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Ecological Impact Assessment

1 Marine Drive, East Wittering
West Sussex, PO20 8HE

Client: Ryan Prestige Homes Ltd

Version 01

Contents

1. EXECUTIVE SUMMARY	2
2. INTRODUCTION	3
2.1 BACKGROUND AND PROPOSED DEVELOPMENT	3
2.2 EXPERIENCE OF ECOLOGISTS	3
2.3 PURPOSE OF THE REPORT	3
2.4 SITE DESCRIPTION	4
3. METHODS	5
3.1 DESK STUDY	5
3.2 SITE ASSESSMENT	5
3.3 BAT EMERGENCE/RE-ENTRY SURVEYS	7
3.4 ECOLOGICAL IMPACT ASSESSMENT	8
4. BASELINE ECOLOGICAL RESULTS	9
4.1 DESK STUDY	9
4.2 HABITATS	10
4.3 SPECIES	11
5. IMPACT ASSESSMENT, MITIGATION AND ENHANCEMENTS	15
5.1 DESIGNATED SITES	15
5.2 HABITATS	16
5.3 SPECIES	18
6. CONCLUSION	24
7. REFERENCES	25
APPENDIX 1: SITE PHOTOGRAPHS	26
APPENDIX 2: PLANNING POLICY	30
APPENDIX 3: LEGISLATION OF RELEVANT SPECIES/HABITATS	32
APPENDIX 4: BAT SURVEY PLAN	35

1. Executive Summary

Site Details
<ul style="list-style-type: none">• 1 Marine Drive, East Wittering, PO20 8HE (OS Grid Reference: SZ 79385 97037)
Scope of Works
<ul style="list-style-type: none">• Imprint Ecology was commissioned by Ryan Prestige Homes Ltd to undertake an assessment for bats at a property in East Wittering. The proposals intend to demolish the existing building and redevelop the site into two dwellings.
Key Ecological Constraints
<ul style="list-style-type: none">• All British bat species and their roosts are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
Results
<ul style="list-style-type: none">• In accordance with Bat Conservation Trust guidelines (Collins, J. 2016) the building was categorised as having moderate potential to support roosting bats.• Two dusk emergence surveys for bats were carried out in May 2023. No evidence of roosting bats was found.• No other protected species surveys have been recommended.
Mitigation
<ul style="list-style-type: none">• The proposed development can proceed lawfully with minimal impact to ecology at this time following mitigation measures to safeguard local wildlife.• The impact of the proposals upon nearby priority habitats and designated sites is negligible.
Recommendations for Biodiversity Net Gain
<ul style="list-style-type: none">• Enhancements for bats on site with integrated/external bat boxes.• Enhancements for birds on site with integrated/external bird boxes.• Planting and landscaping suggestions to support local wildlife including reptiles, hedgehogs, nesting birds, and invertebrates.

2. Introduction

2.1 Background and Proposed Development

Imprint Ecology was commissioned by Ryan Prestige Homes Ltd to undertake an Ecological Impact Assessment at 1 Marine Drive, East Wittering, PO20 8HE, hereafter referred to as ‘the site’. The proposals include the demolition of the building and redevelopment of the site into two dwellings.

2.2 Experience of Ecologists

The daytime assessment was carried out by Emily Sabin and George Sayer. Emily Sabin (BSc (Hons) (Wildlife Conservation) CerIEcol, AMRSB, is an ecologist with four years’ experience in ecological consultancy and a background in conservation research. She is experienced in carrying out a range of protected species surveys and is also the Water Vole Officer at the People’s Trust for Endangered Species. George Sayer (BSc (Hons) (Environmental Sciences), PgDip, (Endangered Species Recovery), MCIEEM, MArborA) holds a Level 2 Bat Licence from Natural England WML-CL18 – number 2018-34434. George is an ecological consultant with 10 years’ experience surveying and monitoring bats and other protected species.

2.3 Purpose of the Report

This report contains the findings of an ecological assessment of the building and surrounding habitat. It seeks to identify potential ecological constraints that the proposals may have upon bats or other protected species and provides recommendations for further survey, impact avoidance, mitigation and enhancements where required.

This report is valid for a maximum of 12 months from the date of issue. Should the proposals or site alter in any way, an ecologist should be consulted to re-inspect the site and confirm that this report is still accurate.

2.4 Site Description

The site comprises one building and hardstanding only. The wider area is characterised by houses and gardens, lines of trees, amenity grassland, and foreshore. See Figure 1 for the site location and Figure 2 for an aerial view of the site.

Figure 1 - Site location - ©OpenStreetMap contributors 2023.

