

Ecological Mitigation, Enhancement and Management Plan

Survey site: Hatchgate Cottage, Hatchgate Lane, Cuckfield, West Sussex, RH17 5DU

Client: Silver Homes (Cuckfield) Ltd

Date: 20/03/2025

Project:

This report is prepared to inform a planning application with **Mid Sussex District Council**. The proposal is described as: *Demolition of existing dwelling and erection of 5 homes with access from Hatchgate Lane together with parking, landscaping and associated works.*

Planning Application Number: DM/23/3021

Introduction

This Ecological Mitigation, Enhancement and Management Plan EMEMP has been prepared for the above-named client to outline measures to be implemented during works at the above-named site.

The purpose of this plan is to ensure the protection and mitigation of ecological receptors, adhere to best practices and industry standards, and provide adequate supervision by licensed professionals. The EMEMP also outlines the management frameworks required for the planning and implementation of construction activities that comply with legislation and the environmental commitments.

EMEMP The below table provides the wider ecological context of the site and details any associated planning conditions.

Site Context and Landscape History	
The site is located at National Grid Reference TQ 31347 24642 and has an area of approximately 0.4ha and comprises buildings, amenity grassland, hedgerows, scrub and scattered trees. It is surrounded by large arable fields to the north and south, with connecting hedgerows and scattered trees that lead to the site, acting as excellent linear features for wildlife, including bats. The village of Cuckfield extends directly adjacent west, with the Town of Haywards heath to the east. A large ancient woodland extends to the northeast, which is of high value to wildlife. There are several waterbodies located within 2km of site.	
Planning Conditions	
Condition 8	Prior to commencement a non-licensed Precautionary Method Statement for bats shall be submitted to and approved in writing by the local planning authority. This will contain precautionary mitigation measures and/or works to avoid potential impacts to bats during the felling of tree T9 (Silver Birch). The measures and/works shall be carried out strictly in accordance with the approved details and shall be retained in that manner thereafter. Reason: To conserve protected and Priority species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 (as amended) and s40 of the NERC Act 2006 (as amended).
Condition 12	All mitigation and enhancement measures and/or works shall be carried out in accordance with the details contained in the Bat Emergence Survey (Wychwood Environmental Ltd., June 2024), Preliminary Ecological Appraisal and Preliminary Roost Assessment (Arbtech, April 2024), as already submitted with the planning application and agreed in principle with the local planning authority prior to determination. This includes the Non-

	licensed Precautionary Method Statement for Hazel Dormouse and the Precautionary Method Statements for reptiles and for mobile species in Table 11 Section 4.2 of the Preliminary Ecological Appraisal and Preliminary Roost Assessment (Arbtech, April 2024). This avoids impacts on European Protected Species and protected species. This will include the appointment of an appropriately competent person e.g. an ecological clerk of works (ECoW) to provide on-site ecological expertise during construction. The appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved details. Reason: To conserve and enhance protected and Priority species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (as amended).
<i>Condition 13</i>	Prior to any works above slab level a Biodiversity Enhancement Layout, providing the finalised details and locations of the enhancement measures contained within the Bat Emergence Survey (Wychwood Environmental Ltd., June 2024), Preliminary Ecological Appraisal and Preliminary Roost Assessment (Arbtech, April 2024), shall be submitted to and approved in writing by the local planning authority. The enhancement measures shall be implemented in accordance with the approved details prior to occupation and all features shall be retained in that manner thereafter. Reason: To enhance protected and Priority Species and allow the LPA to discharge its duties under the s40 of the NERC Act 2006 (as amended).
<i>Condition 14</i>	Prior to occupation a lighting design scheme for biodiversity based on guidance GN: 08/23 (Institute of Lighting Professionals) shall be submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed (through the provision of appropriate lighting contour plans and technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory. All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the DECISION NOTICE Page 6 scheme. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority. Reason: To allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (as amended).

The below table describes the ecological baseline conditions on site.

Ecological Background Information
Detailed using desk study and site survey.
The site had a PEA undertaken by Arbtech consultancy in April 2024, this was followed by secondary Bat Emergence and Re-entry surveys (BERS) (Wychwood Environmental Ltd, 2024), in which included a tree inspection of trees with bat roosting potential. Habitats identified at the site include- • Modified grassland (g4) • Buildings (u1b5) • Bramble scrub (h3d) • Hedgerow with trees (h2b 11) • Developed land; sealed surface (u1b) • Introduced shrubs (u1 847) • Brash Pile • Scattered trees (u1 32) This does not include habitats identified outside of the development boundary, in the wider site landscape. Value for protected species on the site includes the following- • Birds- Birds were observed on site, and an inactive bird’s nest was observed within B1. Birds could nest in the hedgerows and trees on site. • Badgers- No evidence of badgers was observed on site. Badgers can access the site for foraging and commuting, although the likelihood is low. • Bats- T7, T9, T10, T12, T13 contain potential roost features which bats could use. Scattered trees, hedgerows, grassland could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site. • Reptiles- No reptiles have been observed on site. The habitat is suitable for commuting due to hedgerows, decaying tree stumps and log piles. However, the short sward of the grassland limits the shelter which reptiles would need to commute safely across.

