues. See barnowltrust.org.uk



WOLD ECOLOGY LTD

2 Redwood Gardens, Driffield, East Riding of Yorkshire. YO25 6XA.
www.woldecology.co.uk

Prospect House Farm, Suffield

Bat Survey, June 2023.

	Staff Member	Position
Lead surveyor(s) :	Daniel Lombard B Sc., MCIEEM Graham Coulbeck Matt Arnold Abi Catherall M Sc	Ecologist.
Report prepared by :	Abi Catherall M Sc	Ecologist.
Notes :	This report contains sensitive information concerning protected species and caution should be exercised when copying and distributing to third parties.	

DOCUMENT CHECKING

Issue No.	Date.	Status.	Verified by.
1	16/06/2023	Draft for internal review.	Abi Catherall MSc
2	27/06/2023	Draft for client review.	Chris Toohie MSc MCIEEM
3	28/06/2023	Submission of non-draft version for client.	Chris Toohie MSc MCIEEM

This report contains sensitive information concerning protected species and caution should be exercised when copying and distributing to third parties.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 In May 2023, Wold Ecology was commissioned by Joe Marshall to undertake a bat survey and assessment at Prospect House Farm, Suffield. The site is located at approximate National Grid Reference SE 99206 90889, in North Yorkshire.

1.2 The field surveys during May and June 2023 identified the following bat roosts:

Structure/ reference	Species	Count/ estimate	Roost location	Site status assessment	Conservation significance of roost	Use and importance of the site throughout the year
Unit 3 **Roost 1**	Common pipistrelle	2	Beneath a tile	Day roost	LOW	No evidence to suggest a maternity roost or significant numbers of bats. Summer use.
Unit 3 **Roost 2**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 3**	Common pipistrelle	2	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 4**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 5**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 6**	Natterer's	1	Gap in stonework	Day roost	LOW	
Unit 3 **Roost 7**	Common pipistrelle	2	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 8**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 3 **Roost 9**	Common pipistrelle	1	Beneath a tile	Day roost	LOW	

1.3 The field survey results are summarised below:

		Application Site Status
Natural England Development License Required prior to building works – **Unit 1** **Unit 2** **Unit 3**	**Bats**	**As unit 1 and unit 3 supports common pipistrelle and natterer's day roosts, any works that will disturb, modify or permanently lose the roosts <u>will</u> require a development licence from Natural England. It is also possible that individual bats could roost in other parts of the units and wider site at other times of year.** A Natural England licence will be obtained prior to the following works commencing on the units: • Exclusion of bats and destructive searches by a bat licensed ecologist • Roof stripping and maintenance work • Erection of scaffolding adjacent to the buildings and within 5m of a roost • Pointing of masonry • Soft strip • Demolition • New windows and doors • Internal conversion The roosts will be disturbed and destroyed as part of the proposed conversion work to the buildings. Details of appropriate mitigation to be included in the Natural England licence application are outlined in section 7.0.
Mitigation required	**Barn owl**	Evidence of Barn owl *Tyto alba* was recorded in unit 3. See separate Barn Owl Report (Wold Ecology 2023).

Proceed with caution, timing constraints	**Birds**	Birds are afforded various levels of protection and levels of conservation status on a species by species basis. The most significant general legislation for British birds lies within Part 1 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation, it is an offence to, kill, injure or take any wild bird, take, damage or destroy the nest of any wild bird while that nest is in use or being built, take or destroy an egg of any wild bird. All nests should remain undisturbed and intact until after the breeding bird season – mid February to early September. Planning consent for a development does not provide a defence against prosecution under this act. Bird's nests were observed in the buildings (refer to section 8.0).

1.4 **Bat roosts are protected throughout the year, whether bats are present or not.**

1.5 All bats and their roosts are fully protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and are further protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Should any bats or evidence of bats be found prior to or during development, work must stop immediately, and Natural England contacted for further advice. This is a legal requirement under the aforementioned acts and applies to whoever carries out the work.

1.6 Planning consent for a development does not provide a defence against prosecution under this act.

1.7 Habitat enhancement for bats should be implemented as outlined in section 7.0, in order to improve foraging opportunities to bats in the local area.

1.8 The data collected to support the output of this report is valid for one year. This report is valid until **June 2024**. After this time, additional surveys need to be undertaken to confirm that the status of the buildings, as a bat roost, has not changed.

1.9 Species list within this report will be forwarded to the local biodiversity records centre to be included on their national database. No personal information will be sent. Please contact Wold Ecology if you do not wish the species accounts and 10 figure grid references to be shared.

Date	Taxon Name	Common Name	Location	County	Grid reference	Record Type	Abundance
25/05/23	Pipistrellus pipistrellus	Common Pipistrelle	Prospect House Farm, Suffield	N. Yorkshire	SE 99206 90889	Day x 5	6
16/06/23	Pipistrellus pipistrellus	Common Pipistrelle	Prospect House Farm, Suffield	N. Yorkshire	SE 99206 90889	Day x 3	4
16/06/23	Myotis nattereri	Natterer's	Prospect House Farm, Suffield	N. Yorkshire	SE 99206 90889	Day	1

2.0 INTRODUCTION

2.1 Background Information

2.1.1 In May 2023, Wold Ecology was commissioned by Joe Marshall to undertake a bat survey and assessment at Prospect House Farm, Suffield. The site is located at approximate National Grid Reference SE 99206 90889, in North Yorkshire.

2.1.2 The Application Site comprises the following buildings:

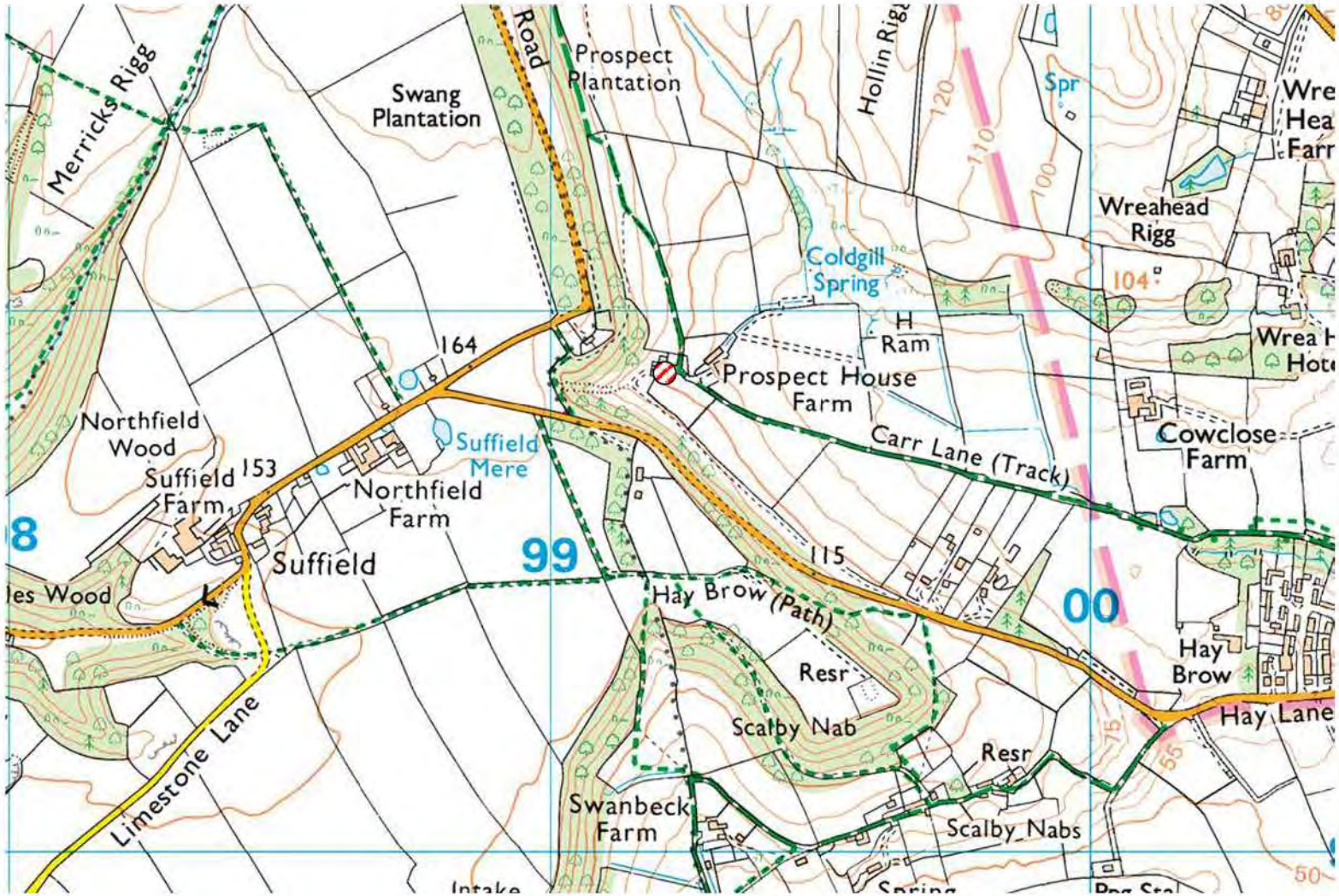
- Unit 1
- Unit 2
- Unit 3

2.1.3 The proposed development includes the partial demolition and conversion works into holiday lets of the buildings on site.

2.2 Survey Objectives

2.2.1 The site was visited and assessed on 10th May 2023, 25th May 2023 and 16th June 2023; this was to determine whether the buildings on site contained bat roosts. The work involved the following elements:

Survey objective	Yes/No	Comments
Determine presence/absence of roosting bats	Yes	A daytime, visual inspection for bat roosts and roosting bats. An assessment of the on-site potential for bats and the likelihood of their presence. Desktop study.
Determine bat usage e.gs maternity roost, summer roosts	Yes	An assessment of whether bats are a constraint to the development. Emergence (dusk) survey. Return (dawn) survey. Endoscope survey (where accessible)
Identify swarming, commuting or mating sites	Yes	The survey looked at commuting routes from the roost to foraging grounds to ensure works did not impact these.
Other	Yes	The production of a non-technical summary of the legal implications behind bat presence.
		Report the findings of the field survey work and identify recommendations for a potential mitigation strategy.



NORTH

Scale: 1:25,000

Drawing title:
Location Map

KEY

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3.0 BACKGROUND TO SPECIES

3.1 Ecological overview

3.1.1 There are seventeen species of bat that currently breed in the UK. There is a wide variety of roost type and ecological characteristics between species and for this reason it is necessary to determine the species of bat and the type of roost resident in a structure prior to development. Roosts are utilised by different species of bat, at different times of year for different purposes i.e. summer, breeding, hibernating, and mating etc. (for more detailed information see section 9.0).

3.1.2 Bat populations have undergone a significant decline in the latter part of the 20th century; the main factors cited for causing loss and decline include:

- A reduction in insect prey abundance, due to high intensity farming practice and inappropriate riparian management.
- Loss of insect-rich feeding habitats and flyways, due to loss of wetlands, hedgerows, and other suitable prey habitats.
- Loss of winter roosting sites in buildings and old trees.
- Disturbance and destruction of roosts, including the loss of maternity roosts due to the use of toxic timber treatment chemicals.

3.2 Legal Framework

3.2.1 A bat survey is required prior to planning permission being granted for a development, in order to prevent the potential disturbance, injury and /or death of bats and the disturbance, obstruction and/or destruction of their roosting places. This is in compliance with the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, provision 41 states an offence is committed if a person:

(a) Deliberately captures, injures, or kills any wild animal of a European protected species (i.e. bats),
(b) Deliberately disturbs wild animals of any such species,
(c) Deliberately takes or destroys the eggs of such an animal, or
(d) Damages or destroys a breeding site or resting place of such an animal.

3.2.2 Section 9 of the Wildlife and Countryside Act (1981) states:

- It is an offence for anyone without a licence to kill, injure, disturb, catch, handle, possess or exchange a bat intentionally. It is also illegal for anyone without a licence to intentionally damage or obstruct access to any place that a bat uses for shelter or protection.