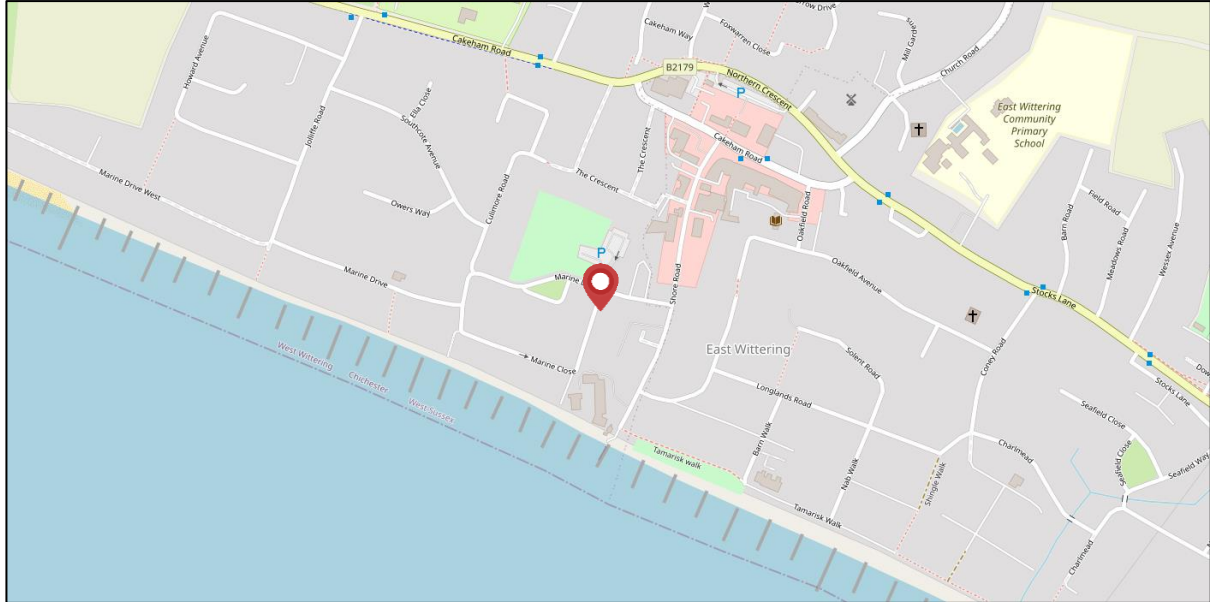


Figure 2 - Site boundary aerial view. ©Google Earth 2023



3. Methods

3.1 Desk Study

A desk study was undertaken to obtain ecological information about the site in context with the surrounding area. The [Multi-Agency Geographic Information for the Countryside \(MAGIC\)](#) website was accessed on 7th February 2023 to identify local statutory designated sites, priority habitats and European Protected Species Licences (EPSLs). The [Chichester District Council Interactive Map](#) was also used to search for non-statutory designated sites.

Satellite imagery from Google Earth, MAGIC and Ordnance Survey maps were used to understand the site's connections to surrounding countryside.

3.2 Site Assessment

A visual inspection of the site was undertaken during daylight hours by ecologists Emily Sabin and George Sayer on 7th February.

An endoscope, camera, binoculars and high-powered torches were used to search for evidence of bats and determine the potential for the building to support bats and other protected species.

The presence of potential roosting features (PRFs) and access/exit routes which bats could use to enter these features were surveyed. Evidence of use by bats was also looked for, such as scratch marks, urine stains, lack of cobwebbing, feeding remains e.g. moth wings, droppings, and actual bats. An assessment of potential commuting routes and surrounding habitat was also undertaken to determine their potential to support bats.

Bat PRFs are usually found in specific areas, such as joints, cracks, gaps and cavities within structures like mature trees and buildings. These were prioritised as areas to check for bat evidence. Roosting bat evidence is not easy to find and not always visible, so any potential roosting locations were also noted.

Following inspection, the buildings were categorised as having either 'high', 'moderate', 'low' or 'negligible' potential to support bats or as a 'confirmed roost or resting place for bats'. These categories are based on observations made during the survey and in the context of the descriptions laid out in Table 1.

Table 1 - Categorisation of bat roosting potential of structures (adapted from Collins, J. 2016.)

Suitability	Description
Confirmed bat roost or resting place	Presence of bats or evidence of bats.
High	Structure with many areas suitable for large numbers of roosting bats, with numerous potential access points. With good connectivity to high-quality foraging habitat, such as hedgerows, woodland and/or waterbodies. No evidence of current use by bats. E.g. large, uncluttered, draft-free loft spaces with access point or gaps beneath hanging tiles in a rural location.
Moderate	Structure with features suitable for moderate numbers of roosting bats, with good connectivity to the wider countryside. No evidence of current use by bats. E.g. cracks in walls, wooden soffit box with holes, gaps beneath fascia boards, under lifted roof tiles or lead flashing in a suburban or rural setting.
Low	Structure that offers a low number of roosting opportunities which could be used opportunistically by individual bats. Unlikely to be used by large numbers of bats on a regular basis. No evidence of current use by bats. E.g. small gaps under roof tiles, fascia boards or lifted lead flashing, with limited connectivity to fair-quality foraging or commuting habitat.
Negligible	Structure with no or very limited roosting opportunities for bats and/or where the structure is isolated from foraging habitat. No evidence of use by bats.

