

Ecological Impact Assessment

Elmsleigh

For: Paul Nelson

October 2025

This report is the responsibility of Abbas Ecology,
It should be noted, that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment,
or prediction of the natural environment

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Executive Summary

Preliminary Survey: 14/11/24

Activity Surveys: 13/05/25, 03/06/25, and 03/07/25.

Location: Elmsleigh, Pettridge lane, Wiltshire, BA126DG

Grid Reference: ST 81509 32157

Surveyor: Caitlin O'Reilly MRes

Abbas Ecology was commissioned to conduct a Preliminary Ecological Appraisal of Elmsleigh to evaluate all ecological features present or potentially present and to determine the likely ecological impact of the proposal to destruct three outer buildings, to create a new drive, to convert the main house (demolishing the downstairs roof void), and to construct a new building in the garden area.

The on-site habitats consisted of 336 m² of ub1 developed land; sealed surface, 68 m² of introduced shrub (847) at the northern site boundary, 40 m² of w1h other woodland at the northern corner of the proposal area, 38 m² of unvegetated garden, and 998 m² of vegetated garden. Using the DEFRA Biodiversity Net Gain metric, it was assessed that 0.13 habitat units should be purchased from a habitat bank to reach the required 10% net gain.

A Preliminary Roost Assessment was carried out, and bat droppings were found and collected from inside the downstairs roof void, which were sent for DNA analysis and identified as Brown Long-Eared (*Plecotus auritus*). The upper roof void of the main house is not to be affected by the proposal. After three surveys carried out between May-August 2025, no bats were seen to emerge. Therefore, the roof void was designated an occasional/transitional roost for Brown Long-eared, with a low conservation significance. A low impact license must be completed before works begin.

Provided that 0.13 habitat credits are purchased through an approved habitat bank, all mitigation in section 7 for the Brown Long-eared occasional/transitional roost, foraging badgers, hedgehogs and buffer zones is implemented, and the additional bat box, access tile and hedgehog home are included as enhancements (in line with the NPPF), the proposal's impacts on wildlife will be effectively mitigated and offset.

I. Introduction

I.1 Individuals/Organisation Involved in the Assessment

Author: Ecologist Caitlin O'Reilly is a Master of Research in Endangered Species Recovery and Conservation, and a Bachelor of Science in Wildlife Biology. Caitlin has had 2 years' experience in protected species surveying, including bats and reptiles, and is a qualifying CIEEM member. She has received specialist training and ongoing supervision from licensed bat ecologists Bronwen Bruce and Melanie Dixon, both of whom hold CL18 licenses. Caitlin is currently in the process of applying for her own CL17 license to support independent bat survey work.

Client: are the owners of the property and commissioned this report to inform a proposed planning application.

I.2 Purpose

A preliminary ecological appraisal looks at the area to assess its likely value for protected species and other wildlife. It is not a specific survey for any one species and looks for general habitat types but it will identify the need for further survey work if required.

The Ecological Impact Assessment will:

- identify and prescribe all potentially significant ecological effects associated with the proposed development.
- set out mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant effects.
- identify appropriate enhancement measures

I.3 Site Location

Elmsleigh is located in Mere, Wiltshire, at the Southwest tip of the county. The location was semi-rural as the proposal area was in close proximity to fragmented woodland and agricultural land and is also located in a residential area.

The site location and ownership boundary is shown in Fig 1.



Fig. 1: Location Plan

 Proposal Boundary

1.4 Description of proposal

The proposal is to demolish three outbuildings (the two sheds in the back garden, and the garage on the northwestern elevation of the proposal area), to create a new drive, to convert the main house, demolishing the downstairs roof void, and to construct a new building in the garden area.

2. Planning policy and legislation

Biodiversity net gain (BNG) became mandatory for large sites from 12 February 2024 and small sites from 1st April 2024.

BNG is an approach to development. It makes sure that habitats for wildlife are left in a measurably better state than they were before the development.

In England, BNG is mandatory under [Schedule 7A of the Town and Country Planning Act 1990 \(as inserted by Schedule 14 of the Environment Act 2021\)](#).

Developers must deliver a BNG of 10%. This means a development will result in more or better-quality natural habitat than there was before development.

The National Planning Policy Framework was amended in December 2023 and details National planning policy and all items relating to Protected species and habitat are detailed in Appendix 1.

Biodiversity enhancement measures as required by NPPF, section 15 and Local Plan Policy will need to be included.

Further specialist surveys may also be recommended, in some cases, to determine whether protected species are present and whether the legislation relating to them is being followed. These will usually need to be completed before the planning application is submitted. Failure to do so may result in the application being delayed or refused.

The planning authority for the site is Wiltshire Council.

3. Methodology

3.1 Scope of Assessment

The zone of influence (Zol) for a project is the area over which ecological features may be subject to significant effects because of the proposed project and associated activities. The assessment does not just consider habitat on site but habitat off site that maybe connected to the proposal site and therefore effected by the proposals.

Statutory designated sites and local sites, priority habitats and ecological networks were identified within 2km of the site. SSSI impact risk zone potential issues, including nutrient neutrality, were identified for SSSI sites at any distance.

Species have different influence zones according to their mobility and territory sizes. These are outlined if there is a risk to a particular species.

3.2 Desk study

The government's Multi-Agency Geographic Information for the Countryside website (www.magic.gov.uk) was reviewed to look for:

- Designated sites, Priority Habitats, European Protected Species licences and other relevant information – within 2 km of the site.
- Countryside Stewardship Targeting areas that were on or adjacent to the site were noted.

A data search was obtained from Wiltshire and Swindon Biological Records Centre (WSBRC) to look for Local Sites and protected/important species within 1 km of the site.

Bats Zol is considered to extend up to 6 km, based on Core Sustainance Zones stated by the Bat Conservation Trust (BCT, 2016). Therefore, the species search for Annexe II bats extended to this range if appropriate.

Existing and potential ecological networks on and adjacent to the site were viewed on the Wiltshire Explorer website/Provided by the local records centre.

3.3 Field survey

A Preliminary Ecological Appraisal (PEA) was carried out following CIEEM guidance. This looks at the area to assess its likely value for protected species and other wildlife. It is not a specific survey for any one species and looks for general habitat types, but it will identify the need for further survey work if required. Once the appraisal is carried out and it is concluded that no further work is required an Ecological Impact Assessment of the proposal can be carried out.