- **Amphibians-** GCN have been recorded within 2k the development. The occurrence of GCN on site is unlikely, however, it cannot be ruled out entirely. m of the site, with a population confirmed ~170m east. There are no ponds on site or immediately adjacent that will be affected by
- **Terrestrial mammals-** The habitats on the site and wider site are likely to support a variety of terrestrial mammals, such as hedgehogs, foxes, rabbits and rodents.

B1 is a roost of common pipistrelle and brown long-eared bats with low levels of common pipistrelle foraging and commuting activity. The building was found to support day roost for a small number of brown long-eared bats within the roof as an occasional day roost for a single brown long-eared bat and a single common pipistrelle day roost recorded under fascia board on the western elevation of the cottage. Low levels of bat activity which were dominated by common pipistrelles during the emergence surveys. No evidence of bats was found in or on the trees. All trees that were subject to further surveys (via endoscope) were downgraded negligible roost potential, with the exception of T9, which was downgraded to low roost potential. This tree must be soft/sectional felled.

The following tables detail the proposed mitigation, habitat creation and biodiversity enhancement measures for the development as well as management requirements to ensure the longevity of these measures. as detailed in the PEA and BERS. These include further details of the habitats on site and the impacts of the development upon them and will be read in conjunction with this document.

Scope

This EMEMP outlines construction and ecological measures for the following works:

Demolition of existing dwelling and erection of 5 homes with access from Hatchgate Lane together with parking, landscaping and associated works.

Aims and Objectives

This report aims to identify key stakeholder requirements, ensure compliance by all stakeholders with all relevant legislation, minimise potential adverse effects on protected/notable species during construction, and to provide ecological and biodiversity enhancement measures for the site and include a management strategy in order to achieve long-term success and improvements.

Work Schedules and Ecological Presence

Work schedules will be developed by the client to ensure activities with specific timing requirements are carried out in a manner that minimises harm to ecological receptors. These schedules will be provided to all relevant personnel and contractors involved in the project. The following measures will be implemented:

Ecological Clerk of Works

A qualified and suitably experienced ecologist will be present on-site during critical phases of construction activities. Their role will be to oversee and monitor compliance with the EMEMP, provide guidance, and take immediate action to prevent any harm to ecological receptors. Should protected species be identified during vegetation clearance, works will be halted whilst a suitably licenced ecologist and/or Natural England is contacted.

Persons Responsible and Lines of Communication

A Development Biodiversity Champion is selected for the construction phase of the development. The Biodiversity Champion will be someone with significant influence during construction, such as the contractor, site or project manager. They are responsible for ensuring all actions outlined in the approved EMEMP are implemented including the provision of a toolbox talk prior to work commencing. Any queries with regards to the mitigation prescriptions will be addressed to the project ecologist and communication will be retained between the Development Biodiversity Champion and project ecologist and/or a suitably qualified Ecological Clerk of Works (ECoW) throughout the construction phase of the development where necessary to ensure the mitigation is applied and impacts to adjacent ecological receptors are effectively minimised. They will also be responsible for making sure that

enhancements listed in the EMEMP are applied in the correct manner. The project ecologist’s contact details are located on the title page of this report. It is recommended that the Biodiversity Champion informs the project ecologist and designated ECoW of the commencement of construction works and provides updates where necessary. The ECoW will provide ecological expertise and guidance throughout.

Table 2- Construction and Ecological mitigation measures

Ecological Mitigation Measures	This table includes any measure required to obtain or comply with planning permission or other consent and to comply with legislation.
Wildlife Protection – Precautionary Methods of Working-	
Herpetofauna	GCN have been recorded within 2km of the site, with a population confirmed ~170m east. There are no ponds on site or immediately adjacent that will be affected by the development. The occurrence of GCN on site is unlikely, however, it cannot be ruled out entirely. Some level of GCN presence is assumed (with common amphibians likely to be present on site). The site is in addition suitable for reptiles, with its provision of interspersed cover and basking areas provided by the hedgerows, decaying tree stumps and log piles across the site. The proposed works are not anticipated to lead to any levels of habitat loss or fragmentation likely to affect local population status for either amphibians or reptiles, but individuals may be injured or killed during clearance and construction. A non-licenced mitigation strategy was stipulated as the most appropriate route forward within the PEA (Arbtech, 2024).

