

PRELIMINARY ECOLOGICAL APPRAISAL

Proposed Residential Extension

Karenza, Hook Lane, Aldingbourne, West Sussex, PO20 3TB

Zone of Influence: Singleton & Cocking Tunnels SSSI / SAC

Report Date: 25 May 2026
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Version 1.0

1. Introduction

1.1 Purpose and Scope

This Preliminary Ecological Appraisal (PEA) has been prepared in accordance with BS 42020:2013 (Biodiversity — Ecosystems and Ecological Networks — Code of Practice for Developers) and current Natural England guidance. The report assesses the likely ecological implications of a proposed residential extension at the above site, with particular reference to the property's location within the Zone of Influence (Zol) of the Singleton and Cocking Tunnels Site of Special Scientific Interest (SSSI) and candidate/designated Special Area of Conservation (SAC).

The report has been prepared to inform the planning application process and to identify whether further ecological surveys, Habitats Regulations Assessment (HRA), or mitigation measures are required prior to or during determination of the planning application.

1.2 Designated Site Context

The Singleton and Cocking Tunnels form part of a disused railway tunnel system beneath the South Downs, West Sussex. The tunnels support one of the most significant bat hibernation assemblages in southern England, comprising at least seven species of bat. The site holds the following statutory designations:

Designation	Details
SSSI	Singleton and Cocking Tunnels SSSI — notified for hibernating bat populations including greater horseshoe bat (<i>Rhinolophus ferrumequinum</i>), lesser horseshoe bat (<i>Rhinolophus hipposideros</i>), and Bechstein's bat (<i>Myotis bechsteinii</i>).
SAC	The tunnels are within the South Downs Bat SAC, designated under the Habitats Directive (as retained in UK law) for greater horseshoe bat and Bechstein's bat populations.
NNR / RIGS	No National Nature Reserve or Regionally Important Geological Site designations apply at the tunnel complex.

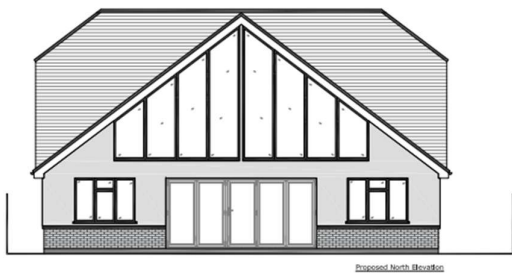
Properties and development proposals within a defined Zone of Influence (Zol) around the tunnels are subject to enhanced ecological scrutiny as part of the planning process. The Zol is generally defined by Natural England and the South Downs National Park Authority (SDNPA), and typically extends to [X km/m] from the tunnel entrances. The applicant's site falls within this zone at approximately [distance] from the nearest tunnel entrance.

1.3 Proposed Development

The proposed development comprises a double-storey extension to the side, and on top of the existing dwelling at Karenza, Hook Lane, Aldingbourne, West Sussex, PO20 3TB. The principal works include:

- Construction of double-storey extension & chalet roof conversion;
- Removal of minimal/no vegetation – to be extended over the existing driveway;
- External works including groundworks, hard/soft landscaping and drainage.

Full details of the proposed development are provided in the accompanying planning drawings.



2. Methodology

2.1 Desk Study

A desk study was undertaken to collate information on statutory and non-statutory designated sites, protected species records, and relevant planning history within a 2 km search radius of the application site. Data sources consulted include:

- Natural England — Magic Map Application (multi-layer GIS data for designations, NNRs, SSSIs, SACs, SPAs, Ramsar sites);
- Sussex Biodiversity Record Centre (SxBRC) — species and habitat records;
- Bat Conservation Trust (BCT) — roost and activity records;
- South Downs National Park Authority — Local Plan policies and ecological constraints mapping;
- Historic Environment Record — historic landscape and environmental data;
- Ordnance Survey mapping (1:10,000 and 1:2,500 scales);
- Aerial photography (various years) via Bing / Google Earth;
- Environment Agency — flood risk and water framework data.

