



Little Callestock Farm,
Zelah, Cornwall

Preliminary Ecological Appraisal

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BE1039

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Prepared by:
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For:
Nick and Liz Down



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1. INTRODUCTION

Bright Environment Ltd was commissioned by Nick and Liz Down in October 2023 to undertake a preliminary ecological appraisal of land at Little Callestock Farm, Zelah, Truro, Cornwall, TR4 9HB. The appraisal is to inform a planning application to construct an agricultural workers' dwelling on the land.

The site includes part of an arable field enclosure and hardcore entranceway to the enclosure. There is a dwelling and agricultural building within the enclosure but outside the site boundary.

The location of the site is shown on Figure 1 and the survey area is defined in Figure 2. The proposed site layout is included as Figure 3.

2. AIM

The aim of the report is to undertake a Preliminary Ecological Appraisal of the proposed development. This involves the following:

Describe and evaluate the ecological baseline of the site.

Identify ecological impacts of the development.

Design mitigation measures for adverse impacts and identify any requirements for further survey.

Identify any residual impacts following mitigation.

Identify opportunities for enhancement of biodiversity.

3. METHODOLOGY

The assessment has been carried in accordance with:

the 'Guidelines for Preliminary Ecological Appraisal' and 'Guidelines for Ecological Impact Assessment in the UK and Ireland' produced by the Institute of Ecology and Environmental Management (CIEEM 2018 & 2017). However due to the small extent of the development and its minimal ecological impacts a reduced desk study has been undertaken (see section 3.1).

BS42020-2013 Biodiversity – Code of Practice for Planning and Development (British Standard, 2013)

Cornwall Planning for Biodiversity Guide (Cornwall Council, 2018)

The assessment is informed by UK and EU legislation, National and local planning policies.

The ecological baseline of the site was assessed through a desk study and site survey.

3.1 Desk study

A desk study to identify whether the site lies within a statutory designated site of nature conservation importance was undertaken. This involved the use of Magic Map (www.magic.gov.uk) and Cornwall Council Interactive Map (map.cornwall.gov.uk). Ecological records from the biological records centre were not obtained as the site is a field in active arable cultivation on where there is no impact on any hedges, trees or water bodies (CIEEM, 2017).

3.2 Site survey

A walk-over survey of the site was carried out on 7th November 2023 to:

- identify the habitats present within the site according to the Phase 1 Habitat Survey methodology (JNCC, 1993) and compile a list of dominant and rare vascular plants. A full species lists was not compiled.

- undertake a preliminary faunal survey / habitat assessment to identify the presence or the potential of the site to support legally protected species or species of conservation importance.
- assess the ecological 'importance' of any hedges using the criteria in the Hedgerows Regulations 1997 (if applicable).

The weather during the survey was patchy cloud, dry and breezy (10C). The survey area is indicated on Figure 2.

3.3 Baseline evaluation

Evaluation of the ecological baseline for the site was undertaken following the framework provided by CIEEM (2018). The biodiversity value of ecological features is assessed according to various characteristics; including non-statutory designations, rarity, threat, diversity (species-richness), connectivity and size of populations. Each ecological feature is assigned a biodiversity value at the following geographical scales:

- International or European
- National (England)
- Regional (South West)
- County
- Local

3.4 Identification of impacts and mitigation

Assessment of impacts was undertaken following the framework provided by CIEEM (2018). The impacts magnitude, duration, reversibility, likelihood and nature (positive or negative) are described. Consideration to cumulative impacts is also given. Impacts are then assessed as being significant or not significant upon each valued ecological feature.

Mitigation measures to avoid or reduce impacts are included. To ensure proposed mitigation measures are adopted; Bright Environment Ltd consulted with the owner and architect to agree achievable measures. Recommendations follow the mitigation hierarchy approach (CIEEM, 2018 and British Standard, 2013). The mitigation hierarchy seeks to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for residual impacts. Where possible mitigation has been designed with the aim of the development resulting in net gain (as specified in Cornwall Council, 2018). An assessment of residual impacts and whether net gain has been achieved is given at the end of this report.

3.5 Personnel

Author: This report was prepared by Dr Janine Bright. Dr Bright has been a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) since 2001 and has been a Chartered Environmentalist (CEnv) since 2005. Dr Bright has a BSc in Environmental Science and a PhD in Ecology. She has worked as an ecological consultant since 1999.

Surveyors: Dr Bright. Protected species licenses: dormice (2016-21698-CLS-CLS) and bats (2020-49235-CLS-CLS survey level 2).

Bright Environment Ltd is a registered practice with CIEEM.