3.2.3 Bat roosts are protected throughout the year, whether or not bats are occupying a roost site.

3.3 Planning Policy Guidance

3.3.1 A bat survey is a requirement of the Local Planning Authority (LPA), as part of the planning application process. This is specified in the following government policy:

- National Planning Policy Framework (NPPF): Conserving and Enhancing the Natural Environment.

3.3.2 To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

c) Protect and enhance valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).

d) recognise the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.

e) Minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

f) Prevent new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

3.3.3 When determining planning applications, local planning authorities should apply the following principles:

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

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted.

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

3.3.4 The LPA has to assess whether the development proposal would breach Article 12(1) of the Habitats Directive. If Article 12(1) would be breached, the LPA would have to consider whether Natural England was likely to grant a European protected species licence for the development; and in so doing the LPA would have to consider the three derogation tests:

a) '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'.

In addition, the LPA must be satisfied that:

(b) 'That there is no satisfactory alternative'

(c) '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'.

3.3.5 Relevant Case Law

- Woolley v Cheshire East Borough (2009).
- R. (Morge) v Hampshire County Council (2011).
- Prideaux v. Buckinghamshire County Council and Fcc Environmental UK Limited (2013).

3.3.6 The rulings summarise that if it is clear or perhaps very likely that the requirements of the Directive cannot be met because there is a satisfactory alternative or because there are no conceivable 'other imperative reasons of over-riding public interest" then the authority should act on that and refuse permission.'

3.3.7 The conclusion of the judgement is that LPAs must ensure that the option/alternative that best takes into account all the relevant considerations (not just EPS) should be the preferred option assuming that the other two tests specified in Article 16 (1) are also met.

3.3.8 The judgements also clarified that it was not sufficient for planning authorities to claim that they had discharged their duties by imposing a condition on a consent that requires the developer to obtain a licence from Natural England. Natural England considers it essential that appropriate survey information supports a planning application prior to the determination. Natural England does not regard the conditioning of surveys to a planning consent as an appropriate use of conditions.

4.0 ASSESSMENT METHODOLOGY

4.1 Status of species present in Yorkshire

Bat Specie	UK Status	UK Distribution	Yorkshire Distribution
Common Pipistrelle	Not threatened	Common & widespread	Common & widespread.
Soprano pipistrelle	Not threatened	Common & widespread	Less common than common pipistrelle but fairly widespread.
Nathusius's pipistrelle	Rare	Restricted. Throughout British Isles.	Scarce, bat detector records only.
Brown long-eared	Not threatened	Widespread	Widespread.
Daubenton's	Not threatened	Widespread	Widespread.
Natterer's	Not threatened	Widespread (except N & W Scotland)	Present
Brandt's	Endangered	England and Wales	Few confirmed records.
Whiskered	Endangered	England, Wales, Ireland & S Scotland.	Present.
Noctule	Vulnerable	England, Wales, S Scotland.	Widespread
Leisler	Vulnerable	Widespread throughout the British Isles, except N Scotland.	Rare (locally common in West Yorkshire).
Barbastelle	Rare	England.	No records since 1950's.

Source - http://www.nyorkbats.freeserve.co.uk/bats.htm

4.2 Data Review and Desk Study

4.2.1 Currently, there is no pre-existing information on bats at the site.

4.2.2 Wold Ecology employees, field surveyors and network of associate ecologists have recorded brown long-eared *Plecotus auritus*, noctule *Nyctalus noctula*, Natterer's *Myotis nattereri*, Daubenton's *Myotis daubentonii*, Brandt's *Myotis brandtii*, whiskered *Myotis mystacinus*, soprano pipistrelle *Pipistrellus pygmaeus* and common pipistrelle *Pipistrellus pipistrellus* within 5km of the Application Site. Wold Ecology bat records date from 2006 and include over 1000 bat activity surveys.

4.2.3 There are no known Natural England development licenses relating to bats within 2km of the Application Site (source – www.magic.gov.uk).

4.2.4 Wold Ecology bat activity surveys within 5km of the Application Site have recorded the following roosts:

Date	Taxon Name	Common Name	Location	County	Grid reference	Record Type	Abundance
17/05/23	Pipistrellus pipistrellus	Common Pipistrelle	Wrench Green Farm	N. Yorkshire	SE 96606 89496	Day x 4	5
17/05/23	Plecotus auritus	Brown long-eared	Wrench Green Farm	N. Yorkshire	SE 96606 89496	Day	1
23/06/23	Plecotus auritus	Brown long-eared	Wrench Green Farm	N. Yorkshire	SE 96606 89496	Day x 2	2
23/06/23	Pipistrellus pipistrellus	Common Pipistrelle	Wrench Green Farm	N. Yorkshire	SE 96606 89496	Day	1
23/06/23	Pipistrellus pygmaeus	Soprano Pipistrelle	Wrench Green Farm	N. Yorkshire	SE 96606 89496	Day	1
March 2020	Pipistrellus pipistrellus	Common Pipistrelle	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Hibernation	2
24/08/20	Myotis mystacinus	Whiskered bat	Beacon Farm, Scalby	N. Yorkshire	SE 99093 92504	Day	1
22/09/20	Pipistrellus pygmaeus	Soprano pipistrelle	Beacon Farm, Scalby	N. Yorkshire	SE 99093 92504	Day	9
22/09/20	Plecotus auritus	Brown long-eared bat	Beacon Farm, Scalby	N. Yorkshire	SE 99093 92504	Day	1
17/11/20	Pipistrellus pipistrellus	Common Pipistrelle	Beacon Farm, Scalby	N. Yorkshire	SE 99093 92504	Transitional	1
May 2019	Pipistrellus pipistrellus	Common pipistrelle	White Lodge Farm, Langdale End	N. Yorkshire	SE 93701 91336	Day x 2	2
September 2019	Pipistrellus pipistrellus	Common pipistrelle	White Lodge Farm, Langdale End	N. Yorkshire	SE 93701 91336	Day	3
04/06/19	Pipistrellus pipistrellus	Common Pipistrelle	Beacon Farm, Scalby	N. Yorkshire	SE 99093 92504	Day	13
June/July 2019	Pipistrellus pipistrellus	Common Pipistrelle	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Day x 9	48
June/July 2019	Pipistrellus pipistrellus	Common Pipistrelle	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Maternity	47
June/July 2019	Plecotus auritus	Brown long-eared	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Maternity	19
June/July 2019	Plecotus auritus	Brown long-eared	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Day	1
June/July 2019	Pipistrellus pygmaeus	Soprano pipistrelle	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Day x 2	4
June/July 2019	Myotis Brandt's	Brandt's	Highdales Farm, Hackness	N. Yorkshire	SE 94971 93028	Day	1
May 2018	Plecotus auritus	Brown long-eared	Thirley Coates	N. Yorkshire	SE 97596 95092	Day x 2	5
May 2018	Pipistrellus pipistrellus	Common pipistrelle	Thirley Coates	N. Yorkshire	SE 97596 95092	Day	4
June 2018	Pipistrellus pygmaeus	Soprano pipistrelle	Thirley Coates	N. Yorkshire	SE 97596 95092	Day x 3	3

June 2018	Pipistrellus pygmaeus	Soprano pipistrelle	Thirley Coates	N. Yorkshire	SE 97596 95092	Maternity	144
June 2018	Pipistrellus pygmaeus	Soprano pipistrelle	Thirley Coates	N. Yorkshire	SE 97596 95092	Satellite	36
June 2018	Plecotus auritus	Brown long-eared	Thirley Coates	N. Yorkshire	SE 97596 95092	Maternity	10
May/Aug 2018	Pipistrellus pipistrellus	Common Pipistrelle	St Marks Church, Newby	N. Yorkshire	TA 02333 89877	Day	5
May 2018	Plecotus auritus	Brown long-eared	St Marks Church, Newby	N. Yorkshire	TA 02333 89877	Day	1
June 2016	Pipistrellus pipistrellus	Common Pipistrelle	White Lodge Farm, Langdale End	N. Yorkshire	SE 93701 91336	Day	1
May 2016	Pipistrellus pipistrellus	Common Pipistrelle	Roadside Farm	N. Yorkshire	SE 98054 95368	Day	1

4.3 Daytime and Visual Inspection

4.3.1 The daytime assessment identified whether the buildings within the red line boundary had any signs of occupancy, bat roosts and/or bat usage. This took the form of a methodical search, both internally and externally, for actual roosting bats and their signs. Specifically, the visual survey involved:

- Assessment for droppings on walls, windowsills and in roof spaces.
- Scratch marks and staining on beams, other internal structures and potential entrance and exit holes.
- Wing fragments of butterfly and moth species underneath beams and other internal structures.
- The presence of dense spider webs at a potential roost can often indicate absence of bats.
- Assessment of crevices and cracks to assess their importance for roosting bats.

4.3.2 Summary of daytime inspection and visual survey

Date of each survey visit	Structure reference/location	Equipment used/available	Weather
10/05/23	Unit 1 - 3	Cluson CB2 lamp Dart endoscope Dewalt Laser Measure. 3.9m telescopic ladders Binoculars	15°C, 60% cloud. Beaufort 2. No recent rain.
Comments (to include # of surveyors used for each visit): 1 surveyor undertook the visual inspection.			
25/05/23	Unit 1 - 3	Cluson CB2 lamp Dart endoscope Dewalt Laser Measure 3.9m telescopic ladders Binoculars	14°C, 100% cloud. Beaufort 1. No recent rain.
Comments (to include # of surveyors used for each visit): 2 surveyors undertook the visual inspection.			
Personnel: Daniel Lombard (Class 1 bat licence – 2015-11490-CLS-CLS) – 25th May 2023			

4.4 Activity Surveys

4.4.1 Emergence surveys are used to determine bat presence in a building and can also give a good estimate of the numbers present. Bats can emerge up to 15 minutes before sunset and 2 hours after sunset. The survey times ensured that bats would have emerged from their roost sites and would be foraging (see section 9.4 and 9.5).

4.4.2 Summary of emergence survey(s)

Date of each survey visit	Start/end times and times of sunset	Structure reference/location	Equipment used/available	Weather
25/05/23	Sunset: 2115 Start: 2100 Finish: 2315	Unit 1 - 3	Cluson CB2 lamp Digital thermometer Anabat Walkabout Wildlife Acoustics EM Touch 2 PRO EM3 Anabat Express Pulsar Helion thermal imaging scope Reolink 4K PoE IP Camera Nightfox Red Night vision camera	14°C - 13°C, 100% cloud. Beaufort 1. No recent rain.
Comments (to include # of surveyors used for each visit): 4 surveyors were positioned around the site so that all potential access points, identified in the daytime, visual inspection, could be observed.				
Personnel: Daniel Lombard (Class 1 bat licence – 2015-11490-CLS-CLS) – 25th May 2023 Abi Catherall (Class 1 bat license 2022-10667-CL17-BAT) –25th May 2023 Craig Hullah and Lyndsey Crawford Darwell – 25th May 2023				

4.4.3 Return surveys conducted at sunrise are particularly useful as bats tend to swarm outside their roosts for up to 2 hours before entering, thus allowing the surveyor more time to identify the bat and entrance locations. Bats will return to roosts approximately 90 minutes before sunrise and 15 minutes after. The timing of the survey ensured that returning bats would be recorded (see section 9.4 and 9.5).

4.4.4 Summary of return survey(s)

Date of each survey visit	Start/end times and times of sunrise	Structure reference/location	Equipment used/available	Weather
16/06/23	Sunrise: 0427 Start: 0227 Finish: 0440	Unit 1 - 3	Cluson CB2 lamp Digital thermometer Anabat Walkabout Wildlife Acoustics EM Touch 2 PRO EM3	13°C - 14°C, 0% cloud. Beaufort 1, NE. No recent rain.