Habitats on site were assessed according to the UK Habitats Classification Scheme, level 3. A phase 1 map showing UK Habitat types, level 3 was produced to guide Biodiversity Net Gain (BNG). A quality assessment of each habitat was undertaken using the Statutory Biodiversity Metric condition assessment sheets. A plant species list was made between April - September and a 'DAFOR' scale applied to indicate relative abundance for grassland and other habitat if they were assessed to be medium, high or of very high distinctiveness. Following the DAFOR assessment UK classification to level 4 and 5 may be undertaken if appropriate.

The entire site was surveyed for protected species, and for the potential for protected species, all protected species surveyed followed guidance from Natural England's Standing Advice Sheets for the relevant species. Habitat features or points of interest were also noted.

All areas of semi-natural habitat were also surveyed, and any features of interest noted. Consideration was also given to the potential of this area to act as a wildlife corridor.

Boundary features including walls and hedgerows were assessed is present. Hedgerows if effected were assessed in terms of species richness (five or more woody species in a 30m stretch) or in favourable condition.

A consistent search effort for evidence of bats was applied to all parts of the site that are due to be impacted by the proposed works. The methodology used to search this site is consistent with the guidelines provided in the Bat Conservation Trusts Bat Survey Guidelines (2016). Table 1 provides further guidance on how potential roost features (PRFs) were assessed.

The habitat surrounding the site was assessed for its suitability for use by bats, identifying features such as possible commuting corridors and foraging areas. These features assist bats with orientation in the dark, allowing bats to successfully navigate between roosts and foraging areas.

Any habitat features, for example, scrub and trees, which could potentially be used by nesting birds, was noted and any nesting activity within the buildings was recorded. Ground nesting bird potential was also considered if the habitat was suitable (wide, open fields etc.).

Habitat features that may be suitable as hibernacula or feeding/resting areas by reptiles were noted.

Any area that could be used by badgers for foraging or could potentially contain a badger sett was surveyed and any field signs, such as snuffle holes, latrines or hairs were noted.

Any river corridors or aquatic features with potential for use by otter or water vole were surveyed and any signs of otter such as spraint or footprints were noted. Water voles were surveyed using methodology detailed in Water Vole Conservation Handbook, Third Ed. (Strachan, R. , Moorhouse, T., Gelling, M. ,WildCRU, University of Oxford Publication, 2011).

Any habitat features that could potentially provide feeding or nesting habitat for dormice were checked for signs of this species and areas with potential for use by dormice were noted. Visual surveys for nests and opened nuts were undertaken if the work only involves losing a small amount of habitat (for example access gaps in hedgerows). Guidance provided in the dormouse conservation handbook, second ed. (Bright, P, Morris, P, Mitchell-Jones, T, Natural England, 2006) was also followed. The Zol was considered, looking for connecting habitats on-site that extend off site to other hedgerows and woodland areas that might be used by dormice.

Any terrestrial or aquatic habitat features that could be used by great crested newt was noted. Any ponds within 1km of the site were subject to a Habitat Suitability Index assessment (ARG UK, 2010) and where appropriate eDNA testing, where landowner permission could be obtained. The Zol for GCNs is considered to extend to 500 m from the site, as this is the distance up to which the species will typically travel to access breeding ponds (Froglife, 2001). If HIS assessment could not be carried out the 'pond-scape' within 500m and linking habitat was still assessed using online maps and aerial photographs.

Invertebrate habitat was noted during this assessment including potential for butterflies, moths and dragonflies. Micro features that are particularly important to invertebrates was also highlighted such as deadwood, edge of scrub, damp areas and grassland structure. Potential for protected invertebrates were considered, including white-clawed crayfish, stag beetles, southern damselfly, brown and white-letter hairstreak butterflies.

Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths 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 with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is 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 flight-paths 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 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 ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths 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.
^a Negligible is defined as ‘so small or unimportant as to be not worth considering, insignificant’. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute). ^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i>, 2016 and Jansen <i>et al.</i>, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.		

Table 1: Roosting potential for bats in buildings and trees

3.4 BNG Calculation

The proposal was described through the BNG hierarchy principal at the earliest stage with the client so that if any declines in on-site biodiversity could be avoided, they were. The needs in order to gain a biodiversity net gain of 10% was outlined, illustrating the need to the client and working with landscape architects if appropriate.

BNG was calculated by putting baseline (habitats currently present) area and post-development habitats into the Statutory Biodiversity Metric. A minimum of 10% net gain in biodiverse habitats was aimed for as a minimum to meet the legislative requirement.

3.5 Further Work – Bat Activity Survey

Three activity surveys at dusk were conducted. The aim was to confirm the number of bats using the building, regularity of use, identify the access points, to identify if any other species were also using the building and to inform the licence required to carry out the proposed works. These were carried out on the 13/05/25, 04/06/25, and 03/07/25 using one surveyor with a camera for two surveys, and one surveyor with a camera plus a stand-alone camera for one survey.

Dense vegetation constrained suitable camera positioning for both the first and last survey at the western elevation of the lower roof void (photo 12). During the second survey an additional camera was deployed to monitor the western elevation as some vegetation was removed prior. However, this was deemed unnecessary to implement again for the final survey as grown back vegetation limited flight paths for bats and constrained the camera positioning, blocking the frame. Additionally, there were no potential roost features (PRFs) at this elevation.



Fig. 2: The red star indicates S1 where a surveyor and camera were positioned for all 3 surveys. The yellow star indicates S2 where a stand-alone was positioned for the second survey. Copyright Google Earth

The methodology used to survey the site was consistent with the guidelines provided in the Bat Conservation Trust Bat Survey Guidelines (2024). The bat species were identified using sonograms from the recordings collected on the survey. These were analysed using the software Sonobat30 and bat explorer. Details of the survey are shown in Tables 2, 3 and 4 below.

Date of Survey Visit	Start and end times and time of sunset	Structure reference/ location	Equipment used	Weather
13/05/25	Start – 20:35 Sunset – 20:50 Finish – 22:20	The northern extension, which was where the lower roof void was situated.	Sony camcorder and bat logger.	Start – 16 Finish – 14 2/8 cloud 1/12 wind
Comments:	Surveyors – S1: Caitlin O'Reilly.			