3.6 Limitations

The survey was carried out in November. At this time of year, it is possible that some plants may have been missed. However, it is possible to assess the value of habitats and their potential to support notable floral species. This is not considered a notable limitation given that the habitats impacted by the proposals are bare ground and arable.

As ecological features can change over time it is recommended that this report is valid until December 2024. Access within the site was good and there are no limitations to report.

4. ECOLOGICAL BASELINE

4.1 Designated sites of nature conservation value

The site is not a designated site of nature conservation importance. There are designated sites within 1km of the site as follows:

Carrick Heaths Site of Special Scientific Interest (SSSI) is located 470m to the west of the site and Carnkeif Pond SSSI is located 950m west of the site. SSSIs are designated under s.28 of the Wildlife and Countryside Act 1981 to safeguard and enhance the characteristic plants, animals and physical features of our natural heritage (HM Government, 1981). They are also protected under the Countryside and Rights of Way Act 2000 (HM Government, 2000). As part of the planning process, Natural England is consulted over any proposed developments that may impact upon a SSSI. Natural England specify a list of operations likely to damage (OLDS) the special interest of a SSSI. Under the Acts, Natural England has to give written consent before any of these operations, or any other activities which may affect the SSSI, can be carried out.

Lelight and Crickmoor County Wildlife Site (CWS) is located 160m west of the site and Carnkeif Pond CWS is 640m northwest of the site. CWSs are designated by the Cornwall Wildlife Trust and Cornwall County Council. They are designated in accordance with a set of criteria (ERCCIS & CWT, 2010). Although not statutory designations, they are given greater protection through the planning process with respect to development. They are prime sites for wildlife in Cornwall, having been identified as supporting species, groups of species or habitats of at least county importance.