			Anabat Express Pulsar Helion thermal imaging scope Reolink 4K PoE IP Camera Nightfox Red Night vision camera	
Comments (to include # of surveyors used for each visit): 4 surveyors were positioned around the site so that all potential access points, identified in the daytime, visual inspection, could be observed.				
Personnel: Daniel Lombard (Class 1 bat licence – 2015-11490-CLS-CLS) – 16th June 2023 Graham Coulbeck (2021-55198-CLS-CLS) – 16th June 2023 Matthew Arnold (Class 1 bat licence – 2018-35035- CLS-CLS) – 16th June 2023 Abi Catherall (Class 1 bat license 2022-10667-CL17-BAT) – 16th June 2023				

4.5 Summary of personnel

Daniel Lombard MCIEEM	Experienced bat surveyor since 2008, Daniel has assisted with over 500 bat surveys for Wold Ecology and is currently working towards his bat handling license.	2015-11490-CLS-CLS
Graham Coulbeck	Experienced Wold Ecology Ltd bat surveyor with over 3 years of bat activity survey experience undertaken under the tuition of Wold Ecology licensed bat ecologists. Graham has undertaken over 250 bat activity surveys.	2021-55198-CLS-CLS
Matthew Arnold	Experienced Wold Ecology Ltd bat surveyor, Matthew has conducted over 250 bat activity surveys for Wold Ecology since 2013.	2018-35035-CLS-CLS
Abi Catherall	Experienced bat surveyor, Abi has conducted over 100 bat activity surveys including bat monitoring with the North Yorkshire Bat Group.	2022-10667-CL17-BAT
Craig Hullah	Experienced Wold Ecology Ltd bat surveyor with over 3 years of bat activity survey experience undertaken under the tuition of Wold Ecology licensed bat ecologists. Craig has undertaken over 100 bat activity surveys.	N/A
Lyndsey Crawford-Darwell	Wold Ecology Ltd associate with bat activity survey experience undertaken under the tuition of Wold Ecology licensed bat ecologists.	N/A

5.0 RESULTS

5.1 Habitat description

5.1.1 The Application Site is located 800m northeast of Suffield village, in a rural location. The Application Site is less than 0.5ha and the studied buildings are immediately surrounded by a farmyard and arable/grazed pasture. There are a number of other buildings on site that also have bat roosting potential but will remain outside of the red line boundary.

5.1.2 Adjacent Landscapes

5.1.2.1 Prospect House Farm is surrounded by woodland and mixed agricultural land dominated by arable with grazed pastures. Woodland cover within 2km is good and occurs as shelterbelts adjacent to farms and small holdings, semi natural woodland and plantations; Broxa Forest is approximately 2.7km north west of the farm. The Application Site is located within 20m of Prospect Plantation and further connectivity within 500m is provided by hedgerows that bound arable fields and woodland cover. In addition, the Sea Cut (1.3km south) and associated riparian woodlands also provide habitat connectivity to the wider countryside.

5.1.3 Habitat Summary

5.1.3.1 A summary of the surrounding habitat is (radius of < 2km from the site):

- Buildings – farm buildings and residential properties
- Hedgerow
- Hedgerows with trees
- Mature trees and woodland
- Arable
- Mature private gardens
- Ponds and watercourses
- Grazed pasture
- Suffield Moor
- Inn Moor
- Prospect Plantation
- Swang Plantation
- Northfield Wood
- Thirlsey Wood
- Greengate Wood
- Hilda Wood
- Bellsdale East Wood
- Crossdales Wood
- Intake Wood
- Hawthorn Wood
- Carr Wood
- Low Wood
- Washy Cote Beck
- Crossdales Beck
- North Back Drain
- Sea Cut

- Suffield Mere

5.1.4 Core sustenance zones

5.1.4.1 The following tables ascertain bat species (typical of the locality) core sustenance zone and which habitats are of primary importance for foraging to support the roost

Species	CSZ radius (km)
Brown long-eared bat *Plecotus auritus*	3
Daubenton's bat *Myotis daubentonii*	2
Natterer's bat *Myotis nattereri*	4
Whiskered/Brandt's/Alcathoe bat *Myotis mystacinus/brandtii/alcathoe*	1
Common pipistrelle *Pipistrellus pipistrellus*	2
Soprano pipistrelle *Pipistrellus pygmaeus*	3
Nathusius pipistrelle *Pipistrellus nathusii*	3
Noctule *Nyctalus noctula*	4
Leisler's bat *Nyctalus leisleri*	3

5.1.5 Wold Ecology concludes that habitats within 3km comprise primary and secondary bat habitats and habitat features including tree lines, hedgerows, scrub, watercourses and woodlands which are important habitat features. These primary and secondary bat habitats are located within 50m of the Application Site; these adjacent habitats are considered to have moderate suitability for commuting and foraging bats. Habitats adjacent to the farm and within 3km of the Application Site are considered to be important to the favourable population status of local bat populations.

5.1.6 Primary and secondary bat habitats in relation to core sustenance zones

Bat species	Primary habitats/features	Secondary habitats
Noctule		Found in a range of habitats foraging in the open or often over trees, pasture and water
Leisler's	Sympathetically managed pasture appears to be a preferred foraging habitat in both Great Britain and Ireland (Shiel and Fairley, 1999; Waters et al., 1999), Use is also made of woodland edges and tree-lined roads (Waters et al., 1999; Russ and Montgomery, 2002).	Drainage channels, lakes, rivers, canals, coniferous forests, parkland
Common pipistrelle	The common pipistrelle bat forages over sympathetically managed grazed pasture and deciduous woodland.	
Soprano pipistrelle	The soprano pipistrelle bat is frequently reported to make particular use of riparian habitat (Davidson-Watts and Jones, 2006; Nicholls and A. Racey, 2006; Lintott et al., 2016	In woodlands edges
Nathusius pipistrelle	Riparian habitats, large freshwater lakes, estuaries and canals. Broad-leaved & mixed woodland edges and parkland.	Managed gardens and fields around lakes
Whiskered bat	Studies indicate a preference for, mixed or broadleaved woodland, hedgerows, Sympathetically grazed pasture riparian vegetation and wetlands.	Orchards
Brandt's bat	Woodland, particularly damp areas close to water (Taake, 1984).	Sympathetically grazed pasture.
Brown long-eared bat	The species is strongly associated with trees, particularly broadleaved preferring woodland with a cluttered understorey, (Murphy *et al,* 2012)	Will forage in mixed woodland and also forages around trees in more open habitats, including parks, orchards and gardens (Dietz and Keifer, 2016).
Natterer's bat	The species is commonly associated with trees, particularly broadleaved woodland, but also makes use of tree-lined river corridors, trees in parkland, and hedgerows adjacent to pasture (Parsons and Jones, 2003; Smith and Racey, 2008; Zeale et al., 2016).	It also forages over grassland
Daubenton's bat	The species is strongly associated with riparian habitats. It prefers large waterways with abundant woodland in the local environment (Langton et al., 2010) and, at least in upland riverine environments, it appears to select locations with trees on both banks (Warren et al., 2000)	Also forages in woodland
Alcathoe bat	Little evidence on its habitat preferences in Great Britain. However, the species is usually captured in areas with extensive semi-ancient woodland ((Jan et al., 2010; Daniel Whitby, pers. comm.); Daniel Whitby, pers. comm.).	No specific needs known

NORTH

Scale: 1:25,000

Drawing title:
Aerial Photograph

KEY

Application Site

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5.2 Building descriptions

5.2.1 The bat survey and assessment targeted the following (see section 5.5):

a. ***Unit 1*** – is two storeys and comprises local stone walls and a pitched roof covered with corrugated cement fibre boards. The roof is supported by smooth sawn timbers and is not lined. The building is used for storage. A small lean to adjoins the building and comprises breezeblock and Yorkshire boarding walls and a pitched roof covered with corrugated cement fibre boards.

b. ***Unit 2*** – is single storey and comprises local stone walls and a pitched roof covered with slates and corrugated cement fibre boards. The roof is supported by smooth sawn timbers and is not lined. The building is used for storage.

c. ***Unit 3*** - is two storeys and comprises local stone walls and a pitched roof primarily covered with pan tiles with a small section of slates. The roof is supported by smooth sawn timbers and is partially underdrawn with a bitumen felt product. The building is used for storage. A lean to adjoins the building and comprises breezeblock and Yorkshire boarding walls and a pitched roof covered with corrugated cement fibre boards.

5.2.2 **Unit 1** (see 5.5 plates 1 - 5) - the following roosting opportunities were present within the fabric of the building:

- Gaps beneath the lead ridges.
- Gaps in missing mortar below gable roof sheets.
- Gaps above the eaves.
- Missing mortar in the external stone work.
- Gaps adjacent to timber doors and timber windows.
- Gaps adjacent to timber lintels.
- Gaps above the internal wall plates.
- Wide gaps above the ridge beam.
- Gaps in the internal stone work.
- Bat access into the building is provided by open doors and windows.
- No evidence of bats was observed.
- The building has been assessed as having a MODERATE SUITABILITY to support bats.

5.2.3 **Unit 2** (see 5.5 plates 6 - 9) - the following roosting opportunities were present within the fabric of the building:

- Gaps beneath the ridge tiles where mortar has been displaced.
- There are no missing ridge tiles.
- Gaps beneath slates.
- Missing/slipped slates.
- Gaps above the eaves.
- Missing mortar in the external stone work.
- Subsidence cracks.
- Gaps adjacent to timber doors and timber windows.
- Gaps adjacent to timber lintels.
- Gaps above the internal wall plates.
- Gaps above the ridge beam.
- Gaps in the internal stone work.

- Bat access into the building is provided by open doors and windows.
- The following evidence of bats was observed:
  - One bat dropping was observed on top of a storage pallet although this may have been from a foraging bat.
- The building has been assessed as having a HIGH SUITABILITY to support bats.

5.2.4 **Unit 3** (see 5.5 plates 10 - 15) - the following roosting opportunities were present within the fabric of the building:

- Gaps beneath the ridge tiles where mortar has been displaced.
- There are no missing ridge tiles.
- Loose fitting pan tiles with gaps beneath.
- Missing/slipped pan tiles.
- Gaps in missing mortar below gable tiles.
- Gaps beneath coping stones.
- Gaps above the eaves.
- Missing mortar in the external stone work.
- Subsidence cracks.
- Gaps adjacent to timber doors and timber windows.
- Gaps adjacent to timber lintels.
- Gaps above the internal wall plates.
- Gaps above the ridge beam.
- Gaps between timber slats and pan tiles above.
- Gaps between felt and pan tiles above.
- Gaps in the internal stone work.
- Gaps in the roof structure and mortice joints.
- Bat access into the building is provided by open doors and windows.
- The following evidence of bats was observed:
  - Two bat droppings were observed on top of a storage item although these may have been from a foraging bat.
- The building has been assessed as having a HIGH SUITABILITY to support bats.

5.3 Based on the field survey and the criteria in table 4.1 (Bat Surveys for Professional Ecologists – 3rd Edition, p35. Bat Conservation Trust, 2016), the Application Site and studied buildings have the following suitability for bats:

	Negligible	Low	Moderate	High
Application Site habitats (<3km)			X	
Unit 1			X	
Unit 2				X
Unit 3				X

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] 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[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
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[a] 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).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
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[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Source - Bat Surveys for Professional Ecologists – 3rd Edition, p35. Bat Conservation Trust, 2016.

5.3 Justification of activity surveys

5.3.1 The level of survey to give confidence in a **negative result** is summarised as (Bat Surveys for Professional Ecologists, 3rd Edition. Bat Conservation Trust, 2016):

Low Roost Suitability	Moderate Roost Suitability	High Roost Suitability
One survey visit. One dusk emergence or dawn re-entry survey.	Two separate survey visits. One dusk emergence survey and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence survey and a separate dawn re-entry survey. The third visit could either be dusk or dawn.
May to August.	May to September with at least one survey between May to August.	May to September with at least two surveys between May to August.
Activity surveys should be at least 2 weeks apart. Moderate buildings will be assessed according to site location and habitats within the locality and if there is a possibility that late emerging bats are present, a dawn survey will be more appropriate.		