2.2 Extended Phase 1 Habitat Field Survey

An Extended Phase 1 Habitat Field Survey was carried out on 20 May 2026 in fine and dry weather conditions, following the methodology of the Joint Nature Conservation Committee (JNCC, 2010) guidelines and BS 42020:2013. The survey recorded all habitat types and features of ecological potential within the site boundary and its immediate environs, including an assessment of the suitability of any buildings or trees for roosting bats.

2.3 Limitations

The following limitations apply to this report and should be taken into account when interpreting the findings:

- Survey work was undertaken in May; certain species (namely; winter birds) may not have been detectable at the time of survey.
- Species records from SxBRC are accurate to the date of the data request and may not reflect the most current distributions.

3. Baseline Ecological Conditions

3.1 Site Description

The application site covers an area of approximately 950 m² and comprises a detached traditional residential property with an attached garden. The surrounding land use is predominantly suburban. The property is bounded to the east/west by adjacent property, the south by Hook Lane, and to the north, a developer's plot.

3.2 Habitats

3.2.1 Buildings

The existing dwelling is a traditional brick building with a conventional loft, loft access points, hanging tiles, fascia and soffit boards. The building was assessed as having negligible potential to support roosting bats based on the following features:

- Presence of tightly fitted hanging concrete tiles, sealed roofline, negligible gaps in pointing providing limited potential roost access;
- Proximity to the Singleton and Cocking Tunnels SAC population being over 11km;
- No bat droppings, staining, or other signs noted during survey.

3.2.2 Garden and Boundary Habitats

The garden comprises a mown lawn, no ornamental planting, and one fruit tree with hedgerow boundaries. The hedgerow to the east is considered to have low potential for use as a bat commuting route, based on its proximity to suburban setting and proximity to a woodlands.

3.2.3 Other Habitats

No ponds, watercourses, reed beds, or other wetland habitats were recorded within the site boundary. The nearest watercourse is a pond located approximately 250 m to the west.

3.3 Protected and Notable Species

3.3.1 Bats (Chiroptera)

Species	Legal Status
<i>Greater horseshoe bat (Rhinolophus ferrumequinum)</i>	WCA 1981 (Sch 5); Habitats Regs; SAC feature
<i>Lesser horseshoe bat (Rhinolophus hipposideros)</i>	WCA 1981 (Sch 5); Habitats Regs; SAC feature
<i>Bechstein's bat (Myotis bechsteinii)</i>	WCA 1981 (Sch 5); Habitats Regs; SAC feature
<i>Common pipistrelle (Pipistrellus pipistrellus)</i>	WCA 1981 (Sch 5); Habitats Regs

3.3.2 Breeding Birds

The site and its boundaries provide potential nesting habitat for a range of common garden and hedgerow breeding birds protected under the Wildlife and Countryside Act 1981. No Schedule 1 species were noted during the survey visit, though the proximity of the site to the South Downs AONB/National Park means that species such as hobby, spotted flycatcher, or other notable

species may occur in the wider landscape. All active nests are legally protected during the breeding season (typically March to August inclusive).

3.3.3 Other Protected Species

The following additional protected species were considered as part of the study and assessment:

Species	Likelihood	Basis of Assessment
Hedgehog (<i>Erinaceus europaeus</i>)	Possible	Suburban setting; UK BAP Priority Species; garden habitat suitable.
Common lizard	Negligible	North facing, non-sunny garden
<i>Great crested newt</i> (<i>Triturus cristatus</i>)	Negligible	No ponds within 250 metres.

4. Planning Policy and Legal Framework

4.1 Statutory Designations and Habitats Regulations

The Singleton and Cocking Tunnels SAC is a European Protected Site. Under the Conservation of Habitats and Species Regulations 2017, any plan or project which is not directly connected with, or necessary to, the management of the site but which is likely to have a significant effect on it (either alone or in combination with other plans or projects) must be subject to Habitats Regulations Assessment (HRA) by the competent authority before permission can be granted.