Table 2: Details of the first bat activity survey.

Date of Survey Visit	Start and end times and time of sunset	Structure reference/ location	Equipment used	Weather
04/06/25	Start – 21:02 Sunrise – 21:17 Finish – 22:47	The northern extension, which was where the lower roof void was situated.	S1: nightfox plus bat logger. S2: sony camcorder plus peer sonic.	Start – 12°C Finish – 10°C 6/8 cloud 1/12 wind
Comments:	Surveyors – S1: Caitlin O'Reilly, S2: stand-alone camera.			

Table 3: Details of the second bat activity survey.

Date of Survey Visit	Start and end times and time of sunset	Structure reference/ location	Equipment used	Weather
03/07/25	Start – 21:11 Sunrise – 21:26 Finish – 22:54	The northern extension, which was where the lower roof void was situated.	Sony camcorder and bat logger.	Start – 19°C Finish – 16°C 3/8 cloud 2/12 wind
Comments:	Surveyors – S1: Caitlin O'Reilly.			

Table 4: Details of the third bat activity survey.

4. Baseline Biological Conditions

4.1 Statutory and Local Sites

Information was looked at on the MAGIC Defra website. The following was determined:

There are statutory sites within 1km of the proposal area. These are:

- The SSSI Whitesheet hill was 887 metres away from the proposal area.

The site is also within a SSSI impact risk zone, however, does not fall into any of the categories that might pose a risk, and therefore it is not necessary to contact Natural England. The proposal being within a built-up area is not considered to pose a risk to the near-by statutory sites.

A data search was obtained from Wiltshire and Swindon Biological Records Centre (WSBRC) to look for Local Sites within a 1km radius of the site. These are listed in Table 2.

Local Wildlife Sites		
Site name	Grid reference	Description or interest
Long Hill and Castle Hill	ST808325	Unimproved calcareous grassland, scrub and broadleaved woodland on an outlying chalk hill overlooking the village of Mere.
West Swainsford Farm Meadows	ST807313	Three discrete blocks of unimproved neutral meadows
Chetcombe Farm, Reservoir Field	ST819332	A small area of grassland buffering the adjacent SSSI. Includes areas on unimproved grassland on the steeper slopes and the sides of an underground reservoir.

Table 5: Local Sites within 1km of the site.

Magic Maps was used to search for National Habitat Networks in relation to Elmsleigh site. No networks were present on site. However, some networks were located 100 metres from the site.

The proposal area is not located anywhere that would pose a direct threat to any statutory or local sites, however the amount of statutory, recognised local wildlife sites and National Habitat Networks in the area suggests that the general area is of conservation value. Enhancements to support the ecological network will be considered as a part of this assessment.

4.2 Habitats

The on-site habitats consisted of 336 m² of ub1 developed land; sealed surface, 68 m² of 847 introduced shrub, 40 m² of w1h other woodland, 38 m² of 829 unvegetated garden, and 998 m² of 828 vegetated garden.

A native species hedgerow was present immediately outside the proposal area to the east, on land not owned by the property. A minimum buffer of 5 metres should be maintained for construction works so this hedgerow is not damaged.

4.2.1 Vegetated Garden

The vegetation cover was primarily dominated by grasses, with a species richness of fewer than six species per square metre. However, also was composed of common forb species, including creeping buttercup (*Ranunculus repens*), cow parsley (*Anthriscus sylvestris*), carline thistle (*Carlina vulgaris*), and dandelion (*Taraxacum agg.*). Additionally, areas of residential curtilage were present within the garden, including two young apple saplings, a semi-mature apple tree, and an elder (*Sambucus nigra*) tree. The habitat was classified as vegetated garden due to its low botanical diversity, evidence of frequent disturbance through regular mowing and management, and being in the garden of a residential dwelling, decreasing the overall ecological value.

4.2.2 Other woodland

This habitat, located at the northern point of the proposal area, comprised approximately six to eight trees. Species present included common hawthorn (*Crataegus monogyna*), European beech (*Fagus sylvatica*), common hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), and a garden cultivar species (Photo 9).

As the development of the new house will take place in close proximity to the trees at the north of the proposal area, it is necessary for the Root Protection Areas (RPA) to be firstly assessed by an arboriculturist, if not already complete. The RPA must exist at $RPA (m) = 12 \times \text{stem diameter (m)}$.

4.2.3 Introduced shrub

At the northern boundary of the site, non-native ornamental shrubs were abundant, with occasional bramble (*Rubus fruticosus*), occasional common nettle (*Urtica dioica*), occasional creeping buttercup (*Ranunculus repens*), and occasional dandelion (*Taraxacum officinale*). Rare saplings of common hazel

(*Corylus avellana*) were also present. The habitat represents a residential garden planted shrubs, but exhibiting some natural regeneration, though it remains predominantly composed of introduced ornamental shrub species (photo 11 and 12).

4.2.4 Biodiversity Net Gain

Much of the western edge of introduced shrub will be removed to create the new driveway, plus some vegetated and unvegetated garden (refer to fig.1). The loss must be compensated for through mitigation. The exact amount will be calculated using the BNG DEFRA metric.

Parcel Refs	Habitat Type and Code	Description and Condition Justification	Condition	Area/Length m ²
1	Developed land; sealed surface	Current house and driveway.	N/A	336
2	Introduced shrub	Abundant shrubbery along northern border.	Poor	68
3	Other woodland	Small patch of trees at the northern corner.	Moderate	40
4	Unvegetated garden	Where sheds currently exist.	N/A	38
5	Vegetated garden	Garden habitat.	N/A	998

Table 6: Baseline Descriptions and Condition.