5.3.2 The Application Site requires the following surveys between May and late September:

	Emergence (dusk)			Re-entry (dawn)		
	LOW	MOD	HIGH	LOW	MOD	HIGH
Unit 1		x 1			x 1	
Unit 2			x 2			x 1
Unit 3			x 2			x 1

5.4 Results of Activity Surveys

5.4.1 Emergence Survey

5.4.1.1 **25th May 2023**

- The first common pipistrelle bat was detected at 2122; the bat emerged from a gap under a ridge tile on the northwest elevation of unit 3 (Roost 1).
- Common pipistrelle, soprano pipistrelle and noctule bats were detected and/or observed foraging and commuting around the site in good numbers.
- The following bat roosts were observed:
  - **Roost 1** – common pipistrelle roost located in a gap under a ridge tile on the northwest elevation of unit 3. The roost contains 2 bats (see 5.5 plate 11).
  - **Roost 2** – common pipistrelle roost located in a gap in the stonework on the north gable of unit 3. The roost contains 1 bat (see 5.5 plate 11)
  - **Roost 3** – common pipistrelle roost located in a gap in the stonework next to the window on the southwest gable of unit 1. The roost contains 2 bats (see 5.5 plate 4)
  - **Roost 4** – common pipistrelle roost located in a gap in the stonework above the door on the southwest gable of unit 1. The roost contains 1 bat (see 5.5 plate 4)
  - **Roost 5** – common pipistrelle roost located in a gap in the stonework on the southeast elevation of unit 1. The roost contains 1 bat (see 5.5 plate 7)

5.4.1.2 For survey results see appendix 9.4 and 9.5.

5.4.2 Return Survey

5.4.2.1 **16th June 2023**

- Bat activity was low throughout much of the survey with the site used by common pipistrelle, soprano pipistrelle, Daubenton's, Natterer's, whiskered, noctule and brown long-eared bats.
- The following bat roosts were observed:
  - **Roost 6** – natterer's roost located in a gap in the stonework adjacent to a timber beam on the northwest elevation of unit 1. The roost contains 1 bat (see 5.5, plate 2).
  - **Roost 7** – common pipistrelle roost located in a gap in the stonework on the north gable of unit 3. The roost contains 2 bats (see 5.5 plate 11)

- **Roost 8** – common pipistrelle roost located in a gap in the stonework on the southwest gable of unit 1. The roost contains 1 bat (see 5.5 plate 4)
- **Roost 9** – common pipistrelle roost located in a gap beneath a tile on the northwest elevation of unit 3. The roost contains 1 bat (see 5.5 plate 11)

5.4.2.2 For survey results see appendix section 9.4 and 9.5.

5.5 Photographs of key features – May 2023

Plate 1 – Unit 1, east elevation and north gable.

Plate 2 – Unit 1, northwest elevation and north gable.

Plate 3 – Unit 1, northwest and southwest elevation.

Plate 4 – Unit 1, southwest elevation.

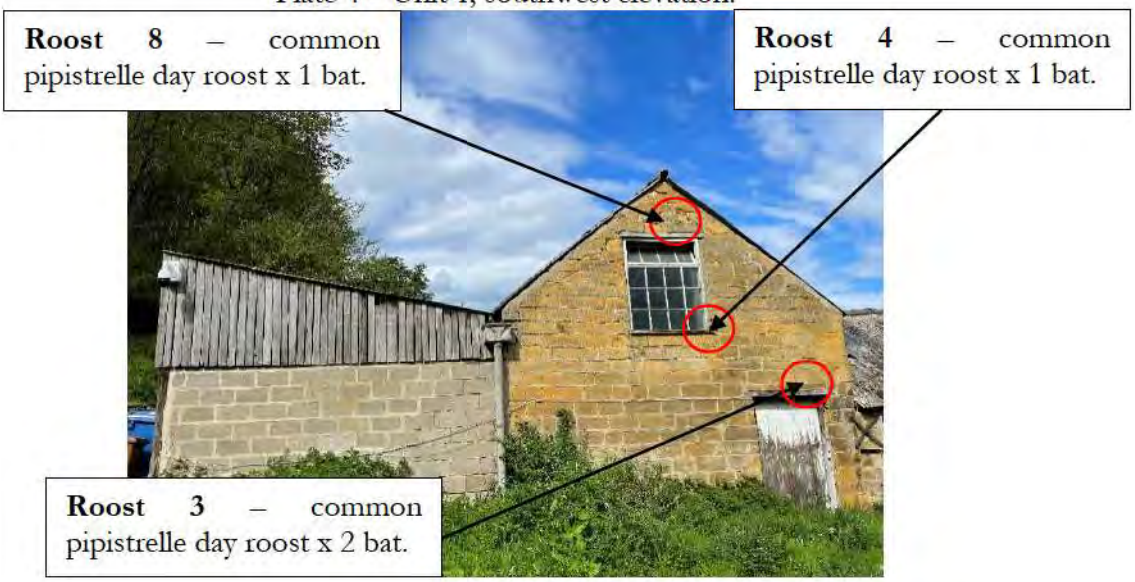


Plate 5 – Unit 1, internal roof structure.

Plate 6 – Unit 2, northeast elevation.

Plate 7 – Unit 2, southwest elevation.

Roost 5 – common pipistrelle day roost x 1 bat.

Plate 8 – Unit 2, internal roof structure.

Plate 9 – Unit 2, bat dropping.

Plate 10 – Unit 3, northeast elevation.

Plate 11 – Unit 3, northwest elevation, north gable.

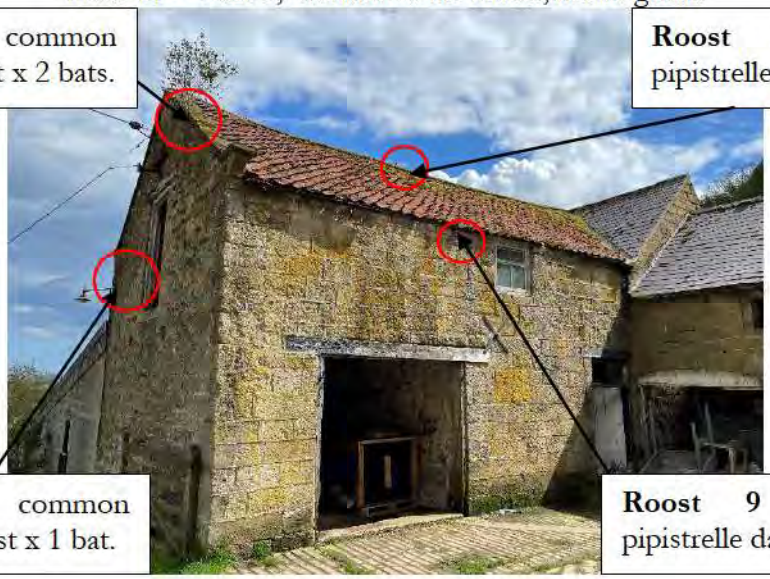
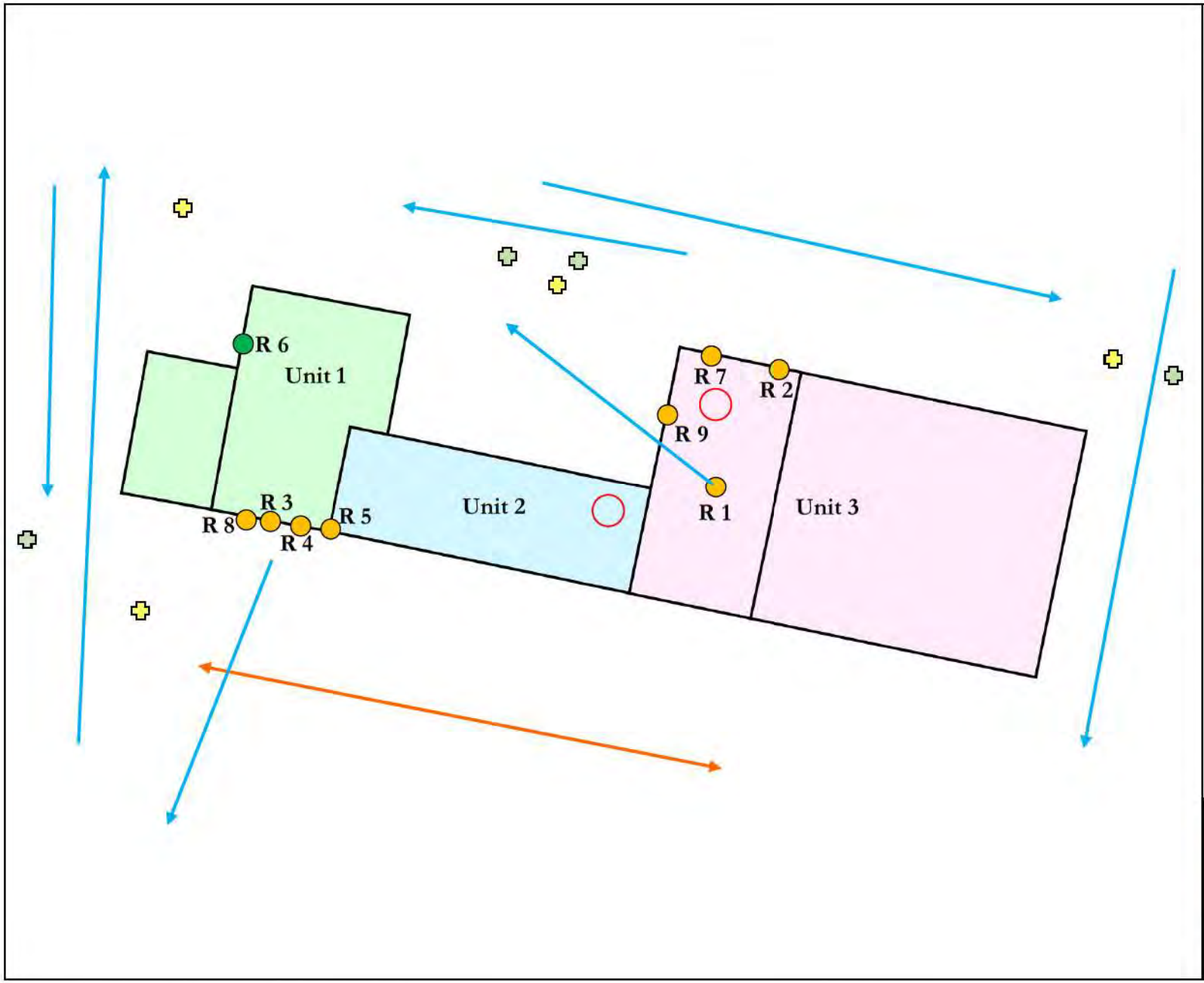


Plate 12 – Unit 3, east and southwest elevation.

Plate 13 – Unit 3, internal roof structure.

Plate 14 – Unit 3, internal roof structure.

Plate 15 – Unit 3, bat dropping.



NORTH

Not to Scale

Drawing title:
Layout plan of the Application Site and summary of bat surveys.