3.3 Bat Emergence/Re-entry Surveys

Two dusk emergence surveys were undertaken on 1st May and 15th May 2023. All visits were completed in accordance with guidelines outlined in Bat Surveys for Professional Ecologists: Good Practice Guidelines (BCT 2016). Two surveyors were assigned a position to observe signs of bats emerging from their roosts (see Appendix 2 for Bat Survey Results Plan). The surveys started 15 minutes before sunset and ended 1.5 hours after sunset.

Bats were identified using heterodyne and frequency division bat detectors: *Batlogger*, *Batscanner Stereo*, and *Echometer Touch 2 Pro*. Camcorders with infrared torches were deployed to ensure any bats observed could be confirmed later. The surveys were led by George Sayer MCIEEM Level 2 licence holder for bats assisted by Emily Sabin and Lauren Hale.

The two surveyors were supported by Sony AX53 cameras and a NightFox Whisker camera accompanied by NightFox infrared illuminators, a SANNCE CCTV set up supported by high-powered infrared floodlights, and NightFox Red nightvision goggles to improve spatial and temporal coverage. Infrared footage was subsequently reviewed after the survey and any findings added to the results. Sound analysis was undertaken using Elekon Bat Explorer.

Table 2: Bat survey dates, times and weather conditions

Dusk Emergence – Survey 1			
Date	01/05/2023	Sunset time	20:09
Start time	20:24	Finish time	21:54
Start temperature	14°C	Finish temperature	12°C
Start cloud cover	90%	Finish cloud cover	100%
Start wind speed	2 (Light Breeze)	Finish wind speed	0 (Calm)

Dusk Emergence – Survey 2			
Date	15/05/2023	Sunset time	20:45
Start time	20:30	Finish time	22:00
Start temperature	16°C	Finish temperature	13°C
Start cloud cover	50%	Finish cloud cover	50%
Start wind speed	1 (Light air)	Finish wind speed	0 (Calm)

3.4 Ecological Impact Assessment

The methodology for Ecological Impact Assessment (EclA) follows best practice guidelines set by the Chartered Institute of Ecology & Environmental Management (CIEEM): 'Guidelines for Ecological Impact Assessment' (CIEEM, 2018). This includes identifying the baseline conditions on the site and rating the potential impacts of the development based on the sensitivity and importance of the ecological resource affected, combined with the magnitude, duration and scale of the impact (or change). This is assessed initially without mitigation measures, and then assessed again after allowing for the proposed mitigation measures, providing the residual impacts. The assessment is separated into construction effects and longer-term effects. Each ecological feature within the site has been considered within a defined geographic context such as:

- International and European
- National
- Regional
- County
- District
- Local
- Site Level
- Negligible

The ecological impacts resulting from the proposals were then outlined according to a defined set of characteristics as defined within 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018). This assessment considers the residual impacts after mitigation measures have been accounted for, highlighting any significant effects. A significant effect is "*an effect which either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*".

4. Baseline Ecological Results

4.1 Desk Study

4.1.1 Statutory/non-statutory designated sites and protected/priority habitats

The site is not located within any designated sites or protected/priority habitats. The site falls within the impact risk zones for Bracklesham Bay Site of Special Scientific Interest (SSSI). Designated sites information is summarised in Table 2.

Table 3 - Designated sites within 4km of the site. Source: MAGIC.

Site Name	Designation	Proximity to site	Reason for designation
Bracklesham Bay	SSSI	140m S	This site consists of a long stretch of coast with some rough unimproved grazing pastures which are important for the bird populations they support. This importance is elevated as agricultural improvement continues to threaten and erode a habitat-type already scarce within the county. The coastal habitats include a small area of salt marsh, shingle bank, the rifes (wide flowing ditches) and associated reed beds, together with a long stretch of intertidal exposures of high geological interest.
Chichester Harbour	Area of Outstanding Natural Beauty (AONB)	2.1km W	Chichester Harbour is a large estuarine basin. At low tide, extensive mud and sandflats are exposed, drained by channels which unite to make a common exit to the sea. The site is of particular significance for wintering wildfowl and waders and also breeding birds both within the harbour and in the surrounding permanent pasture fields and ancient woodlands. The harbour boasts a wide range of habitats, most of which are nationally and internationally important for supporting high numbers of migrating and breeding birds.
Chichester Harbour	SSSI	2.1km W	
Chichester and Langstone Harbours	Special Protection Area (SPA) Ramsar	2.1km W	
Solent Maritime	Special Area of Conservation (SAC)	2.1km W	

There are no non-statutory designated sites within 2km of the site.

The following protected/priority habitats lie within 2km of the site:

- Deciduous Woodland
- Traditional Orchard
- Coastal and Floodplain Grazing Marsh
- Lowland Meadows
- Maritime Cliffs and Slopes
- Coastal Saltmarsh
- Coastal Vegetated Shingle

These habitats of Principal Importance are listed in Section 41 of the NERC Act, 2006. Section 40 places a duty on Local Planning Authorities to have due regard to biodiversity.

4.2 Habitats

The site comprised one building, amenity grassland and hardstanding. The wider area comprised built up areas, houses and gardens, introduced shrub, amenity grassland, lines of trees, and foreshore.