	Ecological Clerk of Works A qualified ecologist will be present on site to act as an ecological clerk of works (EcOW) during the clearance of vegetation of value to reptiles and amphibians. The EcOW will complete a toolbox talk to contractors immediately prior to vegetation clearance works to highlight the potential presence of reptiles and amphibians and to outline indicators of their presence. Pre Development Vegetation Clearance Vegetation and log pile clearance works must take place outside of the typical hibernation period for reptiles and amphibians, which is typically between November and February. Reptiles and amphibians are mostly torpid during this timeframe and are thus most vulnerable to injury or death. Undertaking vegetation clearance works during their active period, typically between March and September, will allow individuals to disperse unperturbed to adjacent retained habitats. a) Before any development, the ground flora on the affected parts of the site will be strimmed down to 300mm, directed towards off site suitable habitat. Any reptiles that are found will be encouraged to move away of their own volition, or if in immediate danger or likely to find itself in danger, deposited in a bucket and placed by gloved hand outside of the development area in retained suitable habitat by a suitably experienced ecologist. Great crested newts are not to be moved without the appropriate licence, unless in immediate danger. b) Any spoil/log or rubble piles will be destructively searched for reptiles at the same time.
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| | <p>c) This will be followed by a rest period of at least 24 hours.</p> <p>d) The second cut will be to ground level/ bare ground. Reptiles and amphibians are most likely to be present at or just below ground level; the phased technique allows any individuals present at this vegetation level to disperse. e) In addition to phasing, any cutting will be conducted systematically, towards areas of retained habitat to encourage any individual reptiles and amphibians to retreat to retained habitat unharmed and thus preventing individuals from becoming trapped in a central habitat island.</p> <p>e) The development zone will be managed thenceforth as bare ground or close mown vegetation.</p> <p>A suitable systematic cutting technique is exemplified below in Figure 1.</p> |
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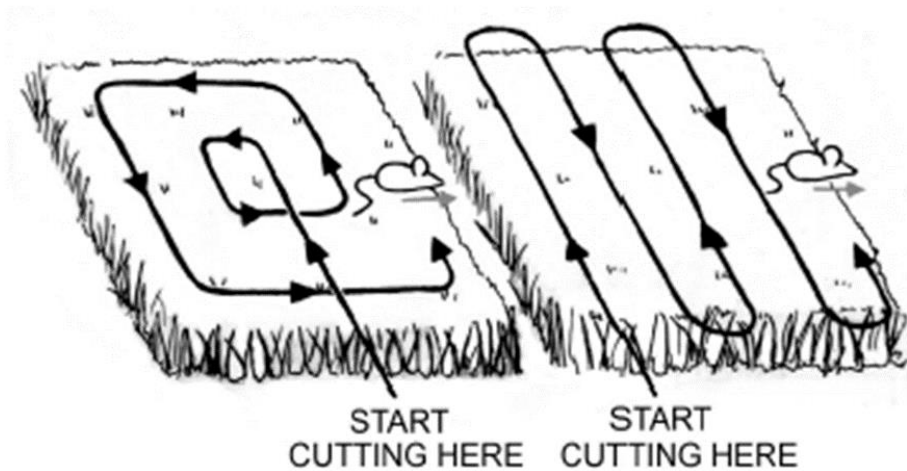


Figure 1: A schematic representation of vegetation cutting patterns as best to eliminate terrestrial opportunities for reptiles and amphibians within the construction zone.

Herpetofauna fencing

One-way exclusion fencing will be installed separating the receptor site from the development area. The one-way fencing will need to be supplied, installed, and removed by a competent habitat management contractor with suitable experience installing this fence type under the supervision of the ECoW. The one-way exclusion fencing will be installed prior to the commencement of site clearance works or any other mitigation prescriptions (as detailed below) and will be maintained during the entirety of the construction phase of the development. Once the development is complete, the fencing can be removed to re-instate site wide access for reptiles. The one-way reptile exclusion fencing will be constructed using timber posts and a taught UV resistant membrane attached

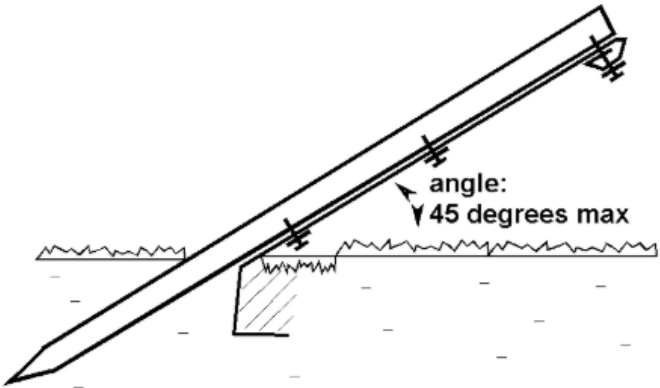
	using pads and nails (not battens). The exclusion fencing will be installed with a sloped angle between 40 and 45 degrees with a right-angled/ folded top curl present at the top facing the receptor site. This allows reptiles to travel over the fencing from the construction area towards to receptor site but prevents re-colonisation. An example of this fencing structure is shown below on Figure 2.  ONE-WAY FENCING: CROSS-SECTION Figure 2: A schematic image showing a cross section of one-way exclusion fencing (Natural England, 2001). This will also included suitable signage that the receptor site and one-way fencing is not to be removed at any time. This is also to be made aware of the potential of reptiles in these corners, as shown in figure 3.
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Figure 3- Signage to be installed in receptor area and one-way fencing as. Source - <https://britishsafety signs.co.uk/>

Site Management During Construction

- During the course of construction works a site wide check for reptiles and amphibians must be carried out by contractors at the commencement of each working day, with any found relocated to safety. Any materials will be stored on pallets away from tall vegetation or boundaries.

	• Rubble created during the development will be safely disposed of in a skip. If no skip is available the rubble will be stored off the ground (e.g. on pallets) until it can be removed from site, to prevent common reptiles and amphibians from using the rubble piles for hibernation or refugia. • All trenches will (where possible) be backfilled before nightfall, or a ramp will be left to allow amphibians to easily exit. Any trench that could not be closed the previous day must be checked for reptiles and amphibians at the beginning of the next working day; particularly where this is scheduled for infilling. • Any chemicals or pollutants used or created by the development will be stored and disposed of correctly according to COSHH regulations. • Where for any reason contractors are a non-compliant and rubble and other piled items are left on the floor overnight or for any period of time beyond that working day, they must be dismantled by hand. • Any reptiles or amphibians found must be encouraged to move away of their own volition, or if in immediate danger and unable to perambulate themselves, will be captured in gloved hand or by any other means avoiding injury and safely relocated to suitable cover within retained habitat. No amphibian will be handled via bare hand due to the risk they may absorb toxic compounds through their permeable skin. • If at any point GCN or reptiles are found during development, all works must cease until further advice has been obtained from a qualified ecologist and the relevant regulators.
<i>Birds</i>	Birds were observed on site, and an inactive bird's nest was observed within B1. Birds could nest in the hedgerows and trees on site. Buildings, trees and some hedgerow will be removed during construction. The loss of such habitats could result in a reduction in nesting and foraging habitat. Furthermore, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.