KEY

- Primary commuting route
- Primary foraging activity
- Location of surveyor – 25th May 2023
- Location of surveyor – 16th June 2023
- Common pipistrelle day roost
- Natterer's day roost
- Location of bat droppings
- R Roost

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5.6 Summary of field surveys conducted in 2023

Date	Type of survey	Results	Building Dimensions (m)		
			L	W	H*
10/05/23	Habitat assessment	Wold Ecology concludes that habitats within 3km comprise primary and secondary bat habitats and habitat features including tree lines, hedgerows, scrub, watercourses and woodlands which are important habitat features. These primary and secondary bat habitats are located within 50m of the Application Site; these adjacent habitats are considered to have moderate suitability for commuting and foraging bats. Habitats adjacent to the farm and within 3km of the Application Site are considered to be important to the favourable population status of local bat populations.			
10/05/23	Visual inspection.	*Unit 1* There were no signs of roosting bats or bat activity inside the building, but due to the presence of features with potential to provide roosting opportunities for bats, the building has been assessed as having a MODERATE SUITABILITY to support roosting bats (see 5.5 plates 1 - 4).	10.8	4.9	6
		Unit 2 The following evidence of bats was observed: • One bat dropping was observed on top of a storage pallet. Unit 2 has been assessed as having HIGH SUITABILITY to support roosting bats, due to the presence of bat droppings and other features which have potential to provide roosting opportunities for bats (see 5.5 plates 5 - 8).	18	4.5	5.5
		Unit 3 The following evidence of bats was observed: • Two bat droppings were observed on top of a storage item. Unit 3 has been assessed as having HIGH SUITABILITY to support roosting bats, due to the presence of bat droppings and other features which have potential to provide roosting opportunities for bats (see 5.5 plates 9 - 14).	11.9	5.5	6.2

Date	Spp.	Roost type	Structure Reference	Roost Location	Access points (including #)	Dimension of roost or explanation where the roost is
25/05/23 (emergence)	Common pipistrelle x 2 bats	Day	Unit 3 **Roost 1**	Located in a gap under a ridge tile on the northwest elevation	External roost x 1 access point	Gap approximately 20mm x 30mm.
	Common pipistrelle x 1 bat	Day	Unit 3 **Roost 2**	Located in a gap in the stonework on the north gable	External roost x 1 access point	Gap approximately 30mm x 50mm.
	Common pipistrelle x 2 bats	Day	Unit 1 **Roost 3**	Located in gap in the stonework next to the window on the southwest gable	External roost x 1 access point	Gap approximately 30mm x 50mm.

	Common pipistrelle x 1 bat	Day	Unit 1 **Roost 4**	Located in a gap in the stonework above the door on the southwest gable	External roost x 1 access point	Gap approximately 30mm x 50mm.
	Common pipistrelle x 1 bat	Day	Unit 1 **Roost 5**	Located in a gap in the stonework on the southeast elevation	External roost x 1 access point	Gap approximately 30mm x 50mm.
16/06/23 (return)	Natterer's x 1 bat	Day	Unit 1 **Roost 6**	Located in a gap in the stonework adjacent to a timber beam on the northwest elevation	External roost x 1 access point	Gap approximately 70mm x 30mm
	Common pipistrelle x 2 bats	Day	Unit 3 **Roost 7**	Located in a gap in the stonework on the north gable	External roost x 1 access point	Gap approximately 30mm x 50mm.
	Common pipistrelle x 1 bat	Day	Unit 1 **Roost 8**	Located in a gap in the stonework on the southwest gable	External roost x 1 access point	Gap approximately 30mm x 20mm.
	Common pipistrelle x 1 bat	Day	Unit 3 **Roost 9**	Located in a gap beneath a tile on the northwest elevation	External roost x 1 access point	Gap approximately 30mm x 20mm.

* Height from ground floor to ridge

5.7 Interpretation and Evaluation of Survey Results

5.7.1 Presence/absence

5.7.1.1 The site has been visited three times by Wold Ecology during 2023. The data provides an insight into how bats utilise the site during early and mid summer months. The surveys were conducted in optimum conditions with fine weather for a period of 48 hours prior to the surveys. Therefore, bat activity would not have been affected by adverse weather conditions i.e. not emerging or returning to the roost site earlier than usual. The confidence in the results is therefore high.

5.7.1.2 Based on activity surveys conducted during May and June 2023, it has been determined that the studied buildings at Prospect House Farm contain the following bat roosts (see 9.3):

Structure/ reference	Species	Count/ estimate	Roost location	Site status assessment	Conservation significance of roost	Use and importance of the site throughout the year
Unit 3 **Roost 1**	Common pipistrelle	2	Beneath a tile	Day roost	LOW	No evidence to suggest a maternity roost or significant numbers of bats. Summer use.
Unit 3 **Roost 2**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 3**	Common pipistrelle	2	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 4**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 5**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 6**	Natterer's	1	Gap in stonework	Day roost	LOW	
Unit 3 **Roost 7**	Common pipistrelle	2	Gap in stonework	Day roost	LOW	
Unit 1 **Roost 8**	Common pipistrelle	1	Gap in stonework	Day roost	LOW	
Unit 3 **Roost 9**	Common pipistrelle	1	Beneath a tile	Day roost	LOW	

5.7.2 Site Status Assessment

5.7.2.1 Based on a building inspection, an emergence and return survey, it has been determined that unit 1 - 3 supports:

- Eight separate common pipistrelle roosts.
- A single natterer's roost.

5.7.2.2 All roosts are located adjacent to surrounding favourable foraging habitat which will have a role in the ecology of the local bat populations.

5.7.2.3 The survey results are based on survey work conducted in May and June. The buildings on site have features which have moderate/high suitability to support roosting bats, there remains the possibility that bats could roost in other parts of the site at various times of the year.

5.7.2.4 Wold Ecology concludes that the studied buildings at Prospect House Farm is unlikely to support a maternity roost for the following reasons:

- Bat activity was low throughout the surveys.
- No accumulation of droppings or staining's conducive of significant numbers of bats was observed (although these are sometimes hard to detect).
- Only one or two bats were observed returning or emerging from the roost sites on 25th May and 16th June 2023.

5.7.3 Constraints

5.7.3.1 There are no constraints to the survey.

6.0 IMPACT ASSESSMENT

6.1 Unit 1 and Unit 3 supports common pipistrelle and natterer's day roosts; unit 2 adjoins both buildings and any work to unit 2 is likely to disturb roosting bats. The proposed development to the buildings will involve the partial demolition and conversion into holiday lets. Unsupervised structural work, erection of scaffolding, removal of tiles, re-roofing, re-pointing, new glazing, internal refurbishment, soft strip and demolition will result in major disturbance to the roosts. Bats are susceptible to disturbance as a result of a development affecting a roost site. The pre-construction period of the development will result in significant alterations and disturbance to the roost sites.

6.2 **Initial impacts: disturbance** (human presence, noise, vibration, dust, lighting, access obstruction due to scaffolding and plastic sheeting etc.)

- The construction of scaffolding against the roof of the buildings which will cause an obstruction to the access points = minor negative at a site level.
- Roof stripping could kill/injure bats if they are resting between tiles and the contractor steps on the tiles to gain higher access = major negative at a site level.
- Lighting during night working could lead to disturbance of emerging and foraging bats, potentially leading to roost abandonment in the short term = moderate negative impact at site level.
- Vibration, noise and dust from the demolition and building works to units 1-3 may impact on roosting bats that may be present and this may lead to roost abandonment = moderate negative at a site level.
- The works involve re-roofing the roof under which the bats are roosting, if bats are resting on the ridge beam or wall plates, there is the potential for disturbing bats = moderate negative at a site level.

6.3 **Long-term impacts: roost modification**

6.3.1 No modification of roosts will occur.

6.4 **Long-term impacts: roost loss**

- Based on current information and in the absence of mitigation, the conversion works to unit 1 and unit 3 will involve the permanent loss of 9 day roosts.
- The removal of the roofing and roof timbers will result in major disturbance to the roosts located in the roof structure and there is potential for killing/injuring bats if heavy force is used to remove the roof components = major negative at a site level.
- The works involve partial demolition of a building in which bats are roosting, if bats are present in the building, there is the potential for killing/injury of bats during destructive works undertaken by heavy plant and machinery = major negative at a site level.
- The works involve re-roofing the roof under which the bats are roosting, if bats are found beneath tiles/slates/roof coverings or if they are roosting on or above the ridge beam, there is the potential for killing/injury of bats = major negative at a site level.
- The sealing up of the access points during pointing up of the external stonework and internal plastering could kill/injure bats through entombment if bats are roosting within the crevice = major negative at a site level.

- New glazing could trap bats inside the building, and this could kill/injure bats that are roosting in the internal structure = major negative at a site level.
- Removal of windows/doors could kill/injure bats if they are resting in gaps adjacent and heavy force is used to remove the frames = major negative at a site level.
- Removal of stonework could kill/injure bats if they are resting in gaps adjacent and heavy force is used to remove the masonry = major negative at a site level.

6.5 Long term impacts: fragmentation and isolation of roost

6.5.1 There are no plans to alter the habitat on site and consequently, there will be no fragmentation and isolation during the development as the surrounding, supporting habitat will not be affected.

6.6 Post development: interference impacts

6.6.1 An increase in lighting through the installation of security lighting on the external walls of buildings will affect bat activity in the location of the roost sites. There are no current plans to install new lighting that will shine into the adjacent/surrounding foraging habitat or bat box locations.

6.6.2 Based on current data, the impact from lighting to bat species foraging and commuting around the Application Site is likely to be **negligible**.

6.7 Predicted scale of impacts

6.7.1 The current information obtained is based on a desk top study, visual inspection and activity surveys conducted in May and June.

6.7.2 The common pipistrelle and natterer's day roosts at Prospect House Farm are of low conservation significance to Yorkshire. The roosts each contain less than 3 individual bats and are most probably occupied by male bats or none breeding females. Male summer roosts of a common and widespread species are of low conservation significance and therefore, the loss of the roosts will not have a significant impact at a local, regional or national level.

6.8 Summary of predicted scale of impacts - in the absence of mitigation

Species and numbers	Roost type	Predicted Scale of Impact			Notes
		Site	County	Regional	
Common pipistrelle x 11	Day	X			In the absence of mitigation, the conversion works would cause the loss of 8 day roosts used by 11 bats.
Natterer's x 1	Day	X			In the absence of mitigation, the conversion works would cause the loss of a day roost used by 1 bat.

6.8.1 Based on the survey data, assessment and guidance from the Bat Mitigation Guidelines (page 39, English Nature 2004) the overall accumulative impact of the development on bat populations is considered to be **low.**

6.8.2 Unit 2 did not contain bat roosts.

6.8.3 Bat activity surrounding the buildings was good, with a total of 7 species of bats observed foraging and commuting.

7.0 MITIGATION & COMPENSATION

7.1 Legal Protection

7.1.1 Legal obligations towards bats are generally concerned with roost protection. All developments, known to contain bat roosts, require a development licence from Natural England. Under the Wildlife and Countryside Act (1981) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, it is an offence for anyone without a licence to:

- Deliberately take , injure or kill a wild bat
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time)
- Possess or advertise/sell/exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.

7.1.2 **Planning consent for a development does not provide a defence against prosecution under these acts.**

7.1.3 **Bat roosts are protected throughout the year, whether bats are present or not.**

7.1.4 **As unit 1 and unit 3 supports common pipistrelle and natterer's day roosts, any works that will disturb, modify or permanently lose the roosts <u>will</u> require a development licence from Natural England. It is also possible that individual bats could roost in other parts of the buildings and wider site at other times of year.** A licence will be obtained prior to the following works commencing on units 1 and 3 and the adjoining unit 2:

- Exclusion of bats and destructive searches by a bat licensed ecologist
- Roof stripping and maintenance work
- Erection of scaffolding adjacent to the building and within 5m of a roost
- Pointing of masonry
- Soft strip
- Demolition
- New windows and doors
- Internal conversion

7.1.5 Mitigation is required to avoid or reduce the impact of a development on roosting and feeding bats present on site. Mitigation is designed to meet the requirements of the bat species present in the roost. The Bat Mitigation Guidelines (2004) defines the key principles which will be required in mitigation proposals. These are: modifying the scheme design, altering the timing of the works and the creation of replacement roosts and/or habitats.

7.1.6 The licence application process currently requires the input of a qualified bat ecologist/consultant and includes:

- An additional bat activity survey between May and August to support the license application.
- A walk over survey/check must be undertaken within 3 months prior to the Natural England application submission to ensure that conditions have not changed since the most recent survey was undertaken. Details of any changes to conditions and habitats and/or structures on site since the surveys were undertaken will be documented.
- The submission of a licence to capture, disturb and/or destroy the roosts or resting places of bats.
- The production of a detailed Method Statement to support the application. **This will** include a proposed work programme. One copy will be sent to a Natural England wildlife adviser for assessment. It should be noted that the Method Statement will be appended to any licence granted. The Method Statement will include the necessary mitigation required of the development. This will include:
  - A work timetable which must be followed. This will include completing works when bats are not present in their roost (winter) or when bats are less vulnerable to disturbance (spring/autumn).
  - A suitable mitigation plan allowing bats to be able to roost in a like for like replacement for any closed roost (this can be allowing bats back into the roof void).
  - Additional bat boxes placed as habitat improvement.
  - Bats must not be left without a roost during the active season (April to September inclusive).
- The production of a Reasoned Statement of Application to support the application. This will provide a rational and reasoned justification as to why the proposed activity meets the requirements of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, Regulations 53(2) (e-g) and 53(9) (a-b).
- The usual timescale expected for the process of an application is approximately 30 working days from the date of acknowledgement of receipt. Natural England wildlife advisers are given 20 working days to fulfil requests for information. This timescale will also apply to requests for licence amendments.
- Additional on-site surveys, watching brief and implementation of license by a bat ecologist.
- For additional information on licences please refer to Natural England Guidance Leaflet WML-G12 (see www.naturalengland.org).