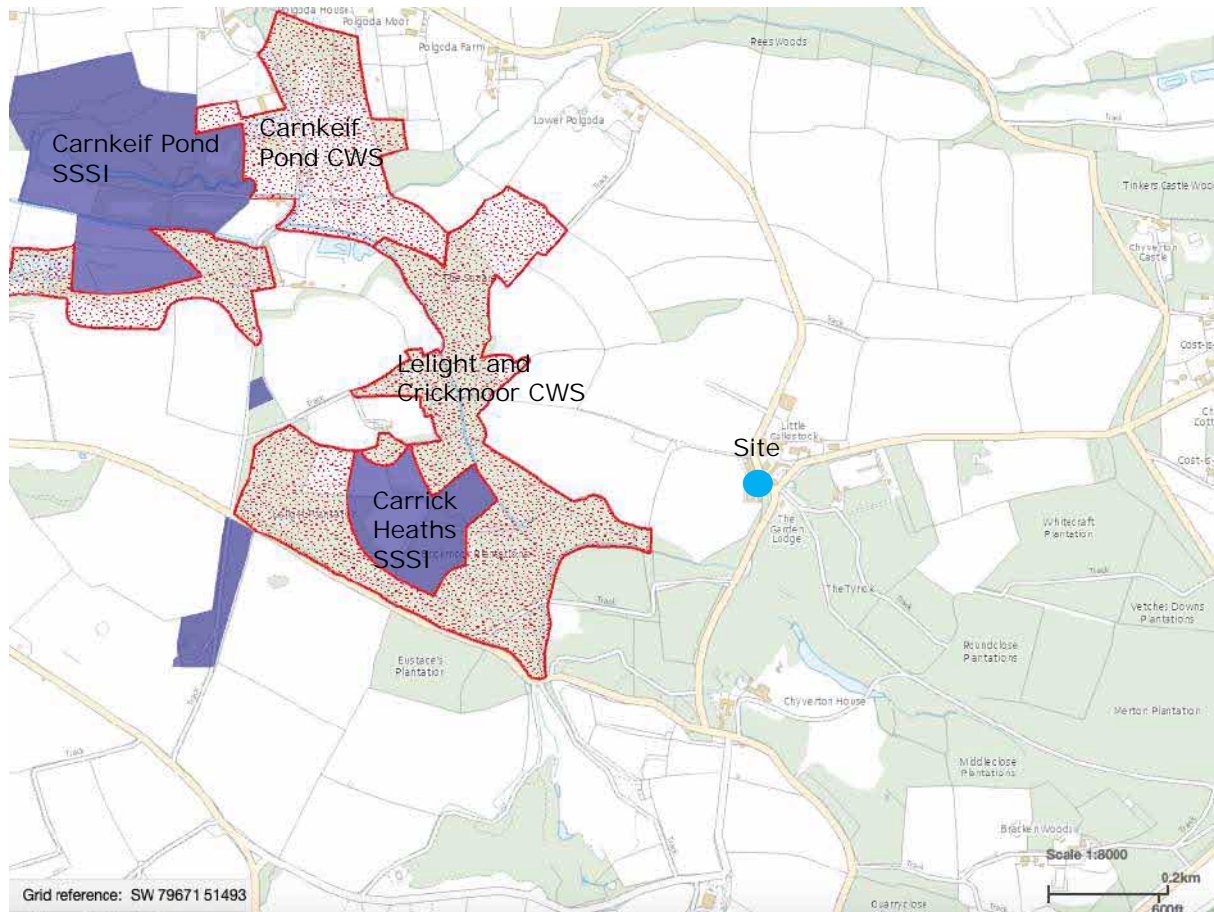


Figure 1. Designated sites of nature conservation importance within 1 km of the site.

4.2 Habitat Description and Evaluation

This section describes the habitats present, according to the standard Phase 1 notation (JNCC, 2010).

The site includes part of an arable field enclosure and hardcore entranceway to the enclosure (see photographs 1 and 3). There is a dwelling and agricultural building within the enclosure but outside the site boundary. An existing gateway will be used (see photograph 2).

Each of the habitats recorded during the Phase 1 Habitat Survey are described below and their distribution is shown on Figure 2. The dominant species recorded within each habitat are given together with any notable floral species observed.

4.2.1 Bare ground

Much of the site is bare ground comprising compacted hardcore and gravel. This is not of biodiversity value. There is a line of large stones marking a change in slope down to the arable land.

4.2.2 Arable

The field is currently a recently sown Italian ryegrass and red clover silage ley. Other species within the ley include ribwort plantain and broad-leaved dock. The habitat is species poor and not of biodiversity value.

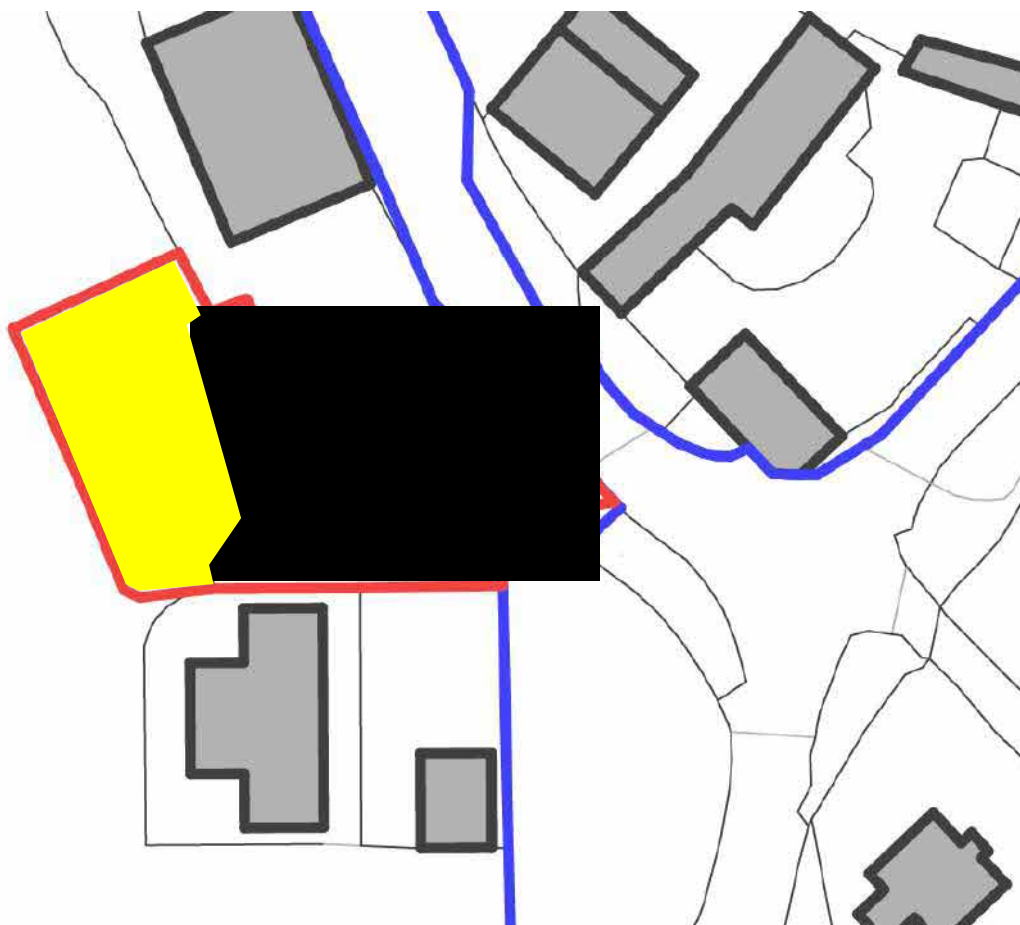


Photograph 1. View from west boundary towards entrance. Photograph 2. Entrance way.



