

Ecological Mitigation, Enhancement and Management Plan

Survey site: Hillybarn Farm, The Mount, Ifield, Crawley, West Sussex RH11 0LF

Client: Sammy Bristow

Date: 04/06/2026

Project:

This report is prepared to inform a planning application with Horsham District Council.

This proposal can be described as a two-pitch settled Gypsy accommodation site.

Planning Application Number:

DC/25/1901

Introduction

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

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 23039 38006 and has an area of approximately 0.3ha comprising seven buildings, five scattered trees, modified grassland, artificial unvegetated, unsealed surfaces and a ditch. The site is located in a rural setting, immediately surrounded by grasslands and arable/pastoral fields. The site is enclosed by fencing and tree lines to the south and west. The grassland on site extends outside the site boundary on the north and east sides.
The site is set within a wider agricultural landscape of arable and pasture, with dwellings intermittently scattered throughout. The fields are delineated by lines of trees and hedgerows extending throughout the landscape. There are parcels of woodland to the northwest and east of the site. There are 8 ponds (P1-P8) within 500m of the site. The River Mole is located ~470m south of the site.

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Condition 4

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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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/PRA undertaken by Arbtech consultancy in February 2026.	
Habitats identified at the site include:	
• Modified grassland • Bare ground • Scattered trees • Ditch	
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:	
• Invertebrates- The habitats present on-site likely provide common invertebrates with opportunities to forage and shelter. • Birds- The scattered trees provide suitable shelter and could be used by common nesting birds - such as tree cavities which could support species such as tits, while the timber outbuildings may offer some limited nesting opportunities. • Bats- The seven buildings/structures on site have negligible habitat value for roosting bats. The habitats on site are assessed to provide some foraging and commuting opportunities for bats. • Reptiles- The modified grassland is considered suboptimal for reptiles due to the species content (common and widespread species with minimal diversity) and associated management regime, where at the time of the survey the grassland was recorded as being a relatively short sward.	

Given the management regime employed on the modified grassland, as well as the species composition, it is considered unlikely that this faunal group would be present within this habitat.

- **Amphibians**- The site provides limited suitable terrestrial habitat for amphibians. The areas of artificial unsealed surface and modified grassland offer sub-optimal habitat for terrestrial amphibians. The ditch may offer some limited foraging and commuting opportunities for these species. The development is likely to result in the loss or significant disturbance of 0.01ha of modified grassland. If great crested newts are present within the pond 80m southeast of the site, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a Green risk score, which states: Offence Highly Unlikely.

- [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- **Terrestrial mammals**- The habitats on the site and wider site may support terrestrial mammals, such as hedgehogs, foxes, rabbits and rodents.

The following tables detail the proposed mitigation and biodiversity enhancement measures for the development as well as management requirements to ensure the longevity of these measures. as detailed in the PEA/PRA. 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:

“Two pitch settled Gypsy accommodation site”

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 the environment and protected/notable species during construction, and to provide ecological and biodiversity enhancement measures for the site.

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:

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 (e.g. waterway protection). The Biodiversity Champion will also be responsible for making sure that enhancements listed in the EMEMP (e.g. bat and bird boxes) are applied in the correct manner.

1.0 - The below table outlines the 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.
Ecological Protection Areas and Buffer Zones	
Ecological protection areas and buffer zones within the project site. These areas will be demarcated using physical means of protection, such as exclusion fencing, to prevent unauthorised access and minimise disturbance to sensitive habitats.	
Tree Protection	
Tree root protection areas will be identified based on the existing tree inventory. A buffer from retained trees and woodland will be established and protected throughout the duration of construction activity. No trenches or ground works will be completed within the specified buffer of any retained trees on site. Trees will be appropriately protected in accordance with BS 5837:2012 - "Trees in relation to design, demolition and construction – Recommendations". As such, it is recommended that the trees are separated from construction works by protective fencing throughout the duration of the construction phase of the development. A fencing specification is included within Figure 1 below. Appropriate signage is to be included on the fencing in order to ensure that fences are not moved after establishing. As shown in Figure 2.	