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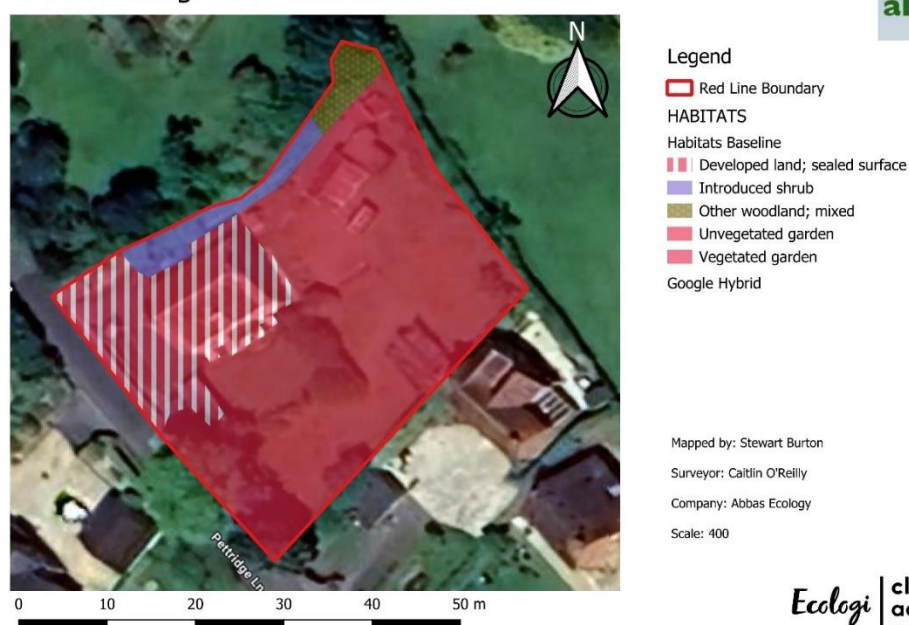


Fig. 4: Existing Site, with arial photograph

4.3 Species/Groups

A data search for species records within a 1 km radius of the site was obtained from the Wiltshire and Swindon Biological Records Centre (WSBRC).

4.3.1 Roosting Bats

There were 53 records of bats. The species listed included: Serotine, Natterer's, Noctule, Common Pipistrelle, Soprano Pipistrelle, and Brown Long-Eared.

As there were 3 outbuildings and a downstairs lower roof void above the utility room being destructured on site, a Preliminary Roost Assessment (PRA) was necessary to assess the building for potential bat use.

Preliminary Roost Assessment Results

Downstairs lower roof void exterior:

- **Overview:** The Elmsleigh utility room extension is comprised of clay field tiles, with a stone and brick construction.
- **Main Roof Condition:** The tiles were in good condition, with some minor areas of lifting (photo 2). The east gable end had some mortar degradation at the eaves, where the flashing was visible (photo 2). This created potential roosting features (PRFs) for bats. The west gable end was in good condition and flight paths were blocked by heavy vegetation from shrubbery.
- **Nesting Birds:** No evidence of nesting birds was observed.

Outbuildings exterior:

- **Outbuilding A:** This building was comprised of asbestos and corrugated metal sheeting, and a wood construction. The sheeting was in good condition. As sheeting has poor thermal properties, this usually does not create the constant temperature conditions ideal for bat roosts (photo 3). There were no PRF's noted.
- **Outbuilding B:** This building was comprised of corrugated metal sheeting and clay field tiles, and a wood construction. The tiles were in bad condition, and there appeared to be no mortar (photo 4). There were no PRFs noted.

- **Garage:** The garage was comprised of asbestos sheeting and a stonework construction. This was in good condition and there were no PRF's noted (photo 5). The gable ends were in good condition, with the wooden panel tight to the stonework.

Downstairs lower roof void interior:

- **Overview:** The roof void was lined with bitumen felt. The space measured approximately 5 metres by 3 metres, with a ridge height of around 1 metre. The space was not boarded or utilized for storage.
- **Condition:** The bitumen felt was in good condition and no tears were found. The gable ends displayed slight degradation at both the east and west elevations (photo 6).
- **Evidence:** An estimate of 20 bat droppings were dispersed throughout the roof void, 10 were collected for DNA analysis (photo 7). No evidence of nesting birds was found.

Outbuildings interior:

- **Outer building A:** The interior was lined with breathable membrane and wiring. There was no roof void and windows in the roof created a bright space, which does not create the ideal roost environment for bats, and the corrugated metal and asbestos sheeting does not create an ideal temperature regulation for roosting bats (photo 8). The lining was in good condition. No bat evidence through droppings, feeding remains or corpses were found, nor was there evidence of breeding birds.
- **Out building B:** The interior was unlined, and did not provide any crevice space that may be utilized for bat roosting. The open door created a light environment also unsuitable for bat roosting.
- **Garage:** The interior was lined with breathable membrane. There was no roof void and a window created a bright space, which does not create the ideal roost environment for bats. The lining was in good condition. No bat evidence through droppings, feeding remains or corpses were found, nor was there evidence of breeding birds.

Survey Constraints

No survey constraints.

Interpretation of Results

Bat droppings collected from inside the roof void were sent for DNA analysis and identified as Brown Long-Eared (*Plecotus auritus*). After carrying out this bat check and finding bat droppings within the downstairs roof void, the surveyor has concluded that **the downstairs roof void is a bat roost** with no evidence of breeding birds. However, **the 2 outbuildings and the garage had negligible potential for bats and no evidence of breeding birds.**

Therefore, three further surveys will be required on the downstairs roof void before the proposed building works can proceed.

Activity Survey Results

No Brown Long-eared bats were seen emerging from the building, nor were they detected via sound analysis. No other bat species were seen emerging from the building.

Date of Survey Visit	Start and end times and time of sunset	Structure reference/ location	Equipment used	Weather
13/05/25	Start – 20:35 Sunset – 20:50 Finish – 22:20	The northern extension, which was where the lower roof void was situated.	Sony camcorder and bat logger.	Start – 16 Finish – 14 2/8 cloud 1/12 wind
Comments:	Surveyors – S1: Caitlin O'Reilly. No emergences were seen. There were low levels of common pipistrelle, soprano pipistrelle, and serotine foraging. Additionally, there were singular passes from a greater horseshoe and a noctule.			

Table 7: Details of the first bat activity survey.