Photograph 3. View from entrance looking west over site.

Figure 2 Phase 1 habitat distribution.



Key:

-  Site boundary
-  Arable
-  Bare ground
-  Boundary stones

4.3 Floral Species Description and Evaluation

4.3.1 Higher Plants

No notable higher plants were observed. The site is not of value for higher plants.

4.3.2 Lower Plants

The site does not have the potential to support notable assemblages of lower plants.

4.3.3 Invasive non-native species

No invasive weeds were recorded.

4.4 Faunal Species Description and Evaluation

4.4.1 Badgers

No evidence of badgers was observed and it is unlikely that any evidence was overlooked.

Although relatively common in Cornwall, the badger is afforded a high degree of legal protection. Badgers and their setts are protected under the Protection of Badgers Act 1992 (HM Government, 1992), and are also listed in Schedule 6 of the Wildlife & Countryside Act 1981 (as amended).

4.4.2 Bats

The site does not include any potential bat roost features and does not include habitats that have the potential to be of value for foraging or navigating bats.

All British bat are European protected species (EPS). EPS are protected by national law under Conservation of Habitats Regulations 2017, the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. As a result of this legislation it is an offence to:

Deliberately capture, injure or kill an EPS;

Intentionally or recklessly disturb an EPS in its place of rest/ breeding site;

Intentionally or recklessly damage, destroy or obstruct access to a EPS place of rest/ breeding site (even if the EPS is not occupying the resting / breeding place at the time);

Possess or sell or exchange an EPS (dead or alive) or part of an EPS.

Barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe bats are priority species for conservation on the UK BAP and protected under the NERC Act 2006. Barbastelle, pipistrelle, greater and lesser horseshoe bats are county priority BAP species (CBI, 2004).

4.4.3 Otters

There are no watercourses or water bodies within the site and the site does not offer suitable habitat for otter. No evidence of otter or otters 'places of rest' were found during the survey and the site is not considered to be of value for otter. Otter is a European protected species. Otter is also UK and Cornwall BAP priority species and protected under the NERC Act 2006.

4.4.4 Dormice

There are no habitats with the potential to support dormice. Dormouse is a European protected species (EPS). EPS are protected by national law under Conservation of Habitats Regulations 2017, the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. As a result of this legislation it is an offence to:

Deliberately capture, injure or kill an EPS;

Intentionally or recklessly disturb an EPS in its place of rest/ breeding site;

Intentionally or recklessly damage, destroy or obstruct access to a EPS place of rest/ breeding site (even if the EPS is not occupying the resting / breeding place at the time);

Possess or sell or exchange an EPS (dead or alive) or part of an EPS.

Dormouse is also UK and Cornwall BAP priority species and protected under the NERC Act 2006.

4.4.5 Hedgehog

There are no habitats with the potential to support hedgehogs. Hedgehogs are listed as a priority species for conservation on the UK BAP and are protected under the NERC Act 2006. They hibernate in log / leaf / rubble piles, at the base of Cornish hedges and under tree roots from October to March inclusive. They are listed on Schedule 6 of Wildlife & Countryside Act 1981 (as amended), which protects them from being killed or taken by certain methods under Section 11(1) of the Wildlife and Countryside Act 1981.

4.4.6 Invertebrates

The habitats within the site do not have the potential to support notable invertebrate assemblages.

4.4.7 Birds

The habitats do not have the potential to support notable bird assemblages. There is low potential for ground nesting birds within the arable crop, although it is considered unlikely that birds would choose to nest so close to the dwelling and entrance over a less disturbed location within the field enclosure. The nests (while in use or being built) and eggs of all wild birds are protected against taking, damage and destruction under the Wildlife and Countryside Act 1981 (as amended). It is also an offence to kill, injure or take any wild bird. The birds listed under Schedule 1 of the Wildlife and Countryside Act are afforded additional protection against intentional or reckless disturbance whilst building a nest or in or near a nest containing eggs or dependent young.

4.4.8 Reptiles

The bare ground does not offer ant refuges for reptiles and it is considered unlikely that reptiles will use the recently plough arable land. The common reptiles that occur in Cornwall (adder, slow worm, grass snake and common lizard) are UK BAP priority species and are partially protected under Schedule 5 (section 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended) and protected under the NERC Act 2006. Cornwall is considered a UK stronghold for adder. This legislation makes it an offence to kill and/or injure reptiles and puts a duty on local authorities to have regard to list group of principle species.