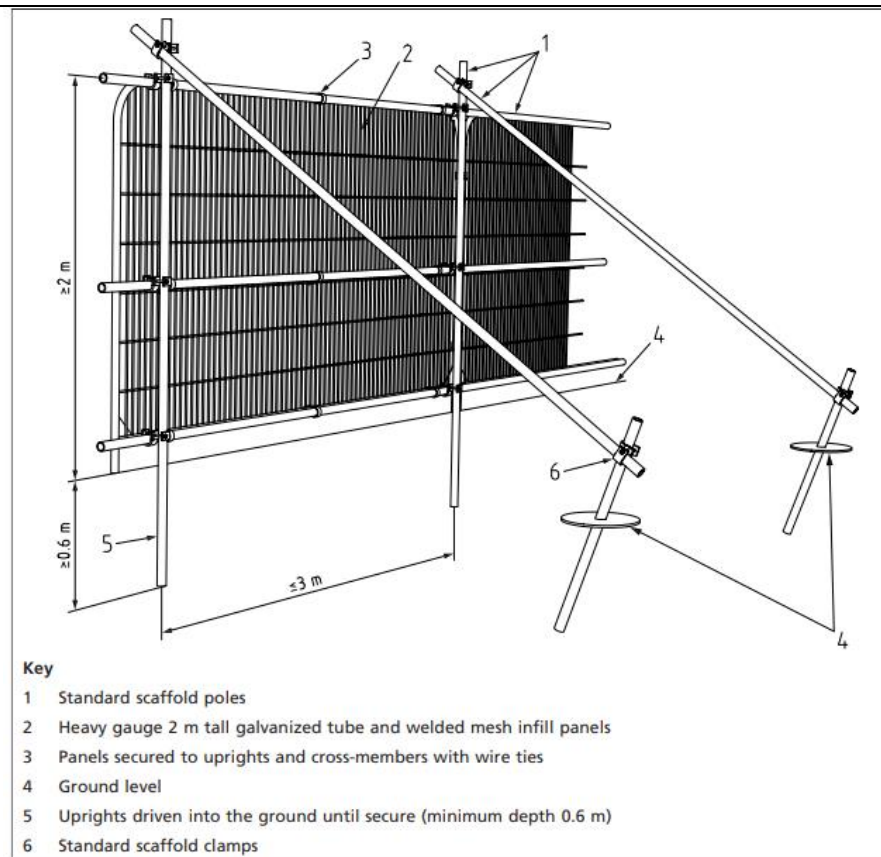


Figure 1: Default protective barrier specification (British Standards Institute 2012).



Figure 2 Appropriate signs to be attached to root protection zone fencing- Source- www.Safetysignsandnotices.co.uk

Pollution Prevention	
<i>Risk</i>	Pollution resulting from increased levels of water run-off, noise, and dust creation during construction works have potential to pollute the site and subsequent ditch which is likely to enact adverse impacts on plant and animal life.
<i>Statutory Compliance</i>	To limit impacts of pollution resulting from the construction phase of the development, construction works must be completed in accordance with current statutory guidelines relating to pollution prevention (Environmental Agency 2016). Furthermore, although withdrawn in 2015, pollution prevention guidelines detailed within guidance document: <i>PPG6: Working at Construction and Demolition Sites</i> (Environment Agency 2010) remain applicable to the site. Considering both the relevant statutory requirements and best practice measures detailed within guidance document PPG6, the below mitigation prescriptions are considered suitable to mitigate impacts of pollution during the construction phase of the development. The