7.1.7 The site does not meet the criteria for a Natural England Bat Mitigation Class Licence due to the number of roosts present.

7.2 Mitigation Strategy

7.2.1 Natural England requires mitigation and compensation to be proportionate to the size of the impact and the importance of the population affected and as a principle:

- There should be no net loss of roost sites and that compensation should provide an enhanced resource since the adoption of new roost sites by bats is not guaranteed.
- The scheme should aim to replace 'like with like' in terms of the status of the site i.e. maternity roost, hibernation roost etc.
- Compensation should ensure that the affected bat population can continue to function as before, so attention may need to be given to surrounding habitats.
- The strategy should be considered to ensure that the bat populations at the site are maintained at a favourable conservation status.
- English Nature (page 39, Bat Mitigation Guidelines 2004) provide guidance on proportionate mitigation depending on the number, species and conservation status of bats observed.

7.2.2 The common pipistrelle and natterer's roosts at Prospect House Farm are of low conservation significance and therefore requires 'more or less like for like' replacement with no constraints on timing.

7.2.3 As unit 1 supports only a single Natterer's bat, a bat loft has not been recommended for this site.

English Nature (2004) guidelines for proportionate mitigation. The definition of common, rare and rarest species requires regional interpretation.

Conservation significance	Roost status	Mitigation/compensation requirement (depending on impact)
Low ↓	Feeding perches of common/rarer species Individual bats of common species Small numbers of common species. Not a maternity site	Flexibility over provision of bat-boxes, access to new buildings etc. No conditions about timing or monitoring
	Feeding perches of Annex II species Small numbers of rarer species. Not a maternity site	Provision of new roost facilities where possible. Need not be exactly like-for-like, but should be suitable, based on species' requirements. Minimal timing constraints or monitoring requirements
	Hibernation sites for small numbers of common/rarer species Maternity sites of common species	Timing constraints. More or less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for 2 years preferred.
↓	Maternity sites of rarer species	Timing constraints. Like-for-like replacement as a minimum. No destruction of former roost until replacement completed and usage demonstrated. Monitoring for at least 2 years.
	Significant hibernation sites for rarer/rarest species or all species assemblages	
	Sites meeting SSSI guidelines Maternity sites of rarest species	Oppose interference with existing roosts or seek improved roost provision. Timing constraints. No destruction of former roost until replacement completed and significant usage demonstrated. Monitoring for as long as possible.
High		

7.3 Method Statement

7.3.1 The method statement has been produced based on current survey data. The information will guide any modifications required to the scheme design, outline necessary timing of the works and recommend the creation of replacement roosts and/or habitats. The information contained within the following method statement will be used as guidance to support any subsequent Natural England development license.

7.3.2 Timing

7.3.2.1 It is recommended that the initial start date of the development should avoid late October – early March. This will prevent disturbance to potentially hibernating bats. If the initial start day is programmed for the winter, a hibernation survey must be conducted prior to works commencing.

7.3.2.2 There are no other mandatory timing constraints when low numbers of summer roosting bats are observed.

7.3.2.3 A late discovery plan will need to be included in the final method statement to outline measures to be implemented in the event that bats are discovered during the development.

7.3.2.4 The demolition and conversion works must be carefully programmed so that roosting opportunities are permanently available during the development. Permanent and/or temporary roost sites will be provided prior to building works. Bat boxes will be placed on trees or buildings within 50m of the existing roost sites to ensure roosting opportunities are available throughout the development period.

7.3.3 Site Induction

7.3.3.1 Prior to works commencing on site, the bat ecologist will present a tool box talk to the license holder, client, site manager, contractors and those involved with site works that may impact upon bats. The toolbox talk, and accompanying method statement will include, but not restricted to the following:

- Introduction to bats on site
- Background to bats
- Legislation relating to bats
- Description of bat roost locations as described in table 5.6.
- Licensable activities
- Method Statement
- Mitigation*
- What to do if bats are discovered
- Figure E2a – Location of roost sites.
- Figure E3 – Location of mitigation*.
- Figure D – Impacts Plan and licensable works.
- Work Schedule.
- Natural England Annex License*.

* If applicable

7.3.3.2 The toolbox talk will only be presented by the named bat ecologist on the Natural England license documentation and the method statement and license will be kept on site at all times.

7.3.4 Pre-Works Surveys

7.3.4.1 A dusk survey (under suitable weather conditions (>6^{0}C)) will be undertaken to assess activity.

7.3.4.2 An endoscope will be used to conduct a thorough inspection of all features with bat roosting potential including known roost sites, internal roof timbers, roof structures and masonry of the building; this is in order to detect any roosting bats, prior to works. Empty crevices and gaps will be blocked immediately with pieces of foam prior to disturbance works.

7.3.4.3 A safe working platform will be required so that a thorough and safe inspection can be undertaken. This will be either scaffolding, mobile elevated work platform or similar.

7.3.5 Exclusion of Roosts

7.3.5.1 To enable the exclusion to take place in the buildings, an assessment will be made to determine the current level of bat activity. If bats are roosting, an exclusion of roosts will be undertaken. The method to be implemented will aim to exclude bats from the roost by closing access points and allow for them to leave un-stressed on their own accord but not enabling their return, therefore eliminating the chance of bats being present during the development. Capture and removal by hand will only be used where absolutely necessary and possible. The capture of bats is not planned as a method during the exclusion of bats from the buildings and will only be required as an absolute last option.

7.3.5.2 A device will be used to exclude roosts 1 - 9. Exclusion of bats will be undertaken if suitable weather conditions prevail (night time temperatures for four consecutive nights are > 6^{0}C).

7.3.5.3 The exclusion devices will either be constructed from a plastic sheet (or similar material) or a section of smooth drainage pipe (or similar) with a diameter of 50mm. This will be secured around the roost in order to allow the bat to leave the roost but prevent its return, exclusion devices will remain for 5 days under suitable weather conditions or remain longer until suitable weather conditions prevail.

7.3.5.4 Once the bat ecologist is satisfied that the roots are empty, the roost access points will then be blocked immediately. Gaps and cracks with potential to be used as roosts will also be checked with an endoscope and blocked during exclusion.

7.3.6 Destructive Search

7.3.6.1 In order to further reduce any unnecessary disturbance, injury, or death of any late discoveries of individual bats roosting in the buildings, all external fittings and fixtures with bat roosting potential (roof coverings, roof timbers, masonry, doors/window frames, timbers etc.) will be carefully removed, by hand under the watching brief of a bat ecologist.

7.3.6.2 All roof coverings with bat roosting potential will be removed by hand. During the spring, summer and autumn period, only half of the roof should be removed on the first day and the second half 24 hours later. This will create unfavourable conditions for any bats still roosting within the roof structure and encourage the bats to leave on their own accord.

7.3.7 Late discoveries

7.3.7.1 In the event that bats are discovered, the following will be implemented:

- Immediately stop the work that you are undertaking.
- Do not expose the bat or cause it to fly out of the roost on its own accord.
- Contact Wold Ecology on 01377 200242 or 07795 071504 for advice.
- Advise colleagues in the vicinity of your work why you have stopped and advise them to be aware of the potential for bats being disturbed, injured or killed.
- Immediately report the matter to your site manager/line manager who will inform relevant personnel.
- Grounded bats must be carefully placed in a lidded, ventilated box with a piece of clean cloth and a small shallow container with some water. The box must be kept in a safe and quiet location.
- Any underweight or injured bats must be taken into temporary care by an experienced bat carer and looked after until such time that the bat can be transferred to a suitable replacement roost at the same site, or weather conditions are suitable for release at the same site.

7.3.7.2 Bats should only be handled by a licensed bat ecologist, wearing gloves, who has received a rabies vaccination. The bat will be placed either into a holding box, with water provided and re-released close to the site at dusk or placed into a bat box located on site.

7.3.7.3 Injured bats will be taken into care (as directed by the Bat Workers Manual, section 7.3, pages 64 – 66: 3rd edition 2004) and fed and cared for until such time when conditions are suitable (night time temperature are >6^{0}C) for them to be released at dusk on site. Bats will only be handled by an ecologist, licensed to handle bats.

7.4 Mitigation

7.4.1 This mitigation strategy is based on survey data currently held. The mitigation strategy will ensure that the bat populations on site are maintained at a favourable conservation status by the retention of the original roost sites where possible. In addition, new roosting opportunities will be created though the provision of bat boxes and roosting opportunities. There should be a net gain in roosting opportunities post development.

7.5 In situ retention of bat roosts

7.5.1 There will be no in situ retention of bat roosts.

7.6 Modification of existing roosts

7.6.1 There will be no modification of existing bat roosts.

7.7 New Roost Creation

7.7.1 It is usually recommended that the original roost site is re-created and in addition, new roosting opportunities will be created. However, the design of the building and building control restrictions, re-creation of the original roost sites is not possible for this site.

7.8 Bat boxes

7.8.1 Wold Ecology recommends that five Schwegler 1FQ bat boxes or 1FR bat tubes are sited on the buildings; close to existing roost sites. Schwegler Bat Boxes are recommended and well tested boxes. The boxes should be located close to the roof line or ridge apex.

7.8.2 The 1FQ is an attractive box designed specifically to be fitted on the external wall of a house, barn or other building. Equally appealing to bats as a roost or a nursery, it features a special porous coating to help maintain the ideal temperature inside along with a rough sawn front panel to enable the bats to land securely.

7.8.3 The bat tubes can be erected behind the outer stone and a 30mm x 30mm gap in the mortar will remain open to allow bat access into the bat tube. The bat tube will not be visible and therefore satisfies the requirements of the planning department. John Drewett (North Yorkshire Bat Group) stated that this has worked on previous schemes and ensures that the bats are contained within a designated location within the barn structure.

7.8.4 The majority of Schwegler bat boxes are self-cleaning as they are designed so that the droppings fall out of the entrance. This reduces the possibility of smell during the summer months. For more information on designs and installation of bat boxes see: www.schwegler-natur.de and www.bct.org.uk.

7.9 Lighting

7.9.1 Lighting has a detrimental effect on bat activity; many bats will actually avoid areas that are well lit. Lighting can cause habitat fragmentation by preventing bats from commuting between roosts and foraging grounds (A.J Mitchell-Jones 2004).

7.9.2 It is recommended that a lighting consultant is employed to design a lighting plan based on the following principles:

- Luminaire and light spill accessories - Lighting should be directed to where it is needed, and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only.
- If applicable, the height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting, this can take the form of low level lighting that is as directional as possible and below 1 lux at ground level.
- Aim for lighting column of 5m or less, hooded and cowled to prevent light spill, for main lighting columns.
- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.

- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used.
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.
- Light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding

7.9.3 At this site, new lighting design will ensure lights will **not** be mounted where they will shine directly on to bat boxes, or the surrounding tree cover used by foraging and commuting bats. A light intrusion lux level besides bat boxes and tree cover along the western boundary will be 1 lux or below.

7.10 Timber treatment

7.10.1 It is good practice, where bats may come into contact with roof timbers, to carry out timber treatment using Permethryn type chemicals on the Natural England list of approved safe chemicals. New pre-treated timbers i.e. tanalised timber will be allowed to dry thoroughly before use, if applicable. A list of Natural England approved paints and timber treatments is available at https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them

8.0 BIRDS

8.1 Birds are afforded various levels of protection and levels of conservation status on a species by species basis. The most significant general legislation for British birds lies within Part 1 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation, it is an offence to, kill, injure or take any wild bird, take, damage or destroy the nest of any wild bird while that nest is in use or being built, take or destroy an egg of any wild bird.