	Vegetation clearance and the demolition of buildings and other activities will be undertaken outside the core nesting period 1st March to 31st August. If this timeframe cannot be avoided, a nesting birds check of the vegetation (and any remaining or regrowth vegetation from earlier cuts) will be undertaken, by the project ecologist or ECoW, within 48 hours prior to the commencement of work. All active nests will need to be retained with a species-appropriate (generally 5m or more) buffer until the young have fledged (species-specific but typically 4-6 weeks). The buffer will need to be increased in the event of the presence of any Schedule 1 species as reckless disturbance as well of destruction of the nests of such species is an offence. Buffer zones regarding schedule 1 species are on a case-by-case, species-by-species basis and must be reflected accordingly. If nests are identified, these will need to include signage on any fencing or buffer boundary to make awareness of presence. Examples of appropriate installed work signs are shown in Figure 4. Signs will be installed in full view in areas where nesting birds have been identified on the pre-work checks. 
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	Figure 4- Work signage regarding nesting birds on the site. Source- www.Britishsafety signs.co.uk
<i>Bats</i>	Due to the roost in B1, works directly impacting this will proceed under the correct development licence obtained from Natural England. Precautionary measures should be in place for the felling of tree T9 (silver birch). The measures below shall be carried out during the felling ((Collins, 2023): • A supervising ecologist with appropriate experience and a bat licence will be present on site to advise on felling methods and what to do in the event bats are encountered. • Prior to felling, a close endoscope inspection of any features that could be used by roosting bats will be undertaken to determine the presence or likely absence of roosting bats by the licenced ecologist. • The tree will be felled in sections. Sections of the tree containing features suitable for roosting bats will be softly lowered to the ground, where these will be subject to a more detailed inspection by the supervising bat licenced ecologist to confirm absence of bats; After felling, the sections of the tree will be retained in a suitable location on site overnight, allowing bats to disperse, in the unlikely event that any are present but undetectable. • In the unlikely event that any bats are encountered during the felling, all felling works on the tree will immediately cease and the supervising ecologist will advise on how best to proceed. The development but may be disturbed during commuting and foraging activities. A lighting strategy is provided later within the report.
<i>Badgers and other terrestrial mammals</i>	The following recommendations are given in order to mitigate against potential harm to hedgehogs, badgers and other mammalian fauna during the development works.

	• The work zone will be checked for wildlife prior to works commencing, with any fauna encouraged to move away via their own volition or transported by gloved hand to the reptile receptor area if this is not possible. This will only apply to smaller mammal species. Larger mammals such as badgers and foxes will not be transported by hand. • Any inadvertently injured wildlife will be taken to an appropriate local wildlife carer or vet. • Any trenches dug will ideally be backfilled before contractors leave. If this is not possible they will be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. They must be checked for wildlife before backfilling. • Security lighting must be directed away from undergrowth and vegetated site boundaries. • Any chemicals or pollutants used or created by the development will be stored and disposed of correctly according to COSHH regulations.
<i>Hazel Dormouse</i>	Hazel dormice have been recorded within 2km of the site, the nearest being ~980m southeast. The trees, hedgerows and scrub on site provide suitable foraging, commuting, and nest building opportunities for dormice and the site is suitably connected to the wider landscape. As such, use of the on site habitats by dormice cannot be discounted. It is acknowledged that the north-east hedgerow section will be removed to facilitate the addition of a driveway under the proposed plans. However, as the hedgerow section to be removed is a non-native ornamental hedgerow comprised of cherry laurel, it is unlikely this hedgerow would be used by dormice. Additionally, scrub and trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local dormouse populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of dormice, if present.

Any risk to dormice is considered to be acceptably low provided the works are carried out in a precautionary manner.

Ecological Clerk of Works

A qualified ecologist will be present on site to act as an ecological clerk of works (EcOW) during the clearance of vegetation of value to reptiles and amphibians. The EcOW will complete a toolbox talk to contractors immediately prior to vegetation clearance works to highlight the potential presence of dormice and to outline indicators of their presence and identification features.

Pre-development vegetation clearance

- Clearance of any suitable dormouse vegetation (e.g bramble and dense vegetation) will be undertaken outside of the dormouse hibernation season (November to March).
- The clearance of the bramble will be undertaken in stages, under the supervision of a suitable qualified ecologist.
- A pre-commencement check for the presence of dormice or their nests will be completed within the scrub and hedgerow to be removed.
- Habitat clearance will begin at the centre of site moving outwards towards the woodland boundaries, allowing any dormice potentially present to move into retained woodland. During the active season (May to October), clearance will proceed in small sections (2-3m at a time), with clearance of each area preceded by a search of habitats by the supervising ecologist to check for Dormice presence.
- All vegetation clearance works will be carried out using handheld tools only (including mechanised handheld tools subject to the agreement of the onsite ecologist).