The habitats present on site are ornamental, predominantly comprising amenity grassland which appears to be regularly maintained. This is dominated by perennial rye grass *Lolium perenne*, daisy *Bellis perennis*, yarrow *Achillea millefolium*, selfheal *Prunella vulgaris*, creeping cinquefoil *Potentilla reptans*, and Yorkshire fog *Holcus lanatus*. Linear beds bound the property however these have not been managed and appear to have been removed therefore the ecologists were unable to assess their value. Overall, the habitats on-site are assessed to be no greater than **site value**.

4.3 Species

4.3.1 Bats

All 18 species of bat in the UK have been recorded in West Sussex. One European Protected Species Licence has been granted by Natural England within 2km of the site allowing the purposeful destruction or disturbance of bat roosts or resting places. These are summarised in Table 3 below.

Table 4 - Details of EPSLs within 2km. Source: MAGIC.

Species	Licence number	Date from	Date end	Proximity to site
Common pipistrelle <i>Pipistrellus pipistrellus</i> Soprano pipistrelle <i>Pipistrellus pygmaeus</i> Brown long-eared <i>Plecotus auritus</i>	2020-49525- EPS-MIT	12/10/2020	30/09/2026	506km W

External Inspection

An external inspection found a single-storey building constructed around a prefabricated timber frame, faced with a stucco rendered wall covering.

The main roof was clad with flat machine made clay tiles. The roof was of a gambrel design forming two symmetrical gable ends but with each side of the roof structure having two distinct pitches, shallower at the top and steeper at the side. There were a small number of lifted and loose roof tiles which could be exploited by bats.

The windows were uPVC framed and of a casement design and appeared in good condition, with no visible damage. Soffit and fascia were present, made from uPVC and appeared in good condition. Wooden barge boards along the gable ends presented small ingress opportunities for crevice-dwelling bats. A small central porch/lean-to was present on the south elevation and this had ship-lap style weatherboarding. Another porch structure was present on the north elevation.

The west facing gable had climbing ivy growing over the north-west corner. Ivy is a potential roosting feature for bats. There was also a large hole in the wall on this elevation which was inspected using high-powered torches and an endoscope. No evidence of bats was found internally inside the hole. The east gable was inaccessible to survey closely due to its proximity

to the fence and boundary of the site but from two vantage points no potential roosting features were observed.

There was a small garage present on the north facing elevation, with windowless wooden double doors. There were no gaps or damage to the doors to suggest that bats could gain access internally. Another climbing ivy plant was present on the north elevation between the porch and garage doors.

Internal Inspection

The internal inspection found the building to be uninhabited. There were no cellars present. There was one loft void accessible via a hatchway in an upstairs bedroom. The void was empty at the time of the survey.

The void was insulated with loose fibre insulation on the floor. The roof was lined with bituminous roofing felt which appeared to be tight. Two small holes allowed daylight into the loft. The timber roof frame was visible. A single chimney stack was present.

It was not possible to ascertain the safety of the rafters and the ceiling therefore the entire length of the void was not inspected. From vantage points, mouse droppings were observed. No evidence of bird activity in the loft was found.

No evidence of bats was found internally or externally. In accordance with the information in Table 1, the building was considered to have **moderate** potential for bats.

Dusk Emergence Surveys

Two emergence surveys were undertaken during the optimal survey period for bats in good weather conditions. No constraints which would cast doubt on the results of this survey were encountered. The results of the survey are presented in Table 3.

Table 3: Dusk bat survey results.

Survey Date	Emergence/Re-entry Results	Bat activity		
01/05/2023	No bats were recorded emerging from the building.	Species	First pass	Last pass
		Common pipistrelle	20:53	21:15
		Activity overview: Very low levels of bat activity were recorded and observed. Four individual common pipistrelles were recorded and seen foraging across nearby gardens during the first hour after sunset. No bats were relying on the site for foraging.		
Survey Date	Emergence/Re-entry Results	Bat activity		
15/05/2023	No bats were recorded emerging from the building.	Species	First pass	Last pass
		Common pipistrelle	21:18	21:09
		Soprano pipistrelle	22:05	-
Activity overview: Very low levels of bat activity were recorded and observed. Three individual pipistrelles were recorded passing over the garden throughout the survey. No bats were relying on the site for foraging.				

4.3.2 Reptiles

The amenity grassland on site has potential to support low numbers of common reptile, such as slow worm, grass snake and common lizard. The local area is known by the ecologists to support high numbers of slow worms. Reptiles occasionally use amenity grassland to prey on invertebrates, as shelter and to commute to other habitats. The potential of the site for reptiles is considered to be low. The grass appears to have been regularly managed. There are

disused garden pots and patio slabs on site which have potential to support hibernating and sheltering reptiles. The site is considered to be of **site value** for reptiles.

4.3.3 Hedgehogs

The amenity grassland habitat on site has the potential to support low numbers of hedgehog. Hedgehogs mainly feed on invertebrates such as earthworms, earwigs and beetles and earthworms. They thrive in a mosaic habitat of grassland, deadwood and hedges/trees. However, the presence of hedgehogs cannot be categorically ruled out on this site as hedgehogs are considered to be locally abundant and widespread. They may use the amenity grassland to forage, find shelter and commute to other habitats. The site is considered to be of **site value** for hedgehogs.