The 'likely significant effect' (LSE) test is precautionary in nature. For a residential extension within the Zol, LSE is most likely to arise through:

- Increases in artificial light at night (ALAN) affecting bat commuting and foraging corridors;
- Noise and vibration during the hibernation period (November–March) within zones of influence of the tunnels;
- Loss or degradation of foraging and commuting habitat used by SAC bat populations;
- Severance of linear features (hedgerows, tree lines) used as commuting routes.

Where LSE cannot be excluded by the competent authority, an Appropriate Assessment must be undertaken before permission is granted. The competent authority is the South Downs National Park Authority (SDNPA) or the relevant Local Planning Authority (LPA) where the site falls outside the National Park boundary.

4.2 Wildlife and Countryside Act 1981 (as amended)

All bat species found in the United Kingdom are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (WCA) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. It is an offence to:

- Deliberately capture, injure, or kill any bat;
- Intentionally or recklessly disturb bats while occupying a structure or place used for shelter or protection;
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection;
- Damage, destroy, or obstruct access to a roost, even when unoccupied (roosts retain protection under UK law at all times).

4.3 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF, 2024 edition) requires local planning authorities to protect and enhance biodiversity and geological conservation interests (Chapter 15). Paragraph 186(c) specifically requires LPAs to refuse permission for development resulting in the deterioration or destruction of irreplaceable habitats. The principles of biodiversity net gain (Schedule 7A of the Town and Country Planning Act 1990, as inserted by the Environment Act 2021) apply where relevant.

4.4 Local Planning Policy

The South Downs Local Plan (adopted 2019, with updates) includes policies SD9 (Biodiversity and Geodiversity) and SD11 (The Dark Night Sky), both of which are material to developments within the Zol. The Dark Night Sky policy is particularly significant for bat-sensitive

developments, requiring lighting to meet Bat Conservation Trust (BCT) Good Practice Guidance, 4th edition.

Where the application site falls outside the SDNPA boundary, the relevant LPA's adopted local plan biodiversity policies will apply. Applicants should confirm the precise planning authority jurisdiction prior to submission.

5. Impact Assessment

5.1 Assessment Methodology

Potential impacts have been assessed against the baseline ecological conditions described in Section 3 and considered in the context of the policy and legal framework set out in Section 4. Impacts are characterised in terms of their nature (direct, indirect, temporary, permanent), magnitude, and significance, drawing on the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (EcIA, 2018).

5.2 Impact Summary Table

Receptor	Potential Impact	Proposed Mitigation	Residual Impact	Significance
SAC bat populations (ALAN)	Low-Medium	Bat-sensitive external lighting scheme (BCT GN4 compliant), motion-activated lighting only	Low	Negligible
Roosting bats	Low-Medium	Bat-box installation	Low	Low
Bat commuting routes	Low–Medium	Retain all boundary hedgerows; avoid lighting on commuting corridors	Low	Negligible
Breeding birds	Low	Avoid works between April–July.	Negligible	Negligible
Hedgehog / reptiles	Low	Soft-start clearance	Negligible	Negligible

5.3 Lighting Impact

Artificial light at night (ALAN) is considered the most significant potential impact pathway for SAC-qualifying bat species at this site. Greater and lesser horseshoe bats are particularly light-averse and rely on unlit commuting corridors to move between the tunnels and their foraging grounds. Any external lighting associated with the proposed extension must comply to the BCT's Good Practice Guide: Bats and Artificial Light at Night (Bevan et al., 2023).

5.4 Construction Impacts

During the construction phase, potential impacts include noise and vibration (particularly relevant if works are to be undertaken between November and March during the bat hibernation period).

6. Mitigation, Compensation, and Enhancement

6.1 Mitigation Hierarchy

All mitigation measures are proposed in accordance with the mitigation hierarchy (avoid, mitigate, compensate, enhance) as required by BS 42020:2013 and the CIEEM EcIA guidelines:

- **Avoid:** The proposed extension has been sited to avoid direct impacts on the most ecologically sensitive features of the site.
- **Mitigate:** Lighting design to follow BCT GN4 guidance; vegetation clearance to take place outside the peak bird breeding season between April & July.
- **Compensate:** Where any roost is displaced, licence conditions from Natural England will specify equivalent or enhanced roosting provision.
- **Enhance:** Biodiversity net gain measures to be incorporated into the scheme design (see Section 6.3).