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| | <ul style="list-style-type: none">• A toolbox talk will be given by the ecologist to contractors regarding the possible presence of dormice at the site.• In the unlikely event that a dormouse is identified, works must cease and advice must be sought from the project ecologist. |
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Lighting Strategy

The habitats on site have high habitat value for roosting, commuting and foraging bats and other nocturnal wildlife within what is at present a dark area, particularly south of the site.

Additional lighting could impact behaviour of wildlife and adversely affect the integrity of roosting and foraging resources. Any proposed external lighting will be installed in accordance with current guidance issued by the Bat Conservation Trust and Institute of Lighting Professionals: Guidance Note 08/18: Bats and Artificial lighting in the UK (BCT & ILP 2018).

The below strategy utilises light prescriptions detailed within this guidance to limit impacts of artificial lighting on bats and other light-sensitive species using retained habitats on and directly adjacent to the site including badgers and hedgehogs.

In particular, the lighting strategy seeks to influence the lighting design so that impacts can be avoided to key habitats of value including:

- Site boundaries/tree lines/scattered trees and hedgerows on site.
- The species-specific habitat enhancements detailed below, predominantly the bird and bat boxes.
- Retained habitats on and directly adjacent to the site.

The following lighting design prescriptions are considered suitable for the type and scale of the Development to minimise the impacts of artificial lighting on site on bats and other light sensitive species.

Lighting design prescriptions recommended for the Site comprise:

- The peripheral tree lines must not be illuminated to ensure the present dark zones are retained. Recommended dark corridors are highlighted in Appendix 2.
- The use of motion sensors will be avoided to ensure no unnecessary light spill occurs during night-time hours. Where the use of motion sensors cannot be avoided, lights must be set to be turned on for no longer than 1 minute.
- Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on.
- Avoiding light spill via: The use of directional lighting by using luminaires with rear shields and an upwards lighting ratio of zero; and Consideration to the height and spacing between lighting columns where practicable. Examples include stud LED or footpath lighting. There will be no bare bulbs and no light pointing upwards. The spread of light will be kept in line with or below the horizontal. Use low-level lighting in conjunction with hoods, cowls, louvers and shields.
- Lights will be directional to ensure that light is directed to the intended areas only.
- Light type: Use of lamps that minimise UV emissions or use UV filters to reduce the attractiveness of the lamp to invertebrates. Use high-pressure sodium or LED lamps, ideally warm white as its function as an invertebrate attractant is relatively low.
- The use of landscaping as to block light spill where appropriate.
- Install lighting systems that deliver no greater than a 3lux average illuminance, with a maximum horizontal illuminance of 0.6 uniformity (subject to appropriate maintenance factors).
- Use narrow spectrum light sources to lower the range of species affected by lighting.
- Use light sources that emit minimal ultra-violet light.
- Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they will be of a warm / neutral colour temperature <4,200 kelvin.
- External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on.

- All lighting on the developed site will make use of the most up to date technology available.

A lighting specialist will be able to advise on specific fitting types, Isolux drawings and technical specifications as well as contour plans.

Consideration will be taken for internal lighting as well as external light. Measures in order to reduce light spillage from internal lighting are displayed below in **Figure 5**

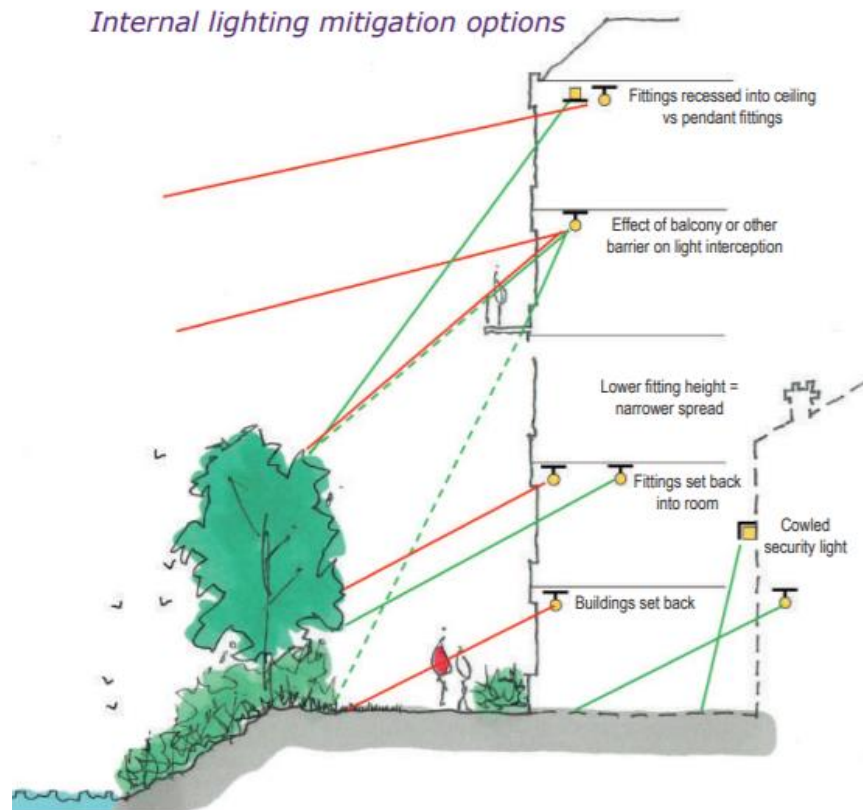


Figure 5- Mitigation measures for internal lighting.