	allocated Biodiversity Champion will be responsible for ensuring the below mitigation recommendations are undertaken successfully during the works.
<i>Materials Storage and Surface Water Runoff</i>	It is recommended that the Biodiversity Champion ensures that: • No stockpiles are created on exposed ground areas and ensure that all materials and chemicals are stored securely and safely on site in accordance with current Control of Substances Hazardous to Health (COSHH) regulations (HSE 2002). • Stockpiles are located as far away as possible from the ditch and on level ground to prevent any accidental run-off. • Contaminated materials, chemicals, and other hazardous substances must be stored on an impermeable surface, in a bunded area, within any area of the site. • All chemicals and hazardous substances are stored away from areas where there is heightened risk of damage from impact or collision such as site traffic. • All chemicals and hazardous substances are labelled, containers are sealed when not in use and inspected regularly and fit for purpose. • Any damaged or old containers are replaced in line with the duty of care requirements. Note such containers may be considered hazardous waste. • Staff are trained in use of spill kits and emergency procedures. • Ensure there is a designated 'responsible person' on site at all times. • Lock storage facilities when not in use.
<i>Site Drainage</i>	It is recommended that the Biodiversity Champion ensures that: • Pollution risks are identified pre-construction. • Pollutants are prevented from entering drains where possible.

	• If any pollutant enters a drain, immediately stop the pollution with a physical block, stop the activity causing the pollution, then notify the Environment Agency for surface water drains or the local sewerage provider for foul water drains. If there's a spill, accident, or emergency, try and prevent pollutants entering the drains. • Report all pollution incidents to site management and the Environment Agency. • Inspect drains and protection measures frequently and maintain them during the construction activity. Well maintained drains will also reduce risks of flooding and subsequent surface water run-off. • As a last resort, should any pollutants be required to enter the drainage system on site, permission from Environment Agency or the local sewerage provider must be sought before discharging anything other than clean uncontaminated surface water to a drain and other surface waters or groundwater. Apply for permission early, as authorisation can take up to four months.
<i>Airborne particle suppression</i>	It is recommended that the Biodiversity Champion ensures that: • Effective water suppression is used during demolition operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground. • Avoid explosive blasting, using appropriate manual or mechanical alternatives. • Bag and remove any biological debris or damp down such material before demolition. • Carry out regular site inspections to monitor compliance. • Ensure all vehicles switch off engines when stationary. • Avoid the use of petrol- or diesel-powered generators and use mains electricity or battery power where possible. • Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction.

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	• Ensure an adequate water supply on the site for effective dust/ particulate matter suppression/ mitigation, using non-potable water where possible and appropriate. • Use enclosed shuts and conveyors and covered skips.
Noise	The Biodiversity Champion must ensure that noise levels are kept to a minimum in accordance with best practice as defined in the Control of Pollution Act 1974 to avoid unacceptable levels of noise and vibrations. Further guidance can be found in British Standard 5228-1:2009. Such measures applicable to the proposed development primarily include agreed working hours limiting night work, using the quietest equipment and plant available, shutting down equipment when not in use, and completing deliveries during working hours only. Most notably, prescriptions as to limit noise of plant machinery as detailed within Table B.1 within the code of practice for noise control (British Standards Institution, 2014) is likely to have the most significant impact during construction activity. Table B.1 is shown below.

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Table B.1 Methods of reducing noise levels from construction plant				
Plant	Noise reduction of plant			Alternative plant
	Source of noise	Possible remedies (to be discussed with machine manufacturers)	A-weighted sound reduction dB	
Hammer drive piling equipment	Pneumatic/diesel hammer or steam winch vibrator driver	Enclose hammer head and top of pile in acoustic screen	5 to 10	Bored piling Vibratory system
	Sheet pile	Acoustically dampen sheet steel piles to reduce levels of resonant vibration		Drop hammer completely enclosed in box with opening at top for crane access
	Impact on pile	Use resilient pad (dolly) between pile and hammer head. Packing needs to be kept in good condition		Steel jacket completely enclosing drop hammer with dolly and polystyrene chips fed to impact surface to dissipate energy
	Cranes cables, pile guides and attachments	Careful alignment of pile and rig		Pressed-in piling which generates its driving force from the frictional restraint of other piles
	Power units or base machine	Fix more efficient sound reduction equipment or exhaust. Acoustically dampen panels and covers. When intended by the manufacturer, engine panels need to be kept closed. Use acoustic screens when possible		
Earth-moving plant: • bulldozer • compactor • crane • dump truck • dumper • excavator • grader • loader • scraper	Engine	Fit more efficient exhaust sound reduction equipment Manufacturers' enclosure panels need to be kept closed	5 to 10	Alternative super silenced plant might be available. Consult manufacturers for details