4.3.4 Nesting birds

No evidence of nesting birds was found on site. The amenity grassland has negligible potential to support ground nesting birds due to its size and regular maintenance. It is not considered that the habitats on site to support a large assemblage of birds. The climbing plants on the building (ivy) has potential to support a small number of nesting birds. The exterior of the building was searched for signs of nesting birds in February 2023 and again in May 2023, and none were found although there is potential for the building to support low numbers of small nesting birds such as sparrow. The habitats suitable to support birds on site make up a very small percentage of suitable nesting habitat within the local landscape, therefore the site is considered to be of **site value** for nesting birds.

4.3.5 Invertebrates

The site offers a nectar resource for invertebrates. However, due to the site's maintained nature and small size, it is highly unlikely that notable species and assemblages rely on it. Overall, the Site is assessed to be of **site value** for invertebrates.

5. Impact Assessment, Mitigation and Enhancements

Mitigation measures and ecological enhancements are outlined in this section.

The proposed development has an opportunity to enhance habitats for bats, birds and insects. Such enhancement measures are in line with the National Planning Policy Framework (NPPF) (2021), within policies 40 and 49 of Chichester District Council Adopted Chichester Local Plan: Key Policies 2014-2029.

Paragraph 179 of the NPPF states that “*To protect and enhance biodiversity and geodiversity, plans should: /... promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*”

5.1 Designated Sites

Potential Impacts

Potential impacts include dust, fumes and emissions from machinery and higher pollution levels due to construction traffic. The increase in pollution would be minimal and short-term if strict mitigation measures are followed.

The proposed development will result in an increase in accommodation and local population within 5.6km of Chichester Harbour as outlined in the Chichester Local Plan, which may have a negative impact on coastal birds through increased recreational disturbance i.e. day-to-day dog walking and water sports, but it is not considered a “significant effect”. The site is not in a nutrient neutrality area.

Mitigation and Compensation

All construction will be undertaken in accordance with best practice advice with regards to control of dust, noise and emissions. Specific avoidance measures below will be put into place to ensure that the proposals make no impacts beyond site level, to avoid affecting nearby designated sites and protected/priority habitats.

Residual Impacts

The overall impact of this proposal on designated sites will be **negligible**.

5.2 Habitats

Potential Impacts

In the absence of mitigation, the proposals would increase the dust, noise and light pollution of adjacent garden habitats. These impacts would be no greater than site level. Significant impacts on habitats used by bats are unlikely as no hedgerows, trees or other foraging habitat is being damaged or removed.

Mitigation

- All construction will be undertaken in accordance with best practice advice with regards to control of dust, noise and emissions. Any chemicals or fuel will be stored appropriately, fully sealed and kept on existing hard surfaces. Any ornamental planting lost or damaged during works will be replaced post-construction with species from the RHS [‘Plants for Pollinators’ lists](#).
- Artificial grass will not be fitted anywhere on site.

Enhancement

- Use peat free compost, compost and use rainwater to maintain new planting.
- New trees to be planted should be native to England, and selected carefully based on their high value for wildlife. For example:
 - Bird cherry *Prunus padus*
 - Common beech *Fagus sylvatica*
 - Crab apple *Malus sylvestris*
 - Dog rose *Rosa canina*
 - Dogwood *Cornus sanguinea*
 - Elder *Sambucus nigra*
 - Field maple *Acer campestre*
 - Hawthorn *Crataegus monogyna*
 - Hazel *Corylus avellana*
 - Pedunculate oak *Quercus robur*
 - Rowan *Sorbus aucuparia*
 - Silver birch *Betula pendula*
 - Wild cherry *Prunus avium*
- The addition of native wildflowers around the site would improve its ecological value greatly, providing invertebrates, birds, small mammals and reptiles with more foraging and nesting opportunities.

1 Marine Drive – Preliminary Roost Assessment for Bats

To create a wildflower meadow on an existing patch of grass, the fertility of the ground must be reduced first to remove nutrients from the soil which would otherwise let dominant grasses grow. Gently raking the topsoil until there is bare earth will give wildflower seeds the best chance of germinating. Avoid rotovating as this will damage nearby tree roots.

Wildflower seeds can be spread easily by hand and then gently raked or rolled in to give good contact with the soil. The seeds must be watered thoroughly and regularly. Alternatively, rolls of pre-grown wildflower turf can be bought and can result in a speedier establishment of wildflowers especially over a large area. The ground must be prepared the same way as above. Grasses can dominate even after wildflowers have set seed so the introduction of native semi-parasitic species such as yellow rattle *Rhinanthus minor* which is an annual flower and will suppress the grasses during wildflower establishment.

Creating a mosaic of grassland habitat can be aesthetically pleasing, as shown in Figure 3 below:

Figure 3 - Example of phased cutting and wildflower meadow creation



Residual Impact

Once mitigation and enhancements have been taken into account, the resulting impacts of this proposal on habitats will be **positive**.