Date of Survey Visit	Start and end times and time of sunset	Structure reference/ location	Equipment used	Weather
04/06/25	Start – 21:02 Sunrise – 21:17 Finish – 22:47	The northern extension, which was where the lower roof void was situated.	S1: nightfox plus bat logger. S2: sony camcorder plus peer sonic.	Start – 12°C Finish – 10°C 6/8 cloud 1/12 wind
Comments:	Surveyors – S1: Caitlin O'Reilly, S2: stand-alone camera. S1: No emergencies were seen. There were low levels of common pipistrelle foraging. Additionally, there were singular passes from a greater horseshoe and a soprano pipistrelle. S2: No emergence or foraging was seen in the video footage. The sound analysis detected common pipistrelle foraging.			

Table 8: Details of the second bat activity survey.

Date of Survey Visit	Start and end times and time of sunset	Structure reference/ location	Equipment used	Weather
03/07/25	Start – 21:11 Sunrise – 21:26 Finish – 22:54	The northern extension, which was where the lower roof void was situated.	Sony camcorder and bat logger.	Start – 19°C Finish – 16°C 3/8 cloud 2/12 wind
Comments:	Surveyors – S1: Caitlin O'Reilly. No emergencies were seen. There were low levels of common pipistrelle and soprano pipistrelle. Additionally, there was a singular pass from a myotis species.			

Table 9: Details of the third bat activity survey.

Limitations of the Survey

Brown long-eared bats are quieter than other species. However, use of a camera on both surveys where film was checked later overcame this.

A tripod breakage on final survey restricted camera view however, all PRF's were in camera viewpoint, and a surveyor was stood at this position to supplement the camera footage. No passes were seen that could suggest a missed emergence.

Interpretation of Results/Assessment of Effects

Structure reference	Species	Count	Site status assessment	Conservation significance of roost	Use and Importance of the site throughout the year
Lower roof void	BLE	N/A	Transitional/Occasional	Low as no sightings made and the species recorded is widespread.	Site used occasionally.

Table 10: Interpretation of results.

The number of droppings did not suggest that this roof void was often in use by many Brown Long-eared bats (approximately 20 droppings could be seen scattered around the roof void), and there were no sightings on any bat activity survey. Additionally, the roof void was small and only single-storey in height, offering limited internal flight space. As brown long-eared bats typically favour larger roof voids with sufficient height for internal flight, this area isn't considered to be of high conservation significance for the species. **Therefore, this roost has been classified as a transitional/occasional roost.**

4.3.2 Foraging Bats

There was a low level of foraging and commuting activity during all 3 of the activity surveys. Most of this was by Common Pipistrelle *Pipistrellus pipistrellus* and Soprano pipistrelle *Pipistrellus pygmaeus* bats foraging around the garden, with the occasional pass by *Myotis* sp., Greater Horseshoe Bat *Rhinolophus ferrumequinum*, Serotine Bat *Eptesicus serotinus*, and Noctule Bat *Nyctalus noctule*. The site functions as a small component of a larger bat foraging area within the broader landscape.

As a light sensitive species, the Greater Horseshoe, was detected in the bat activity surveys, lighting mitigation will be necessary.

4.3.3 Breeding Birds

The data search identified 390 records of birds within a 1 km radius. However, there were no signs of breeding birds externally or internally on any of the buildings being demolished. Additionally, although barn owls and other birds of prey were found in the data search, there was no habitat on site suitable for these species. The trees on the northern elevation of the shrub would be beneficial to be kept supporting local bird populations.

No further surveys.

4.3.4 Dormice

There is a hedgerow just outside of the eastern site boundary site that would create a suitable environment for dormice. However, the connectivity was not great to other hedgerows in the landscape, and there were no local records of hazel dormice activity within a 1 km radius of the site.

No further surveys required however a buffer implemented from the hedgerow.

4.3.5 Badgers

There were 6 records of Badgers *Meles meles*.

Despite six local records of badger activity within 1 km of the site, and some potential habitat to provide cover in the shrub and woodland area, no evidence of use was found.

While no further surveys are needed, precautionary mitigation is recommended during demolition and construction to prevent potential harm to badgers entering the site.

4.3.6 Reptiles

There were 30 records for reptiles and amphibians. The species listed included: Grass Snakes, Common Lizards, Slow Worms, Common Toads, Common Frogs and Great Crested Newts.

Despite there being local records of reptiles, the vegetated garden was highly managed, kept mown and close to ground level, which did not provide appropriate habitat for reptiles. However, 2 compost heaps were present on site which provide a good habitat for slow worms. But as there are no habitats with long grass in close proximity to the proposal area, the location would be too isolated to expect reptiles.

No further surveys required.

4.3.7 Great Crested Newts

There were great crested newts present in local records within a 1 km radius. However, there were no ponds on or adjacent to the site. There is a pond approximately 80 metres to the southwest, however this was separated from site by a road, which creates a physical barrier. Additionally, there was a river around 130 metres away but the watercourse running through this greatly reduces the likelihood of use by great crested newts. Plus, the presence of fish which would predate the eggs and young efts. As there were more favourable habitats in closer proximity to this pond that would not require crossing a road (a small woodland) it is likely that any present would favour this habitat.

No further surveys are required.

4.3.8 Otters and Water Voles

There was a total of 6 records of Otters *Lutra lutra* and 17 records of Water Voles *Arvicola amphibius* documented within 1 km of site. However, there were no supporting habitats present either on or adjacent to the site for either otters or water voles. Although there is a river approximately 130 metres away, water voles will not stray more than 10 metres from the waters edge, and physical barriers such as housing, fences and roads separate otters from the proposal area. There is therefore a negligible chance of either species being found on site.

No further surveys are required.

4.3.9 Invertebrates

There were 430 records for invertebrates.

The proposal area did not possess any habitat, such as species rich grassland or hedgerows that could support any protected invertebrates or significant communities of more common species. Additionally, there were no protected invertebrate records documented by the data search within 1 km.

No further surveys or mitigation is required.

4.3.10 Hedgehogs

In total, 57 records of hedgehogs had been recorded by the data search. The shrub area on site provided potential habitat for hedgehogs, which can potentially be used for daytime shelter or winter hibernation. However no direct signs or evidence of hedgehogs was found during the preliminary assessment.

No further surveys however precautionary mitigation and enhancements required.

5. Photos



Photo 1: Elmsleigh main house.



Photo 2: lower roof void to be removed.



Photo 3: outbuilding A.



Photo 4: outbuilding B.



Photo 5: garage.