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Table B.1 Methods of reducing noise levels from construction plant <i>(continued)</i>				
Plant	Noise reduction of plant			Alternative plant
	Source of noise	Possible remedies (to be discussed with machine manufacturers)	A-weighted sound reduction dB	
Compressors and generators	Engine	Fit more efficient sound reduction equipment	Up to 10	Super silenced plant is available. Consult manufacturers for details Electric-powered compressors are available as opposed to diesel or petrol Sound-reduced compressor or generator can be used to supply several pieces of plant. Use centralized generator system
	Compressor or generator body shell	Acoustically dampen metal casing Manufacturers' enclosure panels need to be kept closed		
	Total machine	Erect acoustic screen between compressor or generator and noise-sensitive area. When possible, line of sight between top of machine and reception point needs to be obscured	Up to 10	
Pneumatic concrete breaker, rock drills and tools		Enclose compressor or generator in ventilated acoustic enclosure	Up to 20	Hydraulic and electric tools are available For large areas of concrete, machine designed to break concrete in bending can be used Thermic lance
	Tool	Fit suitably designed muffler or sound reduction equipment to reduce noise without impairing machine efficiency Ensure all leaks in air line are sealed	Up to 15	
	Bit	Use dampened bit to eliminate ringing		
	Total machine	Erect acoustic screen between compressor or generator and noise-sensitive area. When possible, line of sight between top of machine and reception point needs to be obscured	Up to 10	
Rotary drills, diamond drilling and boring		Enclose breaker or rock drill in portable or fixed acoustic enclosure with suitable ventilation	Up to 20	Thermic lance
	Drive motor and bit	Use machine inside acoustic shed with adequate ventilation	Up to 15	

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	Sheet pile	Acoustically dampen sheet steel piles to reduce levels of resonant vibration		Drop hammer completely enclosed in box with opening at top for crane access
	Impact on pile	Use resilient pad (dolly) between pile and hammer head. Packing needs to be kept in good condition		Steel jacket completely enclosing drop hammer with dolly and polystyrene chips fed to impact surface to dissipate energy
	Cranes cables, pile guides and attachments	Careful alignment of pile and rig		Pressed-in piling which generates its driving force from the frictional restraint of other piles
	Power units or base machine	Fix more efficient sound reduction equipment or exhaust. Acoustically dampen panels and covers. When intended by the manufacturer, engine panels need to be kept closed. Use acoustic screens when possible		
Earth-moving plant: • bulldozer • compactor • crane • dump truck • dumper • excavator • grader • loader • scraper	Engine	Fit more efficient exhaust sound reduction equipment Manufacturers' enclosure panels need to be kept closed	5 to 10	Alternative super silenced plant might be available. Consult manufacturers for details
Implementation of the Waste Hierarchy	The Biodiversity Champion must ensure that all construction activity is completed in accordance with the Waste Hierarchy (Defra 2011) in an attempt to reduce the amount of waster produced during the construction phase of the development. As such, the construction phase must be completed in accordance with the below core principles: <i>In the first instance:</i>			

	• Re-use products and materials where possible. • Recycle and compost material resources where possible. • Attempt to recover energy from waste. <i>Where none of the above options offer an appropriate solution, waste disposal is the final option:</i> • Only transfer controlled waste to an “authorised person” (Waste Collection Authority, the holder of an Environmental Permit, Registered Water Carrier or Waste Disposal Authority). • Ensure that non-hazardous waste is transferred under a Waste Transfer Note which must be retained for two years. • Hazardous waste is moved under a waste consignment note that provides a clear description of the waste material. The consignment note must be retained for three years. • The waste is the responsibility of the company until it has been fully recovered or finally disposed of.
Retained Turf and Soil Protection/Post construction Restoration	
<i>Retained Soil and Turf Conservation.</i>	Any areas of retained vegetation or bare soil accessed by vehicles and pedestrians is likely to become compacted by heavy machinery and repetitive footfall, which will negatively impact ecological functioning. • Clearance of turf and topsoil will be limited to the minimum required to facilitate the development. • Retained turf will be protected during construction to maintain its ecological function. • Post construction the entire soil profile must remain in a condition that promotes aeration, drainage and root growth.
<i>Compaction, Erosion and Retained Turf Damage Mitigation</i>	Retained soil and any retained turf will be protected from the impacts of compaction, erosion and other soil and turf damage by the following;