8.2 The daytime assessment identified whether the studied buildings had any signs of residency and/or barn owl usage. Specifically, the visual survey involved:

- An assessment of the suitability of buildings or stone feature to enable access for breeding barn owls.
- A thorough check for pellets, feathers or signs of old nest remains in the form of pellet debris and/or old broken egg shells.

8.3 The visual inspection also recorded any other visible active/disused nests and bird activity within the buildings.

8.4 Field survey results

8.4.1 Evidence of Barn owl *Tyto alba* was recorded in unit 3. See separate Barn Owl Report (Wold Ecology 2023).

8.4.2 The following nests were observed:

Species/nest type	Number	Location	Comment
Small passerine*	8	Unit 1 - 3	
Swallow *Hirundo rustica*	6	Unit 3	

* Small passerine nest primarily moss, feathers, leaves and vegetation suitable for tits, blackbird *Turdus merula*, robin *Erithacus rubecula*, wren *Troglodytes troglodytes* etc.

8.5 Biodiversity Gains and Recommendation

8.5.1 All nests should remain undisturbed and intact until after the breeding bird season – mid February to early September. Any destructive building works (e.g. demolition, roof stripping, internal conversion, pointing of masonry etc.) and removal of trees, shrubs, scrub and tall vegetation should be undertaken outside of the bird nesting season which is between the months of mid-September and early February inclusive or be carefully checked by an ecologist to confirm no active nests are present. If nesting birds are found during the watching brief, destructive works will need to stop until the young have fledged.

8.5.2 In order to increase nesting opportunities for birds, it is recommended that Schwegler bird boxes are erected throughout the site. Local Authority guidance recommends that 25% of houses within a development should contain a bird box.

8.5.3 Bird boxes will target species of conservation concern. A summary of recommended bird boxes are listed below:

Name	Description	Number
Schwegler swift box #16S	Building box for eaves	2
Schwegler swallow box #10	Brick building box	5

8.5.4 Boxes should be placed so that the entrance does not face the prevailing wind, rain and strong sunlight. The sector from north to south east should be used, with south facing boxes positioned in more shaded areas.

8.5.5 Many species will use boxes at a wide variety of heights however to give the box protection in areas with a lot of human or mammalian predator activity they should be placed approximately 3-4 metres above ground level. A clear flight path should be available to and from the nest box.

9.0 REFERENCES

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10.0 APPENDICES

10.1 Background to Bats - Bat Biology.

10.1.1 Bats roost in a variety places such as caves, mines, trees, and buildings. Woodlands, pasture, ponds and slow flowing rivers or canals provide suitable feeding areas for bats as they support an abundance of suitable insect forage. Bats tend to feed during the first two to three hours after sunset and again before dawn, when insect activity is at its most intense (JNCC 2004).

10.1.2 Bat activity over the course of a year reflects the seasonal climate and the availability of food as follows (The Bat Conservation Trust, undated):
January - March - insect prey is scarce, and bats will hibernate alone or in small groups.
April - May - insects are more plentiful and bats will become active. They may become torpid (cool and inactive) in bad weather. Females will start to form groups and will roost in several sites.
June - July - females gather in maternity roosts and give birth to young, which are suckled for several weeks. Males roost alone nearby.
August - September – mothers leave the roost before the young. Bats mate and build up fat for the winter.
October - December – Bats search for potential hibernacula. They become torpid for longer periods and then hibernate.

10.1.3 Bats do not stay in the same roost throughout the year. They have different requirements of roosts at different times of the year. During late April/May the bats leave their winter roosts and the females come together to form 'nursery roosts', these usually consists of pregnant females along with a few non-breeding and immature females. At this time, the males roost either singly or in small numbers. The single offspring is born during late June early July and can fly within 3-5 weeks.

10.1.4 Typical roost site are cracks and crevices in buildings and other structures but more typically under hanging tiles, slates, soffits and cavity walls of fairly modern buildings or holes and splits in trees.

10.1.5 The conditions needed by bats for hibernation require the maintenance of a relatively stable low temperature ($2 – 6^0$). Suitable sites include; old trees, caves, cellars, tunnels, and icehouses.

10.1.6 Whilst the summer roosts consist of single species (although 2 – 3 species can be found within one large structure but occupying separate roost sites), winter sites often consist of 4 – 6 different species of bat, although there is often niche separation.

10.1.7 Bats have a complex social structure based on 'meta populations' and also utilise other transitional or intermediate roost sites. The several different types of roost, which bats occupy throughout the year, are as follows:

- **Day roost**: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
- **Night roost**: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

- **Feeding roost**: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
- **Transitional/occasional roost**: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
- **Swarming site**: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites
- Mating sites: sites where mating takes place from later summer and can continue through winter.
- **Maternity roost**: where female bats give birth and raise their young to independence.
- **Hibernation roost**: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. These have to be cold and free from any temperature fluctuation with high humidity. The coldness enables bats to lower their body temperature and become torpid. This saves a lot of energy, enabling them to survive on the fat stores within their bodies that they have built up throughout the summer.
- **Satellite roost**: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

10.1.8 The main threats to bats include:

- Habitat loss (e.g. deforestation)
- Loss of feeding areas as a result of modern forestry and farming practices.
- Use of toxic agrochemicals and remedial timber treatment chemicals.
- Disturbance and damage to bat roosts.

10.1.9 Bats have been in decline both nationally and internationally during the latter part of the 20th Century. Bats require a variety of specific habitats in order to meet the basic needs of feeding, breeding, and hibernating and are therefore extremely vulnerable to change such as the loss of flight lines through the removal of hedgerows. It is thought that even the two most common and widespread bats, the common pipistrelle and the soprano pipistrelle, have declined by an estimated 70% (1978-1993 figures). There are a number of bat species, which are now considered seriously threatened with one species, the greater mouse-eared bat being classed as extinct as it is no longer breeding in the U.K.

10.1.10 All European bats are listed in Annex IV of the EC Directive 92/94/EEC 'The Conservation of Natural Habitats and of Wild Fauna and Flora' as needing "strict protection". This is translated into British Law under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. British bats are included under Schedule 5 of the Wildlife & Countryside Act 1981. They can therefore be described as a 'fully protected' or 'protected' species.

10.1.11 A summary of the legal protection afforded to bats under both European and British law is provided by the Bat Conservation Trust (BCT, 2010):
'All European bat species and their roosts are listed in Annex IV of the EC Directive 92/94/EEC 'The Conservation of Natural Habitats and of Wild Fauna and Flora' as needing "strict protection". This is implemented in Britain under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. In summary, in the UK, it is an offence to:

- Deliberately capture, injure, or kill a bat;

- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young, hibernate or migrate or significantly affect the local distribution or abundance of the species;
- Damage or destroy a roost (this is an absolute offence); and
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.'

10.1.12 The species is also listed in Appendix II of the Bonn Convention (and its Agreement on the Conservation of Bats in Europe) and Appendix II of the Bern Convention (and Recommendation 36 on the Conservation of Underground Habitats). Although these are recommendations and not statutory instruments.

10.1.13 Natural England is the Government body responsible for nature conservation. Local planning authorities must consult them before granting planning permission for any work that would be likely to result in harm to the species or its habitat. Natural England issue "survey" licenses for survey work that requires the disturbance or capture of a species for scientific purposes. They also issue "conservation" licenses that are required for actions that are intended to improve the natural habitat of a European protected species or to halt the natural degradation of its habitat.

10.1.14 'Development' licences are issued by Natural England for any actions that may compromise the protection of a European protected species, including bats, under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This includes all developments and engineering schemes, regardless of whether or not they require planning permission.

10.1.15 The UK Biodiversity Action Plan states that although the pipistrelle is one of the most abundant and widespread bat species in the UK, it is still thought to have undergone a significant decline in the latter part of this century. The main factors cited for causing loss and decline include:

- A reduction in insect prey abundance, due to high intensity farming practice and inappropriate riparian management.
- Loss of insect-rich feeding habitats and flyways, due to loss of wetlands, hedgerows, and other suitable prey habitats.
- Loss of winter roosting sites in buildings and old trees.
- Disturbance and destruction of roosts, including the loss of maternity roosts due to the use of toxic timber treatment chemicals.

10.2 Significance of bat roosts, appraising the nature conservation value;

10.2.1 The significance of bat roosts should be appraised against the following table. Where the extent of the bat roost is unclear a precautionary approach should be taken in evaluating the significance of the roost and the highest potential category should be selected.

Table 10.2.1 Appraisal of significance of bat roosts.

Scale	Summary	Examples
International	Any significant roosting sites for European Annex 2 species	Barbastelle bat roosts are only known applicable feature in East Anglia.
National	Any roosts qualifying as SSSI under the EN criteria.	Details of criteria are given in

		9.1.2 Site Selection Guidelines for Biological SSSI's.
Regional	Any significant bat roosts and features, equivalent in interest to qualifying a site as a Country Wildlife Site.	Breeding and hibernation roosts of most species.
Local	All other sites supporting feeding bats as Wildlife and Countryside Act protected species.	Bats foraging within a structure, night roosts and minor transition roosts.

10.3 Summary of conservation significance of roost types (Bat Mitigation Guidelines, 2004).

Roost type	Development effect	Scale of impact		
		Low	Medium	High
Maternity	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside breeding season	✓		
	Post-development interference			✓
Major hibernation	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference			✓
Minor hibernation	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction, modification		✓	
	Modified management		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference		✓	
	Temporary destruction, then reinstatement	✓		
Mating	Destruction		✓	
	Isolation caused by fragmentation		✓	
	Partial destruction	✓		
	Modified management	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
	Temporary destruction, then reinstatement	✓		
Night roost	Destruction	✓		
	Isolation caused by fragmentation	✓		
	Partial destruction	✓		
	Modified management	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
	Temporary destruction, then reinstatement	✓		

NB This is a general guide only and does not take into account species differences. Medium impacts, in particular, depend on the care with which any mitigation is designed and implemented and could range between high and low.