Furthermore, impacts of artificial light spill from windows will be further mitigated by fitting a clear Ultraviolet (UV) protection window film. This glazing treatment is fully clear and does not alter the appearance of glass whilst rejecting most (up to 99%) of UV light. Bats are particularly sensitive to UV light; as such, limiting UV light spill from internal light sources will contribute to limiting impacts of artificial lighting on bats using the adjacent hedgerow for foraging and commuting.

The below UV protection window film (or similar) will be fitted to all windows facing a east or south aspect:

<https://www.windowfilm.co.uk/buy-online/window-film-by-the-metre/uv-protection/clear-uv-window-film>

2.0 Habitat Creation and Biodiversity Enhancement Measures

Table 3 details the habitat creation and biodiversity enhancement measures for the site. These are also illustrated in **Appendix 2**.

Ecological/Biodiversity enhancement and management measures	This table includes any measure required to obtain or comply with planning permission, conditions ,or other consent and to comply with legislation.
Works	Specification
Bat Boxes	Overview: A total of nine bat boxes will be installed at each site, comprising external bat boxes onto retained mature retained trees and boxes incorporated into the buildings during construction. The proposed locations are shown on the plans provided in Appendix 2. Details of the bat boxes recommended for the sites are as follows: Risks • Inappropriate bat boxes chosen for species that are/may be present at the site • Incorrect positioning of bat boxes leading to lack of uptake. • Materials chosen for bat boxes have a short lifespan • Boxes end up being removed, damaged, taken over by birds, or blocked.

External bat boxes to be installed onto retained trees

- One Improved Cavity Bat box (or similar) (see **Figure 6**) and one Improved Crevice Bat Box (or similar) (see **Figure 7**) will be installed onto retained mature trees within. The cavity box can support a range of cavity species including (but not limited to) brown long-eared bats, Daubentons, grey long-eared and whiskered. The crevice bat box type is suitable to support a small crevice dwellers including pipistrelle species.
- The bat boxes will be positioned 3-5m above ground level facing a southern elevation with a clear flight path to and from the entrance, away from artificial light and facing vegetated habitats.



Figure 6 Improved Cavity Box (<https://www.wildcare.co.uk/black-bat-box.html>)



Figure 7 Improved Crevice Box (<https://www.wildcare.co.uk/double-cavity-bat-box-black-10560.html>)

Integrated bat boxes to be integrated into the façade of new buildings

- The recommended integrated bat bricks will be constructed of woodcrete/ woodstone. Boxes of this construction are known to require minimal maintenance and have a lifespan of 25 years plus.
- Five Tudor Bat Tiles (or similar) (see **Figure 8**) will be installed into the roofing of the new buildings. This is to provide roost areas for brown long-eared bats to compensate for the loss of the day roost in B1. This will be installed during roofing of the buildings, with gaps cut into the felt to allow access to the roof void.
- Two integrated bat boxes will be included into the façade of new buildings. These should be Habibat 001 box (or similar) (see **Figure 9**). This bat brick type is suitable for integration into a range of building types including brick walls, timber cladding, and stone and are suitable to support a range of species including common pipistrelles *Pipistrellus pipistrellus* and soprano pipistrelles *Pipistrellus pygmaeus* which are likely to be present in the local area.

- The bat boxes and tiles will be positioned 3-5m above ground level facing multiple elevations in order to provide opportunities for different thermal locations throughout the year, with a clear flight path to and from the entrance, away from artificial light and facing vegetated habitats.



Figure 8: Tudor Roof Tiles – Bat Access Sets.

(Photo credit: <https://www.wildcare.co.uk/tudor-roof-tiles-bat-access-sets.html>)

	 Figure 9: Habibat Built-in Bat Box 001. (Photo credit: https://www.wildcare.co.uk/habibat-built-in-bat-box-001.html) Recommended management: The proposed bat boxes are designed to require no management or maintenance. Furthermore, preventing physical disturbance of bat boxes will increase the chances of occupation by roosting bats. However, it is recommended that the bat boxes are inspected annually for the first five years outside of the typical active season for bats (May to September inclusive) following installation. Bat boxes must be replaced if they are damaged, removed, or have fallen from their recommended location.
Bird Boxes	Overview

10 bird boxes are recommended to be installed on site. Integrated bird boxes are proposed for this site, this is to comprise of swift bricks. Swift bricks are a "universal nest brick" for small bird species, including red-listed species such as common swift, house sparrow, house martin, and starling.

Risk

- Boxes installed in unsuitable locations (height, orientation, protection)
- Boxes left uncleaned from one season to the next, resulting in unhealthy conditions and/or rejection as a potential nesting site.
- Boxes installed are made of materials that have a short lifespan or have a higher risk of predation- ie wood
- Integrated boxes being installed incorrectly
- Integrated boxes getting blocked at a later date.

Bird box specification:

- The recommended bird boxes will be constructed of woodcrete/ woodstone. Boxes of this construction are designed to require no maintenance and a lifespan of 25 years plus.
- Two Istock Swift Eco Habitat boxes (or similar) (see **Figure 10**) will be integrated into the fabric of each building on site.
- Boxes should be positioned close together (0.6-1.0m between bricks) as swifts prefer to nest gregariously.
- The boxes should be placed ~ 5m above ground level under the eaves of a building, on a north or east elevation, where they will be sheltered from prevailing wind, rain and strong sunlight.
- To be suitable for swifts, the bricks require an open aspect with no trees or large shrubs potentially obstructing the birds' flight path up to 5m from the brick.