	• Protective boards lain around the construction zone will spread the weight and erosive impacts of plant, vehicles and feet. Plywood is a traditional option but rubber lawn mats may be a more practical and effective solution. These can also be used to create temporary “roads”. Clear protection mats are available to permit UV penetration and thus continued grass growth. • The work zone will be restricted to the minimum required for operatives to work safely and will be clearly signposted/fenced with access prohibited to contractors. • Contractors will be audited by the biodiversity champion on a weekly basis and on a daily basis by the team leader for compliance with environmental protection strategies and will be provided with toolbox talks at induction. Repeated compliance failures will lead to termination of contracts. Ensure any compensation or reparative measures for turf damage are included within contractors’ contracts. • When stripping, stockpiling or placing soil, do so in the driest condition possible and use tracked equipment where possible to reduce compaction. • Confine traffic movement to designated routes. • Keep soil storage periods as short as possible. • Clearly define stockpiles of different soil materials. • Heavy plant/skids etc will be stored on hard standing, e.g. part of the new road. Whilst this is under construction, protective boards will be used. • Works will not take place during or after prolonged periods of rain and will use dry periods. • Plan work to avoid unnecessary journeys on either foot or vehicle across the grassed areas. • Some residual compaction may occur despite protective efforts. As such, aerating the retained grassed areas in the work zone post development would be beneficial.
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Wildlife Protection – Precautionary Methods of Working-	
Herpetofauna	The habitats on site provide limited suitability for reptiles and common amphibians, however their presence on site cannot be discounted. 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. Pre-development Vegetation Clearance Vegetation clearance works should 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 maintained at 5cm or strimmed down to 15cm, 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. c) This should be followed by a rest period of at least 24 hours.

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.

e) The development zone will be managed thenceforth as bare ground or close mown vegetation.

A suitable systematic cutting technique is exemplified below in **Figure 3**.

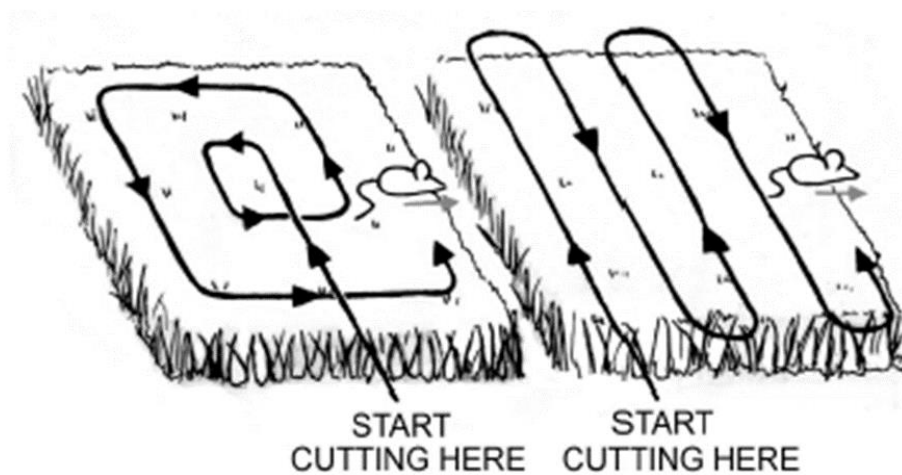


Figure 3: A schematic representation of vegetation cutting patterns as best to eliminate terrestrial opportunities for reptiles and amphibians within the construction zone.