5.3 Species

5.3.1 Bats

Potential Impacts

Detailed bat emergence surveys revealed the building on site to be of negligible value to roosting bats, with no emergences and very low levels of activity recorded across the site. The results of the surveys strongly suggest that the impacts of the planned development upon the favourable conservation status of bats in the local area will be negligible.

Mitigation for Bats

- Lighting – artificial light can adversely affect invertebrates and bats (as well as other nocturnal animals) so illumination of the site after dusk must be avoided where possible. Any task lighting (during construction) or security lighting on the building, will not be directed at gardens/vegetation or trees. Any security lighting will be set on short timers. Other lighting will be directed downwards to avoid light spillage. Brightness of lights will be kept as low as feasibly possible. The plans proposed for development within the site will include an ‘ecologically sensitive lighting scheme’ in accordance with guidance produced by the Bat Conservation Trust (2018) and the Institute of Lighting Professionals.
- Roof lining – if a bat roost has been identified, breathable roofing membrane (BRM) cannot be used. The use of BRMs such as ‘Tyvec’, along with other bitumen that contain polypropylene filaments e.g. type 5U, are recommended to be avoided in general, as bats could gain access to the roof in the future. BRMs can cause fatal harm to bats through entanglement and by creating unfavourable climatic conditions within a roosting area. Roofing spaces should be lined with traditional 1F hessian-backed bitumen felt which complies with BS EN 13707:2013 and BS 5250:2011 (as amended). See more at bats.org.uk/breathable-roofing-membranes.
- The use of sticky fly paper, pesticide treatment and wood preservatives in roof voids can also be harmful to bats (see gov.uk/bat-roosts for further advice and a list of approved bat safe treatments, if required).

Enhancement for Bats

1. Integrated bat boxes, external bat boxes or tiles with suitable gaps (or readymade 'bat tiles') will be incorporated into the new building designs. Erected at eaves height, facing south/south-west 3-5m above ground and receiving sunlight during the day. Tiles can be made specifically for bat access and an example can be found [here](#). See Figures 4-9 for examples of suitable external, integrated and tile bat roosting features.

Figure 4 – Chillon Woodstone Bat Box



Figure 5 - Vivara Pro Woodstone Bat Box



Figure 6 – 'Pegged' wooden cladding technique.



Figure 7 – Bat clay access tiles



Figure 8 – Integrated bat box
www.birdbrickhouses.co.uk



Figure 9 – Bat slate access tile



- Plants with night-time fragrance will attract nocturnal-flying insects such as moths will be planted in the rear garden, including honeysuckle *Lonicera periclymenum*, evening primrose *Oenothera biennis*, cherry pie *Heliotropium arborescens*; sweet rocket *Hesperis matronalis*; and currant bushes *Ribes sp.*.

Residual Impacts

Once mitigation and enhancements have been taken into account, the residual impacts for bats will be **positive**.

5.3.2 Reptiles

There are habitats on site suitable for low numbers of common reptiles including slow worm, common lizard and grass snake to forage, bask and commute.

Mitigation for Reptiles

- The grassland should be maintained short before and during the construction phase to ensure that reptiles are discouraged from entering the construction zone.
- Logs and stumps should not be uprooted between 01 October – 31 March as reptiles could be hibernating beneath them.
- Loose rubble should not be left on site as this can risk reptiles taking shelter and putting themselves in harm's way. Piles of rubble should be dismantled carefully by hand to avoid killing or injuring reptiles. Piles of rubble should be moved off site immediately and not left in place for more than 24 hours.

Enhancement for Reptiles

- Wildflower planting will provide good foraging and connectivity for reptiles (Section 5.2).
- Reptile hibernaculum (such as log or brash piles – see Section 9 (p.45) of the [Reptile Habitat Management Handbook](#)) should be created in a wild corner. Even a single partially buried log will provide habitat and food for many invertebrates and therefore, forage for common reptiles.

5.3.3 Hedgehogs

Potential impacts

The construction phase has the potential to harm hedgehogs and the landscaping works may result in a minor loss of foraging habitat. The following mitigation measures will protect hedgehogs and other ubiquitous mammals from harm.

Mitigation for Hedgehogs

- All holes/excavations left open overnight must be covered or provided with an appropriate safe escape route for small animals to escape from, such as a gently sloping, solid wooden ramp.
- Open pipework must be checked they are empty and then closed off at the end of each working day.
- The grass on site will not be strimmed unless it has been thoroughly checked immediately beforehand for the presence of hedgehogs who may be sheltering in the grass.

Enhancement for Hedgehogs

- Hedgehog 'gates' or holes will be incorporated into the boundaries of the new dwellings when the site has been redeveloped. Hedgehogs need to move freely between habitats and a hole 13x13cm wide at the bottom (ground level) of fences enables this. This size is too small for cats and dogs to escape.
- A solid wooden hedgehog box could be installed in a quiet corner.
- Small patches of scrub should be encouraged to grow where possible, such as bramble and dog rose, to provide more sheltered areas for hedgehogs.
- The log pile/hibernacula described in Section 555 will also provide hedgehogs with suitable foraging opportunities.