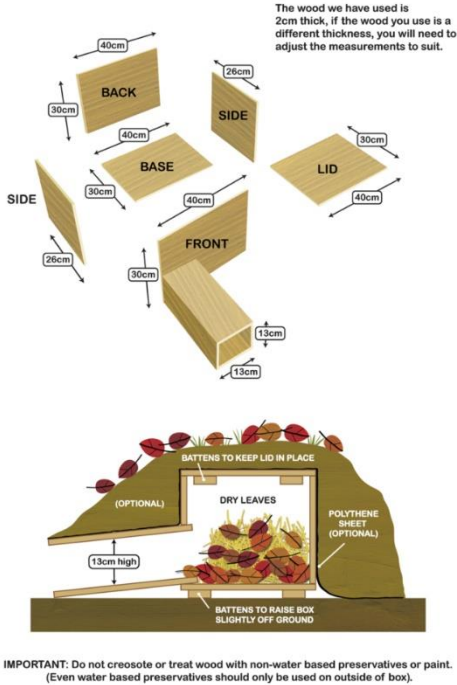
Figure 10 Ibstock Swift Eco Habitat (Source: <https://www.wildcare.co.uk/wildlife-nest-boxes/bird-boxes/swifts/ibstock-swift-eco-habitat.html>)

Management:

The proposed bird boxes are designed to require no management or maintenance. Furthermore, preventing physical disturbance of bird boxes will increase the chances of occupation by nesting birds. However, it is recommended that the bird boxes are inspected annually for the first five years outside of the typical nesting bird season (March to September inclusive) following installation. External bird boxes must be replaced if they are damaged, removed, or have fallen from their recommended location. Internal bird boxes will not be blocked or removed.

Hedgehog House	Overview A hedgehog house/hibernation pile will be installed adjacent to the retained tree line on the southeast site boundary. This will also include the installation of hedgehog access points around the site.
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	Risks • Holes become blocked, preventing use • Holes become enlarged by under digging by, for example, foxes and domestic pets • Hedgehogs brash and hibernation piles get burnt or removed • Hibernation piles degrade over time. A hedgehog house suitable for the site (Figure 11) (or a similar alternative brand) can be found here: https://www.nhbs.com/hedgehog-house This is to be installed in a quiet area, near retained or created shrub and hedgerows. This <u>will</u> be an area where it will not be regularly disturbed. Hedgehog houses can also be partially covered with a turf roof or leaf piles turf to hide it greater and not leave it so exposed. This will also provide better insulation properties. Alternatively, a hedgehog house can be built in the specifications listed in (Figure 12) to create a more permanent structure.
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	  Figure 11: Hedgehog house (image credit www.nhbs.co.uk) Figure 12- Permanent buried hedgehog house- source www.Britishhedgehogs.org.uk
	Management Any damaged hedgehog hibernation piles or houses will be replaced if damaged, or additional materials added if rotted down and degraded in quality.
Reptile/amphibian hibernacula	Overview A hibernacula will be created at the site, in order to provide both basking and safe hibernation opportunities for reptiles and amphibians.

Risks

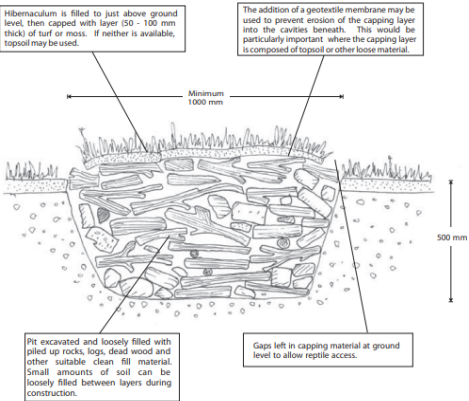
- The wrong style of hibernaculum is created based on the soil type
- The hibernaculum get destroyed or tampered with
- Entrances into the hibernaculum are blocked by continued plant growth.

Creation

One Hibernacula will be created using natural materials such as logs, stone, vegetation arising and earth. This can be done using material from the site clearance. This will continue to provide enhanced refuge and over-wintering opportunities at the site for reptiles. Examples of two suitable designs are demonstrated in **Figure 13**. These can be installed within meadow areas.

Hibernaculum on free-draining ground

Where ground conditions allow, the hibernaculum should be incorporated into a shallow pit. This design is more likely to remain frost-free, and will be less obtrusive and thus unlikely to be subject to interference.



Hibernaculum on impermeable ground

Where ground conditions are impermeable, then an 'above-ground' or mounded design should be utilised in order to prevent the hibernaculum from flooding. This design should also be used if it is not possible to excavate a pit for any other reason.