Site Management During Construction

- 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>	No evidence of nesting birds was identified on or within any of the scattered trees or buildings, however the scattered trees provides suitable shelter and could be used by common nesting birds - such as tree cavities which could support species such as tits, while the timber outbuildings may offer some limited nesting opportunities. All trees will be retained but buildings (shed/s) will be removed and this could result in the destruction or the disturbance and subsequent abandonment of active bird nests. Building demolitions should be undertaken outside the core nesting period 1st March to 31st August. If this timeframe cannot be avoided, a nesting birds check of the structure/s will be undertaken, by a suitably qualified ecologist, 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>	Bat roosts are not expected to be impacted by the development, but bats may be disturbed during commuting and foraging activities. A lighting strategy is provided later within the report.

	• 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.
Lighting Strategy	
The habitats on site have some habitat value for commuting and foraging bats and other nocturnal wildlife. Most notably, the scattered trees on site are adjacent to lines of trees along the south and west boundaries of the site which extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. 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 [REDACTED] In particular, the lighting strategy seeks to influence the lighting design so that impacts can be avoided to key habitats of value including: ○ Any woodland or site boundaries/tree lines/scattered trees. ○ The species-specific habitat enhancements detailed below, predominantly the bird and bat boxes. ○ Newly proposed landscaping.	

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 or within the public realm on bats and other light sensitive species.

Lighting design prescriptions recommended for the Site comprise:

- The scattered and lines of trees along the site boundaries must not be illuminated to ensure the present dark zones are retained.
- Reducing the operating time of any installed public realm lighting and levels of illuminance provided via: Part-night operation. Turning off lights between certain hours, for example between midnight and 06:00.
- 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.

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- 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.

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**.

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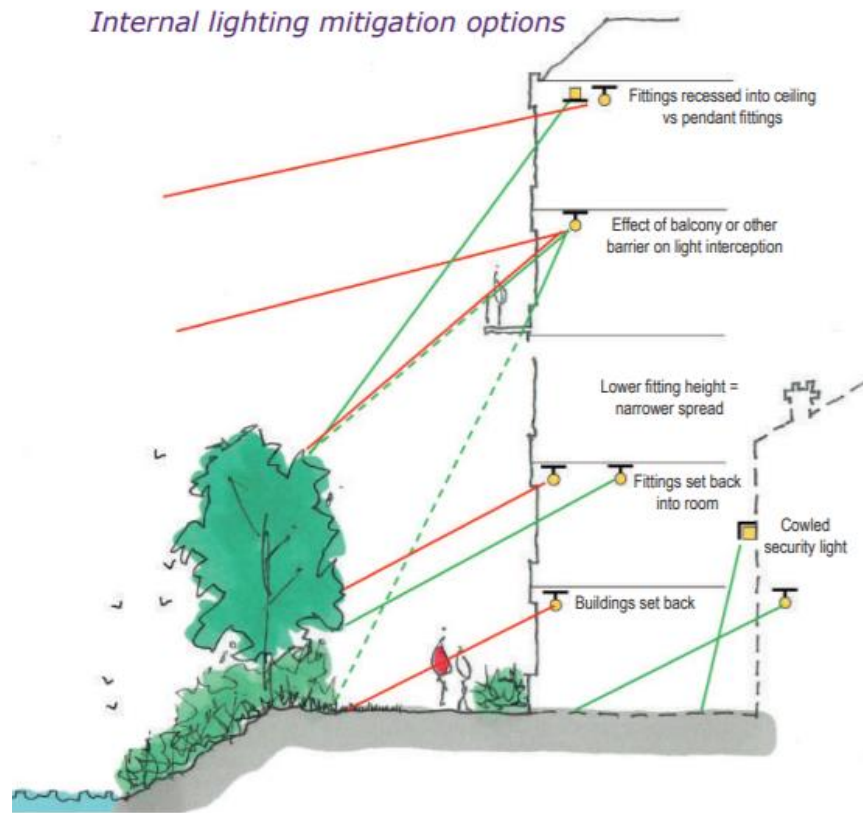


Figure 5- Mitigation measures for internal lighting.

2.0 Biodiversity Enhancement Measures

The below table details the biodiversity enhancement measures for the site. Locations are specified in Appendix 2 (Species specific enhancements plan).