5.3.4 Invertebrates

Potential Impacts

The loss of lawn and introduced shrub habitat will result in a non-significant reduction of a nectar resource.

Mitigation for Invertebrates

- Plants that are toxic to wildlife must be avoided.

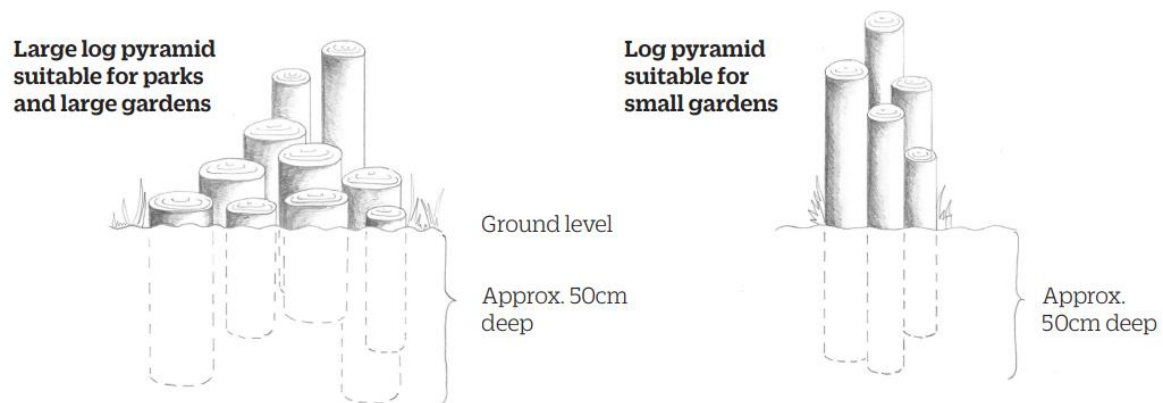
1 Marine Drive – Preliminary Roost Assessment for Bats

- No artificial plants or artificial grass will be added on site.
- Mitigation measures for reptile and hedgehog will also benefit invertebrates.

Enhancements for Invertebrates

- Bee bricks could be incorporated into the walls of the proposed development; these bricks support small numbers of solitary bees such as the red mason bee. They should be installed at 1-2m high, facing south and receiving several hours of sunlight per day.
- A log pile/pyramid would provide a variety of invertebrates, especially stag beetles, with hibernacula and shelter. It should be partially buried. See Figure 10 below.

Figure 10 - Log pile/pyramid creation Source: People's Trust for Endangered Species



5.3.5 Nesting birds

Potential impacts

The site has low potential to support nesting birds and the construction phase has the potential to harm nesting birds.

Mitigation for Birds

- Should any climbing vegetation on the house or large shrubs on site need removing, this must be done outside of nesting season (01 March - 31 August inclusive) or following a check for birds' nests immediately before removal by a suitably qualified ecologist.

Enhancement for Birds

- The new building design will include integrated bird boxes or external bird boxes to improve the nesting opportunities for birds on site. One tit box (Figure 11) or a sparrow terrace box (Figure 12) is recommended. Bird boxes must face north/north-east, avoid direct sunlight and prevailing winds.

Figure 11: Integrated tit box. Source: BirdBrickHouses



Figure 12: Integrated sparrow terrace. Source: BirdBrickHouses



Should you need further advice or clarification of the information provided above, please do not hesitate to contact Imprint Ecology at emily@imprintecology.co.uk.

6. Conclusion

Overall, the proposals are considered to have a negligible impact upon bats and other ecology and no further surveys are recommended. The proposal area consists of an existing building of negligible ecological value, with surrounding garden habitats of low ecological value.

Bat emergence surveys suggest that bats are not currently using the building for roosting, shelter or hibernation. With basic mitigation measures, the proposals stand a negligible chance of disturbing bats or their roosts.

The impact of the proposals on nearby designated sites is expected to be negligible. When the mitigation and enhancement measures have been taken into account, the proposals are not considered to have a negative impact upon local ecology, protected/priority habitats or protected species in accordance with planning policy.

Once enhancements are taken into account, the proposals would result in a minor positive biodiversity net gain. The proposals therefore accord with relevant legislation and local and national planning policies.

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Appendix 1: Site Photographs

Photo 1 – Back garden, looking west.



Photo 2 – South elevation.



1 Marine Drive – Preliminary Roost Assessment for Bats

Photo 3 – Garden looking north-west.



Photo 4 – Garage doors on north elevation.



1 Marine Drive – Preliminary Roost Assessment for Bats

Photo 5 – South elevation roof tiles.



Photo 6 – West gable with large hole near gable end.



Photo 7 – South-west corner, gaps under barge boards.



Photo 8 – Interior loft void.



Appendix 2: Planning Policy

The latest National Planning Policy Framework (NPPF) (Defra, 2022) was published in July 2021. The National Planning Policy Framework (2021) outlines the government's responsibility to minimise adverse impacts on biodiversity and bestow biodiversity net gains where possible.