Photo 6: visible degradation around gable ends of downstairs roof void.



Photo 7: dropping remain in downstairs roof void.

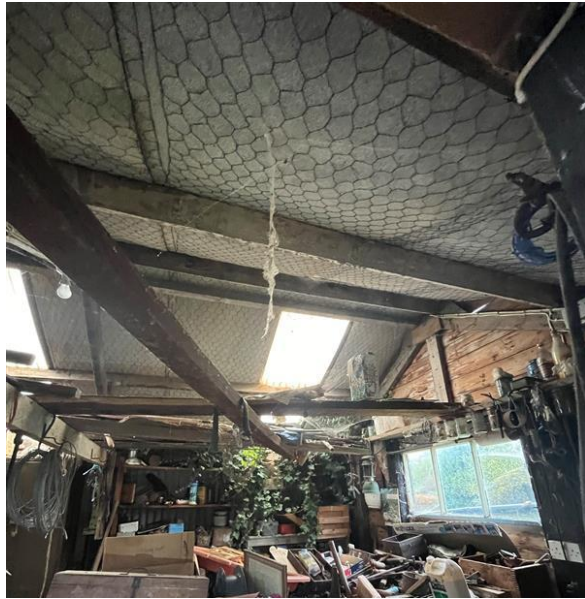


Photo 8: interior of outbuilding A.



Photo 9: trees to the north of scrub habitat.



Photo 10: shrubs to the west of the scrub habitat.



Photo 11: part of the shrub habitat.



Photo 12: part of the shrub habitat.



Photo 13: Dark point for the survey on the 13/05/25



Photo 13: Dark point for the stand-alone camera for the survey on the 04/06/25.



Photo 13: Dark point for the night fox camera for the survey on the 04/06/25.



Photo 13: Dark point for the survey on the 03/07/25.

6. Proposal Layout

The proposed works will result in the loss of a day/occasional brown long-eared bat (*Plecotus auritus*) roost. Mitigation will be provided through the installation of two brown long-eared bat friendly boxes located adjacent to the former roost area (see figure 5). In addition, sensitive lighting design will be implemented to prevent impacts on light-sensitive species and maintain dark commuting and foraging corridors. As an ecological enhancement, access tiles will be incorporated into the new building to provide potential roosting opportunities for local species such as brown long-eared, common and soprano pipistrelles, which were recorded foraging during all surveys. Any roof lining on the new structure will be a traditional bitumen 1F membrane or a roofing membrane that passes a 'snagging propensity test' so the risk to bats will be minimised.

As this proposal is for residential households, providing on site mitigation for loss of habitat is not possible. Therefore, the loss of the shrub and vegetated garden will be offset through the purchase of 0.13 habitat units.

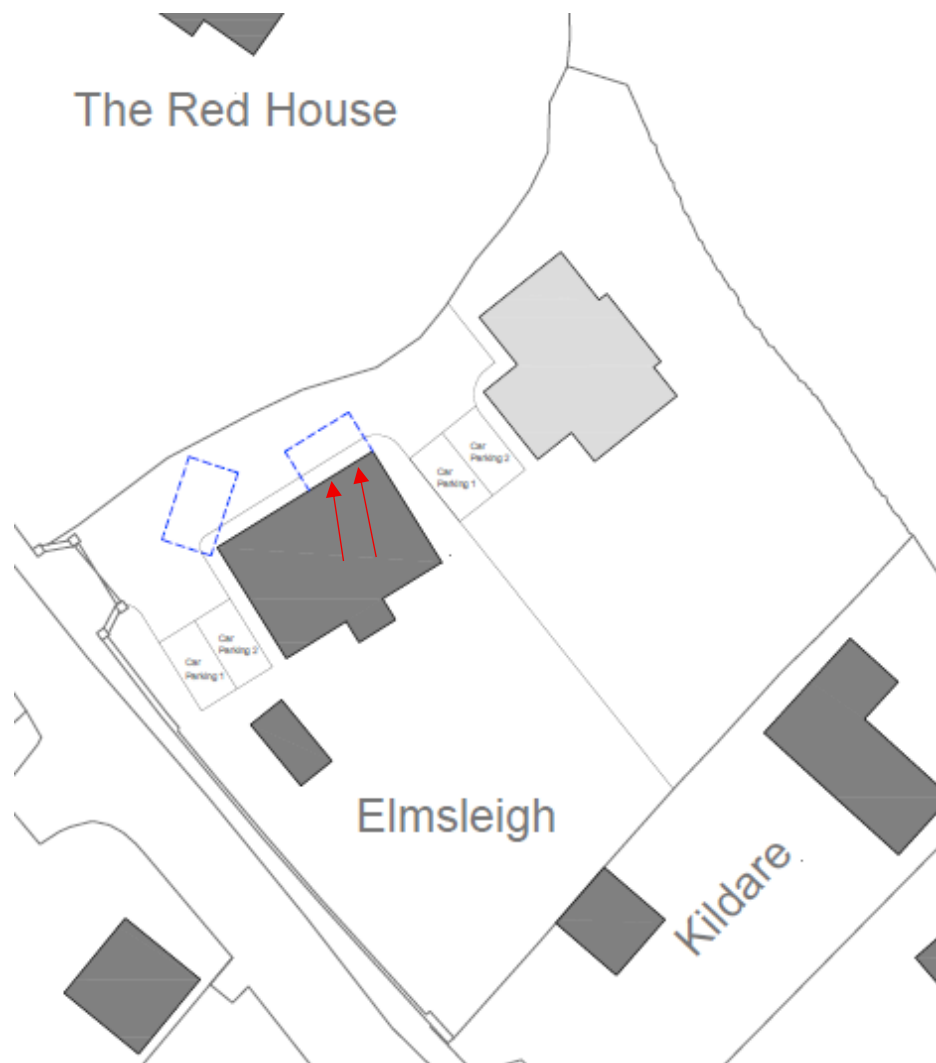


Fig. 5: Site proposal. Red arrows indicate the placement of the two bat boxes.

7. Assessment of the Effects with Mitigation

The proposal has the potential to affect the following:

- Biodiversity net gain: vegetated garden, unvegetated garden and introduced shrub.
- Badgers.
- Bats.
- Hedgehogs.
- Woodland and hedgerow buffer.