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 two bat boxes will be installed at the site, comprising external bat boxes onto retained mature trees along the western site boundary. The proposed locations are shown on the plans provided in Appendix 2. Details of the bat boxes recommended for the sites are as follows: <u>Risks</u> • 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. <i>External bat boxes to be installed onto retained trees</i> • The recommended external bat boxes will be constructed of woodcrete/ woodstone. Boxes of this construction are known to require minimal maintenance and have a lifespan of 25 years plus. • 2 No. Vivara Pro Low Profile Woodstone Bat Boxes (or similar) (see Figure 6) will be installed onto retained mature trees along the western site boundary where a mature tree line follows the road. This bat box type is suitable to support a range of species including noctules <i>Nyctalus noctula</i> and soprano pipistrelles <i>Pipistrellus pygmaeus</i>.

	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 Vivara Pro Low Profile Woodstone Bat Box (image credit: https://www.nhbs.com/equipment?qtview=194583) <i>Recommended management:</i> 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

A total of two bird boxes will be installed at the site, comprising external bird boxes onto retained mature trees along the western site boundary. The proposed locations are shown on the plans provided in **Appendix 2**. Details of the bird boxes recommended for the sites are as follows:

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 Vivara Pro Woodstone Nest Boxes (or a similar alternative brand) with approx. 28mm entrance holes (**shown in Figure 7**) will be installed onto retained mature trees along the western site boundary where a mature tree line follows the road.
- Woodstone Nest Boxes will be positioned approximately 1.5-3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Box positions will not be facing south as a result.



Figure 7 Woodstone Nest Box – source arkwildlife.co.uk

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.

Invertebrate house	Overview The proposed habitat removal to facilitate the development does not include habitats of notable value to invertebrates. However, without appropriate compensatory habitat creation, there could be an overall reduction in opportunities for invertebrates foraging at the site. There is good scope to provide additional refugia and deadwood provision at the site for invertebrates to provide enhanced opportunities post-development.
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Provision of bee bricks

One bee brick will be installed into the fabric of the walls of the new building during construction. This will be installed around 1m in height, on a southern facing elevation which receives sun at some part during the day. Any additional bricks that wish to be installed will continue to provide additional opportunities. Colour of bee brick can be chosen to match brickwork of new walls. as show in in **Figure 8**.



Figure 8 - variety of bee brick colours-source - <https://www.nhbs.com/>

	Management Any broken or damaged insect houses will be replaced. Habitats to support invertebrates must also be maintained in conjunction.
Hedgehog House	Overview A hedgehog house/hibernation pile will be installed underneath the tree line on the southern site boundary. 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 9) (or a similar alternative brand) can be found here: https://www.nhbs.com/hedgehog-house This is to be installed in a quiet area. This will 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 10) to create a more permanent structure.



Figure 9: Hedgehog house (image credit www.nhbs.co.uk)

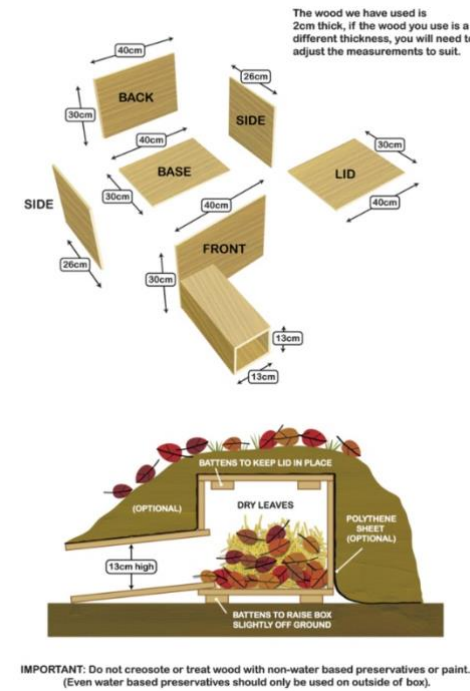


Figure 10- Permanent buried hedgehog house- source www.Britishhedgehogs.org.uk

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.