6.2 Bat Mitigation Measures

The following mitigation measures are recommended for planning consent:

- **Retain:** Retain existing hedgerows along the adjacent property boundaries – avoid cutting hedgerows between April and July.
- **Limit/Prevent:** Vegetation removal required for construction.
- **Enhance:** Install bat boxes within the perimeter of the property
- **Lighting Scheme:** All external lighting to comply with BCT ALAN guidance.
- **Hibernation Period Restrictions:** Limit works affecting the building envelope or boundary hedgerows to be undertaken between November and March.

6.3 Biodiversity Net Gain and Enhancement

Under Schedule 7A of the Town and Country Planning Act 1990 (Environment Act 2021), a minimum 10% biodiversity net gain is required for most planning applications. A Biodiversity Net Gain assessment using the Biodiversity Metric 4.0 (or current version) should be submitted with the planning application, prepared by a suitably qualified ecologist.

The following biodiversity enhancement measures are recommended regardless of the statutory BNG requirement:

- Installation of a bat box within the perimeter of the property;
- Installation of a minimum of two bird boxes (species appropriate to site, e.g., swift bricks);
- Planting of hedgerow species along the front boundary to enhance bird roosting and bat commuting corridors/foraging grounds.

7. Conclusions and Recommendations

This Preliminary Ecological Appraisal has assessed the potential ecological impacts of a proposed residential extension at Karenza, Hook Lane, Aldingbourne, PO20 3TB in the context of the site's location within the Zone of Influence of the Singleton and Cocking Tunnels SSSI and SAC. The key conclusions are as follows:

- The site lies within the Zol of a nationally and internationally important bat roost designation; this places enhanced ecological responsibilities on the applicant and the competent authority.
- The most significant potential impact pathway is artificial light at night (ALAN), which has the potential to disturb bat commuting and foraging routes associated with the SAC bat populations. This can be mitigated by compliance to the Bat-sensitive external lighting scheme (BCT GN4).
- The building has Low potential to support roosting bats based due to the age of the property and construction.
- No other European Protected Species are considered likely to be significantly affected by the proposed development, subject to standard mitigation measures being implemented.
- Biodiversity net gain and ecological enhancement measures can be incorporated into the scheme design to deliver a positive outcome for biodiversity.

Subject to the implementation of the mitigation and enhancement measures described in this report, it is considered that the proposed development can be delivered without giving rise to a significant adverse effect on the integrity of the Singleton and Cocking Tunnels SAC, and in compliance with relevant wildlife legislation and planning policy.

8. References/Appendices

- Bat Conservation Trust (2023). Bats and Artificial Light at Night: Good Practice Guidance. 4th edition. BCT, London.
- Bat Conservation Trust (2023). Good Practice Guidelines for Bat Surveys. 4th edition. BCT, London.
- British Standards Institution (2013). BS 42020:2013 Biodiversity — Code of Practice for Planning and Development. BSI, London.
- CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland. CIEEM, Winchester.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit. JNCC, Peterborough.
- Natural England (2021). Supplementary Advice on Conservation Objectives for the South Downs Bat SAC. SSSI units relevant to Singleton and Cocking Tunnels. Natural England, Bristol.
- MHCLG (2024). National Planning Policy Framework. Ministry of Housing, Communities and Local Government, London.
- South Downs National Park Authority (2019). South Downs Local Plan 2014–2033. SDNPA, Midhurst.
- UK Government (2021). Environment Act 2021 (Schedule 7A — Biodiversity Net Gain). HMSO, London.
- UK Government (2017). Conservation of Habitats and Species Regulations 2017 (SI 2017/1012). HMSO, London.