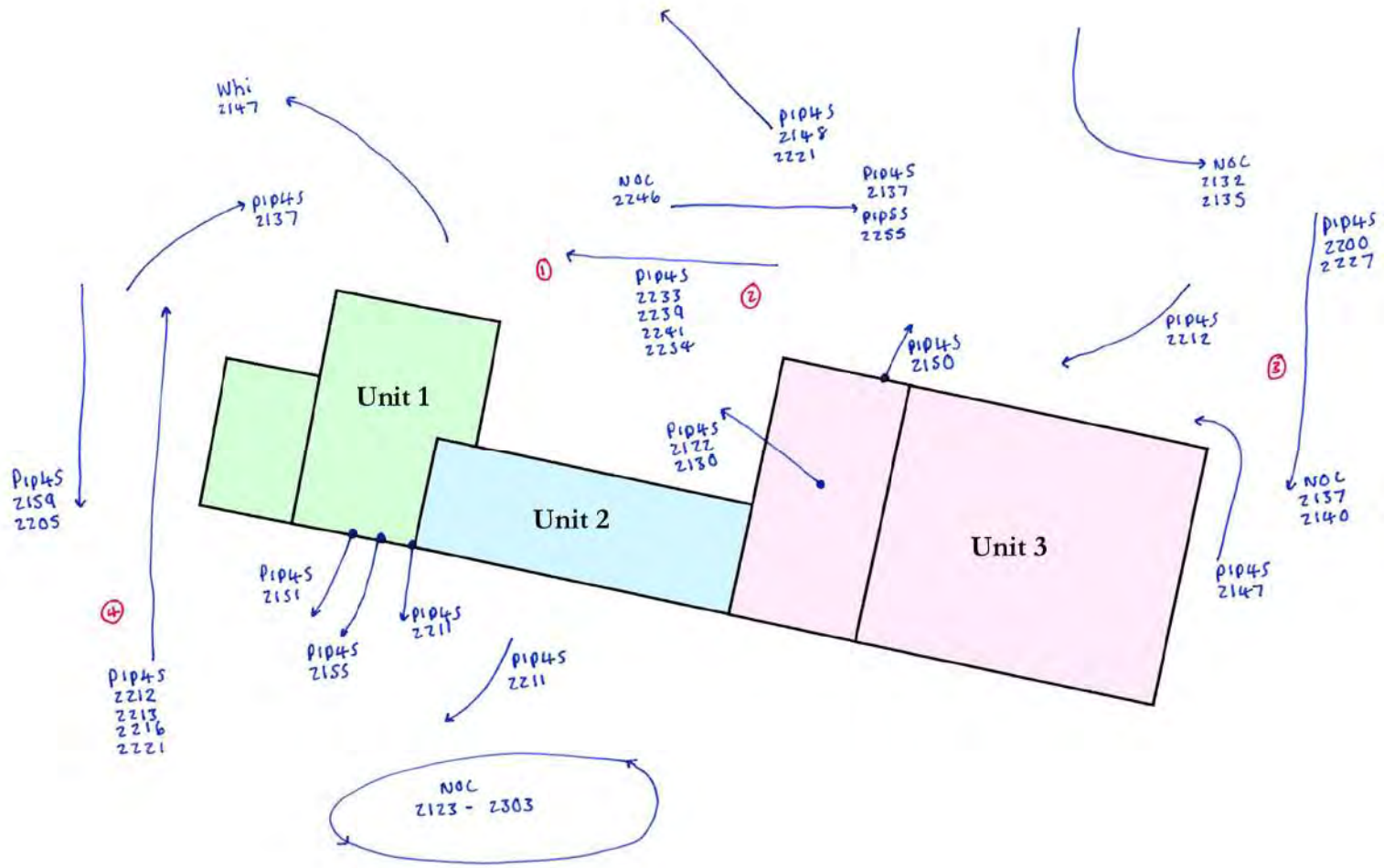
10.4 Bat records for activity surveys conducted in 2023

Date – 25th May 2023					
Loc.	**Time**	**Species**	**kHz**	**Direction**	**Comment**
1, 2	2122 2130	C. Pipistrelle	45		Emerged from a gap under a ridge tile on the west elevation of unit 3 - **Roost 1**
1, 2, 3	2123 – 2209	Noctule	20		Foraging
3	2132	Noctule	20	E	Commuting
3	2135	Noctule	20	E	Commuting
1, 2	2137	C. Pipistrelle	45	E	Commuting
3	2140	Noctule	20	SW	Commuting
1	2147	Whiskered	47	W	Commuting
3	2147	C. Pipistrelle	45	W	Commuting
2	2148	C. Pipistrelle	45	NW	Commuting
2, 3	2150	C. Pipistrelle	45		Emerged from a gap in the stone work on the north gable of unit 3 - **Roost 2**
3	2150	C. Pipistrelle	45		Audible
4	2151	C. Pipistrelle	45		Emerged from a gap in the stone work next to the window on the southwest gable of unit 1 – **Roost 3**
3	2151	C. Pipistrelle	45		Audible
3	2154	C. Pipistrelle	45		Audible
4	2155	C. Pipistrelle	45		Emerged from a gap in the stone work above the door on the southwest gable of unit 1 – **Roost 4**
3	2156	C. Pipistrelle	45		Audible
1	2159	C. Pipistrelle	45	S	Commuting
3	2159	C. Pipistrelle	45		Audible
3	2200	C. Pipistrelle	45	S	Commuting
4	2201 – 2242	Noctule	20		Foraging
3	2202	C. Pipistrelle	45		Audible
1	2205	C. Pipistrelle	45	S	Commuting
4	2206	C. Pipistrelle	45		Audible
3	2208	C. Pipistrelle	45		Audible
2	2209	C. Pipistrelle	45		Audible
3	2210	C. Pipistrelle	45		Audible
4	2211	C. Pipistrelle	45	SW	Commuting
3	2212	C. Pipistrelle	45	W	Commuting

4	2212	C. Pipistrelle	45	N	Commuting
1	2213	C. Pipistrelle	45	N	Commuting
3	2214	C. Pipistrelle	45		Audible
1	2216	C. Pipistrelle	45	N	Commuting
2	2218	C. Pipistrelle	45	NE	Commuting
4	2219	C. Pipistrelle	45		Emerged from a gap in the stone work on the southeast elevation of unit 1 – **Roost 5**
1, 2	2221	C. Pipistrelle	45	N	Commuting
3	2222	C. Pipistrelle	45		Audible
3	2224	C. Pipistrelle	45		Audible
3	2227	C. Pipistrelle	45	S	Commuting
2, 3	2232	C. Pipistrelle	45		Audible
2	2233	C. Pipistrelle	45	W	Commuting
4	2234 – 2246	Noctule	20		Foraging
2	2236	C. Pipistrelle	45		Audible
3	2237	C. Pipistrelle	45		Audible
1	2239	C. Pipistrelle	45	W	Commuting
3	2240	C. Pipistrelle	45		Audible
1	2241	C. Pipistrelle	45	W	Commuting
2, 3	2243	C. Pipistrelle	45		Audible
1, 2, 3	2246	Noctule	20	E	Commuting
3	2251	S. Pipistrelle	55		Audible
2	2252	C. Pipistrelle	45		Audible
1	2254	C. Pipistrelle	45	W	Commuting
2	2255	S. Pipistrelle	55	E	Commuting
3	2256	S. Pipistrelle	55		Audible
2, 3	2258	C. Pipistrelle	45		Audible
4	2259 – 2303	Noctule	20		Foraging
3	2300	C. Pipistrelle	45		Audible
3	2302	S. Pipistrelle	55		Audible
3	2306	C. Pipistrelle	45		Audible
Date – 16th June 2023					
4	0246	Whiskered	47		Audible
4	0248	C. Pipistrelle	45		Audible
2	0253	C. Pipistrelle	45		Audible
2, 3	0256	Noctule	20		Audible
4	0259	Noctule	20		Audible

2	0300	C. Pipistrelle	45		Audible
1	0302	C. Pipistrelle	45	S	Commuting
3	0302	C. Pipistrelle	45		Audible
4	0306	Brown long-eared	39		Audible
1	0307	C. Pipistrelle	45	S	Commuting
2	0307	S. Pipistrelle	55	N	Commuting
2, 4	0310	C. Pipistrelle	45		Audible
2	0313	C. Pipistrelle	45	N	Commuting
1	0314	C. Pipistrelle	45	N	Commuting
2, 4	0317	S. Pipistrelle	55		Audible
1	0321	Natterer's	49	N	Commuting
1	0324	C. Pipistrelle	45	N	Commuting
1	0325	Daubenton's	51	N	Commuting
3	0328	C. Pipistrelle	45	S	Commuting
4	0330	Natterer's	49	SW	Commuting
1	0334	Natterer's	49		Returned to a gap in the stonework adjacent to a timber beam on the northwest elevation of unit 1 – **Roost 6**
4	0335	C. Pipistrelle	45		Audible
2	0339	C. Pipistrelle	45	N	Commuting
1	0343	C. Pipistrelle	45	N	Commuting
2	0346	S. Pipistrelle	55	W	Commuting
2, 3	0346	C. Pipistrelle	45		Returned to a gap in the stonework on the north gable of unit 3 – **Roost 7**
4	0347	Noctule	20		Audible
2	0350	C. Pipistrelle	45		Audible
1	0357	C. Pipistrelle	45	N	Commuting
4	0357	C. Pipistrelle	45		Returned to a gap in the stonework on the southwest gable of unit 1 – **Roost 8**
2, 3	0359	C. Pipistrelle	45		Returned to a gap in the stonework on the north gable of unit 3 – **Roost 7**
2	0403	C. Pipistrelle	45		Returned to a gap beneath a tile on the northwest elevation of unit 3 – **Roost 9**

10.5 Bat Activity Survey Flight Maps



NORTH

Not to Scale

Drawing title:
Emergence Survey Plan – 25th May 2023

KEY

1 - 4 Location of surveyors

Commuting activity

Foraging activity

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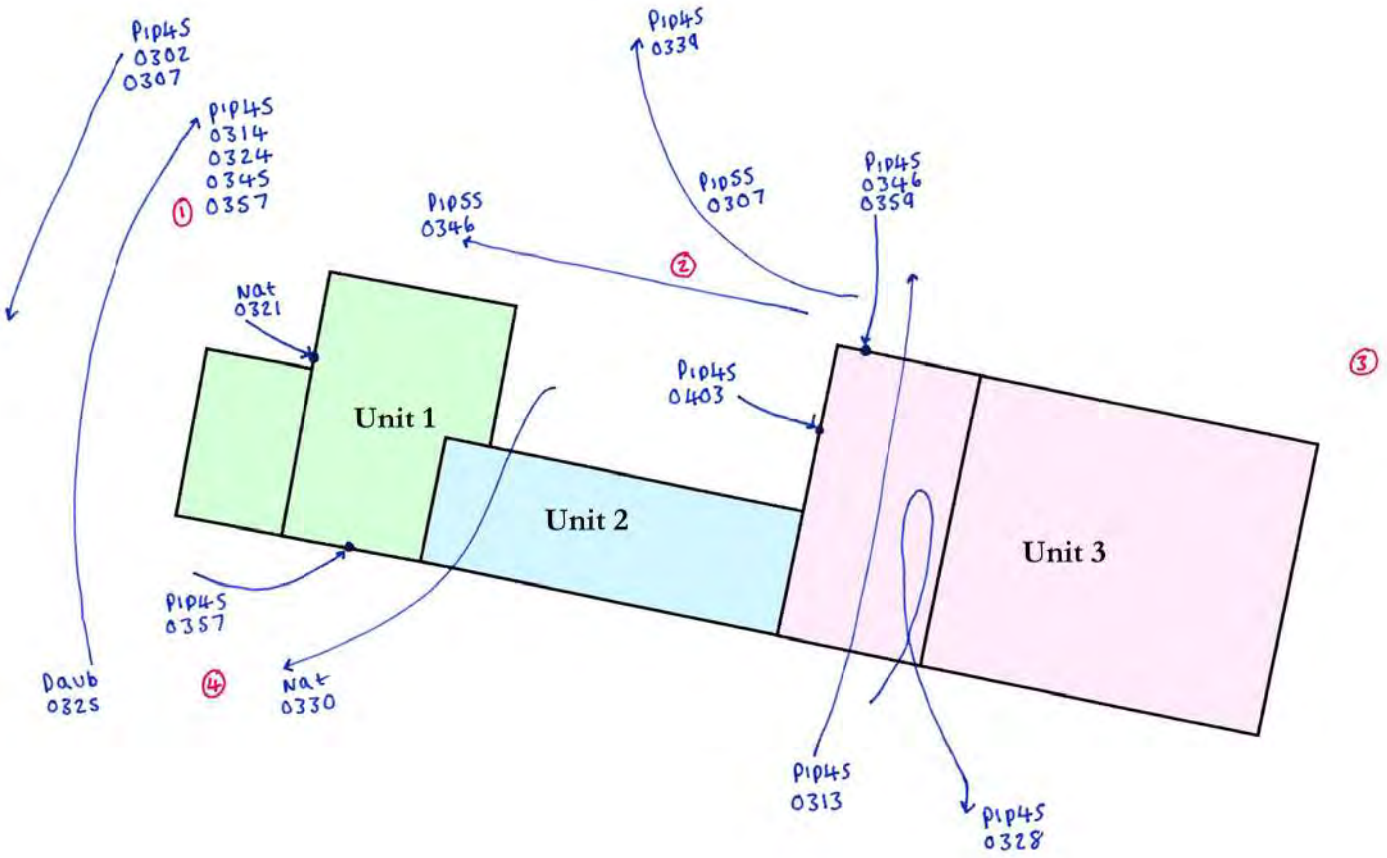

NORTH

Not to Scale

Drawing title:
Re-entry Survey Plan – **16th June 2023**

KEY

1 - 4 Location of surveyors

→ Commuting activity

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