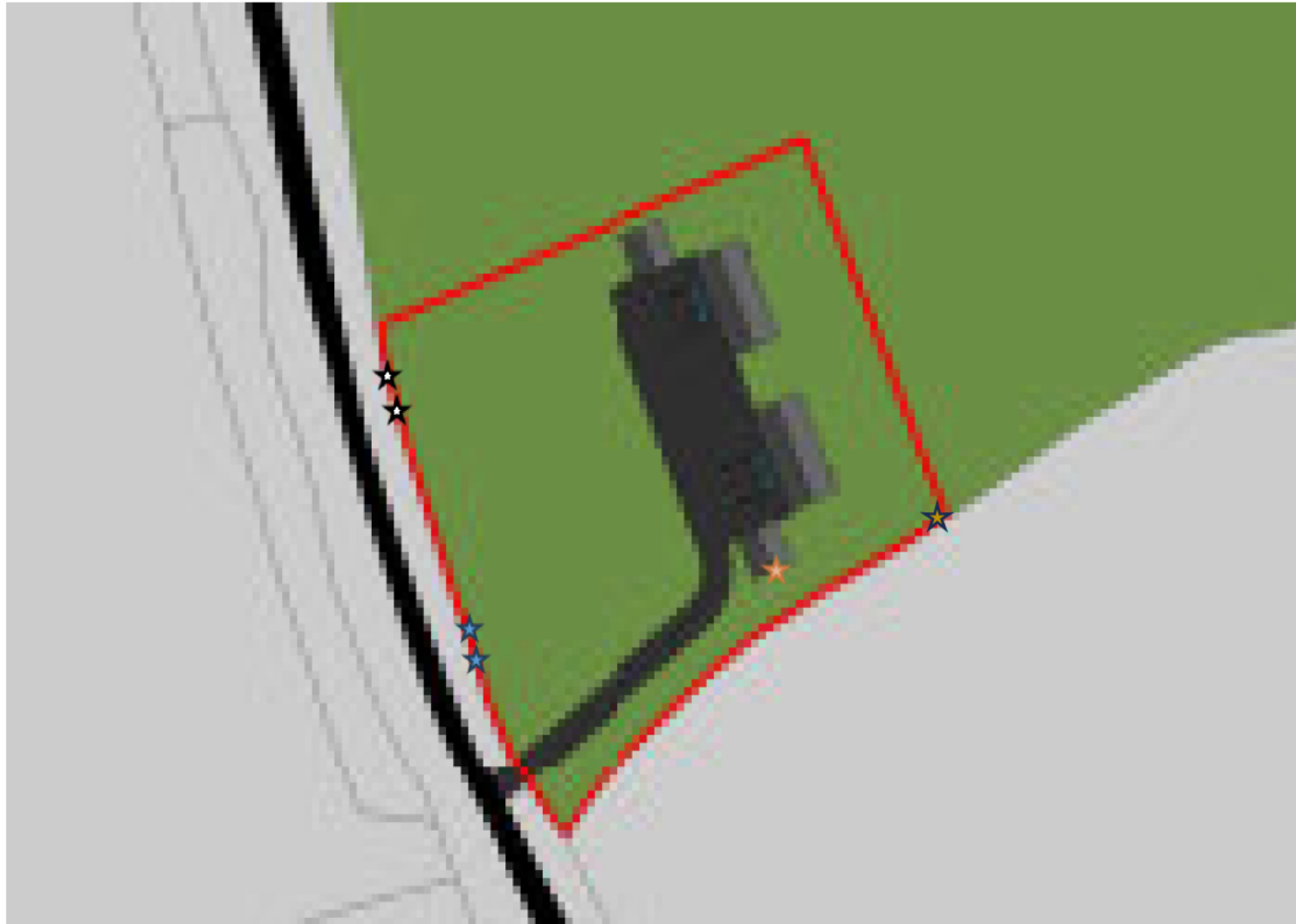
The EMEMP will be periodically reviewed and updated as necessary throughout the construction phase to address changing site conditions and evolving ecological considerations.

Hillybarn Farm, The Mount, Ifield, Crawley, West Sussex RH11 0LF

Appendix 1: Proposed development plan



Appendix 2: Species specific enhancements plan



- ★ Tree Bat Box
- ★ Tree Bird Box
- ★ Bee brick
- ★ Hedgehog house/ hibernation pile

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