Paragraphs of relevance within the NPPF include: Paragraph 174 of the NPPF states that *“Planning policies and decisions should contribute to and enhance the natural and local environment by: /... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”*

Paragraph 179 of the NPPF states that *“To protect and enhance biodiversity and geodiversity, plans should: /... promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”*

Paragraph 180 of the NPPF states that “When determining planning applications, local planning authorities should apply the following principles:

- a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons¹ and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments*

should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

The NPPF is also complemented by the Circular 06/2005: Biodiversity and Geographical Conservation – Statutory Obligations and Their Impacts Within The Planning System (Office of the Deputy Prime Minister, 2005). Paragraph 99 states that “*It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.*”

The site is within the Chichester District; the proposals should be assessed against the Chichester District Local Plan – Key Policies 2014-2029. Policy 49 covers Biodiversity; the following criteria must be met for planning applications to be supported:

- 1. The biodiversity value of the site is safeguarded;*
- 2. Demonstrable harm to habitats or species which are protected or which are of importance to biodiversity is avoided or mitigated;*
- 3. The proposal has incorporated features that enhance biodiversity as part of good design and sustainable development;*
- 4. The proposal protects, manages and enhances the District’s network of ecology, biodiversity and geological sites, including the international, national and local designated sites (statutory and non-statutory), priority habitats, wildlife corridors and stepping stones that connect them;*
- 5. Any individual or cumulative adverse impacts on sites are avoided;*
- 6. The benefits of development outweigh any adverse impact on the biodiversity on the site. Exceptions will only be made where no reasonable alternatives are available; and planning conditions and/or planning obligations may be imposed to mitigate or compensate for the harmful effects of the development.*

Appendix 3: Legislation of Relevant Species/Habitats

The following legislation is relevant to survey findings and is only a summary.

Statutory Designated Sites

Designation	Relevant legislation
SSSI (Site of Special Scientific Interest)	Wildlife and Countryside Act 1981 (as amended)
SPA (Special Protection Area)	Conservation of Habitats and Species Regulations 2017 (as amended)
SAC (Special Areas for Conservation)	Conservation of Habitats and Species Regulations 2017 (as amended)
Ancient Woodland	National Planning Policy Framework (2021)
Habitats of Principal Importance	Section 41 of the NERC Act 2006 and National Planning Policy Framework (2021)

Protected/Priority Species and Habitats of Principal Importance

Bats

All UK bats are European Protected Species. All British bat species are defined in UK law as 'Protected Species' under Schedule 2 of the Conservation of Habitats and Species Regulations, 2017 (as amended). All bat species in England are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which confers additional protection under Section 9 of the act, and through the Countryside and Rights of Way (CROW) Act, 2000.

All UK bats are listed in Appendix II and III of the Bern Convention. Bats and their habitats are listed in Appendix II of the Bonn Convention. Seven bat species are listed under Section 41 of the NERC Act 2006.

This combined legislation means that it is a criminal offence to:

- Deliberately kill, injure or capture bats
- Deliberately disturb bats, including in particular any disturbance which is likely to impair their ability to survive, to reproduce or to rear or nurture their young, or their ability to

hibernate or migrate, or which is likely to affect significantly their local distribution or abundance

- Damage or destroy a breeding site or resting place of a bat
- Damage or destroy, or obstruct access to, any structure or place which any bat uses for shelter or protection
- Disturb bats while occupying a structure or place used for that purpose.

If proposed development work is likely to destroy or disturb bats or their roosts a license may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. With suitable approved mitigation, exemptions can be granted from the protection afforded to bats under regulation 39 by means of a European Protected Species Licence (EPSL).

Natural England, for the Secretary of State for the Department for Environment, Food and Rural Affairs (DEFRA) is the appropriate authority for determining license applications for works associated with developments affecting bats. In cases where licenses are required, certain conditions should be met under the Habitats Regulations 2017 (as amended) to satisfy Natural England. These are:

1. Regulation 55(2)(e) states that licenses may be granted to ‘preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
2. Regulation 55(9)(a) states that a license may not be granted unless Natural England is satisfied ‘that there is no satisfactory alternative’.
3. Regulation 55(9)(b) states that a license cannot be issued unless Natural England is satisfied that the action proposed ‘will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Natural England expects the planning position to be fully resolved as this is necessary to satisfy tests 1 and 2. Full planning permission, if applicable, will need to have been granted and any conditions relating to bats fully discharged. For test 3, Natural England should be satisfied that sufficient survey effort has been carried out and that the impact assessment and proposed mitigation measures (submitted with the license application) are adequate to maintain the species concerned at a favourable conservation status.

Nesting birds

All wild bird species, nests and eggs, are protected under the Wildlife and Countryside Act 1981 (as amended). It is illegal to intentionally kill, injure or take wild birds, damage or destroy their nest while in use or being built, possess, control or transport live/dead wild birds, parts or eggs, or sell or offer them for sale. 79 birds are fully-protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to disturb them and their dependent young while nesting or building nests. Some birds including kingfisher and house sparrow are listed under Section 41 of the NERC Act 2006.

Appendix 4: Bat Survey Plan