6.1 DEFRA Biodiversity Net Gain Assessment

The impacts on the vegetated garden, unvegetated garden and introduced shrub are addressed using the DEFRA BNG assessment, to reach a minimum of 10% net gain.

6.1.1 Potential impacts

An area of 135 m² of vegetated garden, 29 m² of unvegetated garden, and 56 m² of introduced shrub to be impacted by the proposed development.

6.1.2 Mitigation

5960 Elmsleigh Post-Intervention

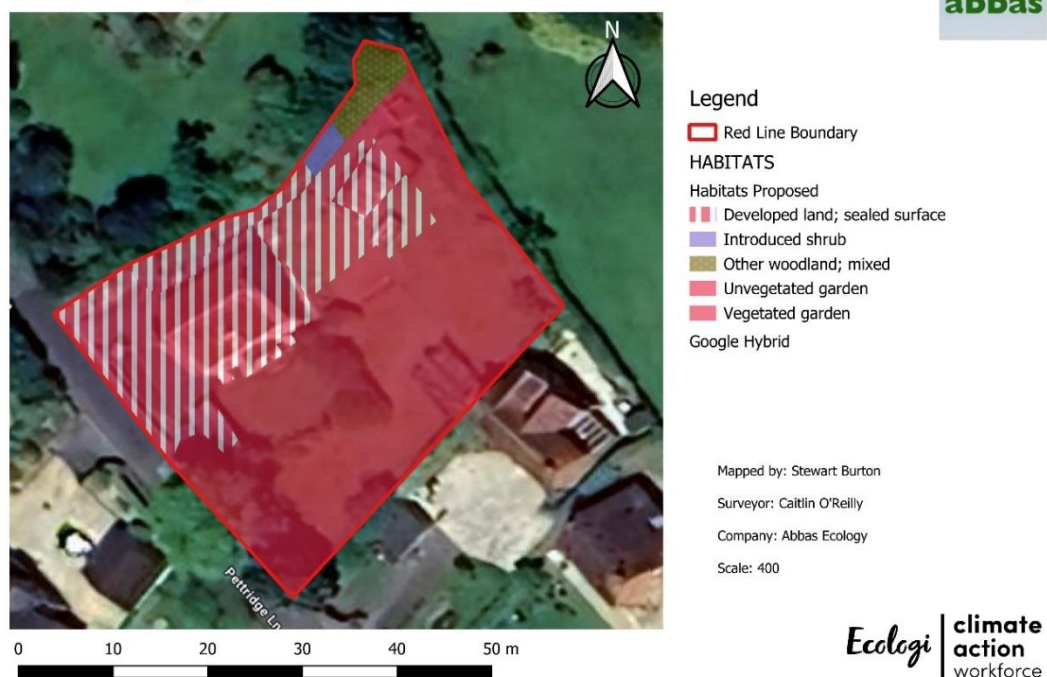


Fig. 6: post intervention map.

Parcel Refs	Habitat Type and Code	Description and Condition Justification	Condition	Area/Length m ²
1	Developed land; sealed surface	Original house, driveway and new development.	N/A	556
2	Introduced shrub	Abundant shrubbery along northern border.	Poor	12
3	Other woodland	Small patch of trees at the northern corner.	Moderate	40
4	Unvegetated garden	Where sheds currently exist.	N/A	9
5	Vegetated garden	Garden habitat.	N/A	863

Table 11: Details of the post-intervention habitat descriptions and condition scores.

The headline results from the statutory biodiversity metric calculation tool are displayed in table 6.

Headline		BNG Targets Not Met ▲
Trading Rules		Trading Rules Not Satisfied ▲
Next steps		Scheme alterations or offsite units required
Baseline Units	<i>Habitat units</i>	0.25
	<i>Hedgerow units</i>	0.0000
	<i>Watercourse units</i>	0.0000
Post-development Units	<i>Habitat units</i>	0.21
	<i>Hedgerow units</i>	0.0000
	<i>Watercourse units</i>	0.0000
Total net unit change	<i>Habitat units</i>	-0.04
	<i>Hedgerow units</i>	0.0000
	<i>Watercourse units</i>	0.0000
Total net % change	<i>Habitat units</i>	-15.58%
	<i>Hedgerow units</i>	% target not appropriate
	<i>Watercourse units</i>	% target not appropriate
Trading rules satisfied		No X

Table 12: Headline Results as Calculated in the Legislated BNG Metric.

To achieve the required 10% Biodiversity Net Gain, a shortfall of 0.13 habitat units has been identified within the BNG metric. This will be addressed through the **purchase of 0.13 off-site biodiversity credits from an approved habitat bank or statutory credit provider.** On-site habitat

creation has been discounted as a viable option, as it would not be possible to secure or appropriately maintain new habitats within a residential setting over the required 30-year management period. Consequently, off-site compensation provides the most practical and policy-compliant approach to delivering the necessary net gain.

6.2 Badgers

The proposal has the potential to impact badgers which opportunistically use the proposal area during the construction phase.

6.2.1 Mitigation

If any trenches, pits, or excavations are created during construction, they must either be securely covered overnight or fitted with an escape route to prevent badgers and other wildlife from becoming trapped. Where an escape route is provided, this should consist of a gently sloping wooden plank or earth ramp positioned at no more than a 30° angle, extending from the base of the excavation to ground level. The plank should be stable, with a roughened surface to provide grip, and wide enough (minimum 300 mm) to accommodate a badger. Trenches should be inspected at the start of each working day for the presence of wildlife, and any trapped animals must be reported immediately to the site ecologist or relevant wildlife rescue service before work continues.

6.3 Bats

The proposal has the potential to impact the Brown Long-eared (*Plecotus auritus*) transitional/occasional roost, and to disturb light sensitive species foraging.

6.3.1 Mitigation

License

A low impact license application will be necessary for the proposal to go ahead.

Permanent Mitigation

Mitigation will be provided through the installation of **two Schwegler 2FN bat boxes**, sited in the location of the previous lower roof void to provide continuity of roosting opportunities. The boxes will be mounted 3–5 m above ground.

Temporary mitigation

Additionally, one Schwegler 2FN bat box will be placed on a tree in the mixed woodland habitat, 3-5m from the ground to act as a temporary replacement roost for BLE whilst re-roofing occurs. However, this will be retained as a permanent enhancement after.