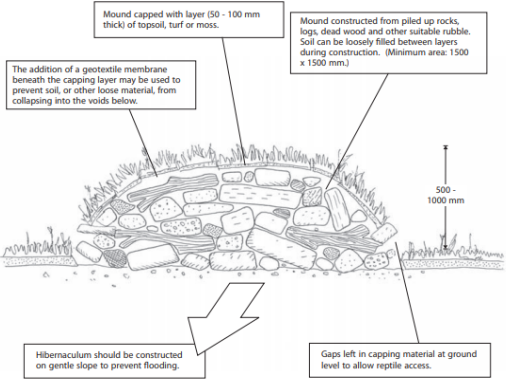


	Figure 13- A representation of a man-made hibernaculum. Management The hibernaculum is designed to have as little input and management as possible. But every few years the gaps will be checked that these are still open and providing access in case of become blocked with mud or plant growth. If there's a risk of destruction, appropriate signage will be installed to inform the presence of the feature and that these are not to be removed Hibernaculum may sink in height as wooden material rots down over time, additional material can be added on top long-term in order to maintain size
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Compliance and Reporting

The EMEMP requires stakeholders to comply fully with the pre-construction and construction-related elements of any mitigation strategies agreed with the Local Planning Authority and Natural England under any license requirements. Construction activities will therefore be conducted strictly in accordance with the approved CEMP. Regular inspections and monitoring will be undertaken to ensure compliance with the plan's requirements.

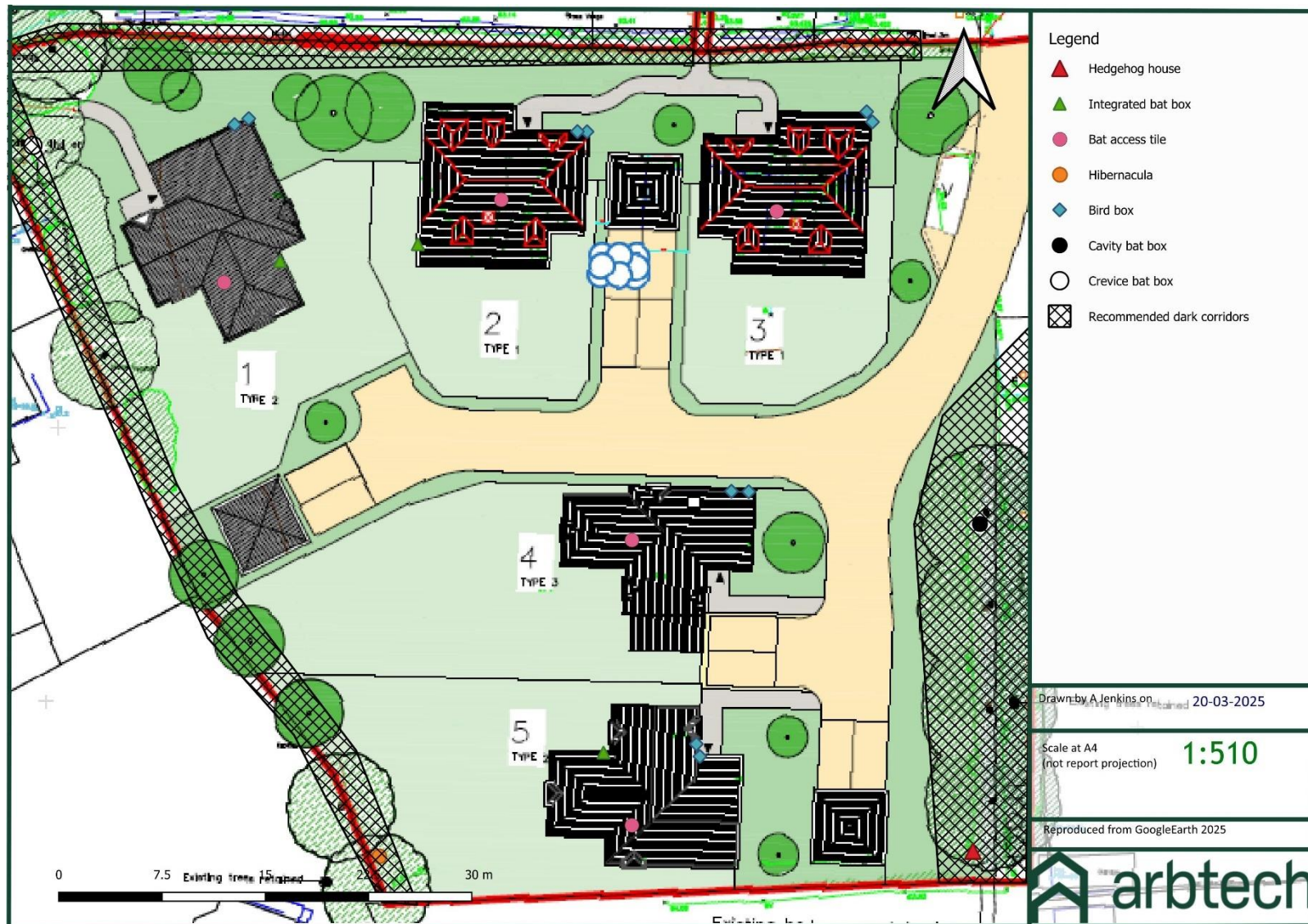
Any deviations or incidents that may affect ecological receptors will be immediately reported to the designated ecologist / Natural England. Updates to the EMEMP will be relayed to the Local Planning Authority.

The EMEMP will be periodically reviewed and updated as necessary throughout the construction phase to address changing site conditions and evolving ecological considerations.

Appendix 1: Site Landscape master plan



Appendix 2: Species specific enhancements.



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Draft	1.0	Alexie Jenkins BSc (Hons), MRes, AMRSB, Consultant Ecologist	20/03/2025
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