Watching brief

A watching brief will be undertaken by a suitably trained and licensed ecologist during roof dismantling to ensure that any bats present are safely removed prior to demolition.

Roof Lining

Any roof lining used in the new property will be lined with a traditional 1F bitumen felt. For any access tiles, small holes must be cut beneath, dimensions 20mmx50mm, allowing bats to enter the roof voids through the membrane.

Timber Treatment

Any timber treatment used must be on the approved list provided by Natural England in their Technical Information Note TIN092 - Bat Roosts and Timber Treatment Products.

Lighting

All luminaires should lack UV elements when manufactured. Metal halide, compact 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 light source (2700Kelvin or lower) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion- sensors and set to as short a possible a timer as the risk assessment will allow.
- Lighting should not be positioned above first story height.

Time of Year

It is advised to avoid winter months (December-February) to ensure favourable weather conditions, and bats to not be disturbed in hibernation.

Bat Encountered

In the unlikely event that a bat is encountered at any other time, work must stop and the licenced ecologist must be consulted for further information. Contractors should not touch or attempt to relocate bats during the works.

6.4 Hedgehogs

The proposal has the potential to impact hedgehogs sheltering or hibernating in the introduced shrub habitat.

6.4.1 Mitigation

Prior to the removal of the introduced shrub habitat, this will be carefully checked for the presence of sheltering hedgehogs or other small animals. Vegetation clearance will be undertaken in stages, beginning with the cutting of vegetation to a low height (approximately 150 mm) and leaving it in place for 24-48 hours to allow any animals present to disperse naturally. A final cut to ground level will then follow. This phased approach reduces the risk of harming sheltering species such as hedgehogs and follows best practice guidance for terrestrial mammal protection. Where possible, clearance will be avoided during the hibernation period (typically November to March) to reduce the risk of disturbance or harm to hibernating hedgehogs. Supervised by a suitably qualified ecologist.

6.5 Woodland and hedgerow buffer

The proposal has the potential to impact the mixed woodland habitat and the hedgerow just outside the east of the proposal area, not owned by the client.

6.5.1 Mitigation

For the mixed woodland, an RPA must exist at $RPA(m) = 12 \times \text{stem diameter}(m)$ of each tree. This habitat is being fully retained.

For the hedgerow just outside of the proposal area, a 5-metre buffer must be maintained.

These buffer zones will protect the roots and structure, maintain habitat quality, support wildlife movement, and minimise indirect impacts such as lighting.

8. Enhancements

Enhancements for biodiversity are expected from all applications through the NPPF. These enhancements will be achieved for this project through the following measures:

- 1x Schwegler 2FN bat box attached to a tree in the mixed woodland retained after use as a temporary mitigation measure as an enhancement.
- 1x access tile will be incorporated into the southern elevation of the new building, with a 20 mm x 50 mm opening cut beneath to provide bats with roosting access.
- 1x hedgehog house in the woodland area.

The following product is recommended. These are widely available on the internet and come in a variety of finishes.

		
One bat box to be installed to either a tree in mixed woodland, other suppliers are available. Bat boxes must be approved by an ecologist. Search	Example of potential bat access tile. Other suppliers available. Search	Example of hedgehog house. Other suppliers available. Search

Fig. 7: Enhancements.

These enhancements will support both the Brown Long-eared bats roosting and other bat species recorded as foraging, as well as hedgehogs.

9. Monitoring

Photographic evidence of the completed mitigation and enhancements will be submitted to the LPA by the Developer/Site owner.

10. Conclusions

Provided that 0.13 habitat credits are purchased through an approved habitat bank, all mitigation for the brown long-eared occasional/transitional roost and foraging badgers is implemented, and the additional bat box, access tile and hedgehog home are included as enhancements (in line with the NPPF), the proposal's impacts on wildlife will be effectively mitigated and enhancements provided.

Appendix I: Legislation (summary)

In England, all bats, dormice (*Muscardinus avellanarius*), otters (*Lutra lutra*), great crested newts (*Triturus cristatus*), smooth snakes (*Coronella austriaca*) and sand lizards (*Lacerta agilis*) are legally protected under Annex IV of the EC Habitats and Species Directive (1992), which is transposed into domestic law via the Conservation of Habitats and Species Regulations (2017). Nightjars (*Caprimulgus europaeus*) are protected under the above Regulations under Annex I (as originated from the EC Birds Directive).

Badgers (*Meles meles*) are protected under The Protection of Badgers (1992).

Some species are also listed under Annex II of the EC Habitats and Species Directive (1992), including barbastelle (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), greater horseshoe (*Rhinolophus ferrumequinum*), lesser horseshoe (*Rhinolophus hipposideros*), great crested newt, stag beetle (*Lucanus cervus*) and otter.

The above-named species and adders (*Vipera berus*), slow worms (*Anguis fragilis*), grass snakes (*Natrix natrix*), common lizards (*Zootoca vivipara*), water voles (*Arvicola amphibius*) and several invertebrate species are also protected under Schedule 5 of the Wildlife and Countryside Act (WCA) (1981) (as amended); hedgehogs (*Erinaceus europaeus*) are partially protected under Schedule 6 of the WCA (1981). Barn owls (*Tyto alba*) and other breeding birds are protected under Schedule 1 of the WCA (1981).

Schedule 9 of the WCA (1981) includes non-native, invasive species including (but not limited to) Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*).

Some sites that have been designated for nature conservation are legally protected due to being of European importance. These include Special Areas of Conservation (SACs) (protected under the EC Habitats and Species Directive (1992), Special Protection Areas (SPAs) for birds (protected under the EC Birds Directive) and Ramsar (Ramsar Convention, 1975). Other protected sites include Sites of

Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) Local Nature Reserves (LNRs) and Protected Road Verges.

Hedgerows that qualify as 'important' under The Hedgerows Regulations (1997) are legally protected under the Regulations.

The National Planning Framework has been revised in July 2021. Section 15, paragraphs 174 to 188 can be found at <https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment> Conserving and enhancing the Natural Environment. Section 15, NPPF July 2021 states that planning policies and decisions should contribute to and enhance the natural and local environment.