4.4.9 Amphibians

The site does not offer suitable breeding habitat for amphibians as there are no watercourses or water bodies. The habitats present are unlikely to be of value to amphibians during the terrestrial stages of their life cycle. The common amphibians that occur in Cornwall (common toad, common frog and smooth newt) are protected under Schedule 5 (section 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to kill and/or injure reptiles. Common toad is listed as a UK BAP Priority species due to its nationally declining population, which puts a duty on local authorities to have regard to this principal species.

4.5 Overall Site Evaluation

The site is not a designated site of nature conservation importance. There are designated sites within 1km of the site as follows:

Carrick Heaths Site of Special Scientific Interest (SSSI) is located 470m to the west of the site

Carnkeif Pond SSSI is located 950m west of the site.

Lelight and Crickmoor County Wildlife Site (CWS) is located 160m west of the site

Carnkeif Pond CWS is 640m northwest of the site.

The site includes part of an arable field enclosure and hardcore entranceway to the enclosure. An existing gateway will be used. None of the habitats are of biodiversity value.

The potential of the site to support notable or legally protected species was assessed and can be summarised as follows:

The habitats do not have the potential to support notable bird assemblages. There is low potential for ground nesting birds within the arable crop, although it is considered unlikely that birds would choose to nest so close to the dwelling and entrance over a less disturbed location within the field enclosure.

5. ECOLOGICAL IMPACTS, MITIGATION AND MONITORING

5.1 Details of proposed works

It is proposed to construct a dwelling on the land. The existing site entrance will be used. The proposed site layout is included as Figure 3.

The likely ecological impacts of the proposed development are considered below, along with suitable mitigation and requirements for further survey and monitoring. An assessment of the residual impacts is given at the end of this section.

5.2 Impacts to designated sites

The proposed development will not impact upon any designated sites of nature conservation importance or the features for which they were designated.

5.3 Loss of Habitats

The development will lead to loss of bare ground and a small area of arable (young silage ley) habitat. None of these habitats are of biodiversity value.

5.4 Habitat gain and enhancement

In an effort to achieve biodiversity gain the development will include the following habitat creation and enhancement:

35m of new Cornish hedge will be created to form the south and west boundaries of the site (see Figure 3). This will be a stone and earth hedge and will be planted with native shrubs. To preserve landscape character the new hedge will match the style of existing and neighbouring hedges. Stones for the new hedge will be of closely matching geology, size and character and stones will be coursed in the style of neighbouring hedges. The top of the hedge will be planted with a diverse mix of native shrubs; suggested species include hazel, holly, hawthorn, blackthorn, European gorse, elder, dog rose, field maple and honeysuckle. Planting will avoid periods of drought. By employing native species, the new hedgerows will comply with Cornwall Councils adopted Pollinator Action Plan (Cornwall 2023).

Two standard trees will be included in the new garden (see Figure 3). This together with the proposed new hedge sections above will meet Cornwall Council's adopted Climate Emergency Development Plan Document (CEDPD, 2023). This requires all major developments to provide, through the retention of existing and / or the establishment of new tree canopy coverage equal to at least 15% of the site area (excluding areas of the site that are priority habitat types). Minor developments (such as this) should include where appropriate and practicable provision of new canopy.

In compliance with the Biodiversity Supplementary Planning Document (SPD) and to achieve biodiversity gain the new dwelling will include one bee brick, and integral bird box and one integral bat box. The bee brick will be installed on the south-facing wall 1-2m above ground level. Bee bricks contain multiple cavities for bees to lay their eggs and are integral to a building (see photograph 4). The bat box will be installed flush with the wall surface (as shown in Photograph 5) and sited near the roof in a dark location. The 'Green and Blue' bat block works well for rendered or clad finish and the woodstone box is appropriate for stone facing. An integral bird feature (see photograph 6) will be installed flush with the wall surface and will be located under or close to the roof, on a sheltered side of the building.

Landscaping schemes should, where possible, seek to use native species of local provenance. They should aim to increase structural diversity within the site, with areas of short grass,

long grass, shrubs and trees. Where possible, landscaping schemes should include log and stone piles/features, which are of value for wildlife.

It is proposed to include a stone-faced retaining wall on the north boundary. Two bee bricks will be included in this south facing wall.



Photograph 4. Example bee brick



Photograph 5. Sparrow terrace and two example woodstone nest boxes.



Photograph 6. Green and Blue' bat block and woodstone bat box `

5.5 Disturbance to Species

There is low potential for ground nesting birds within the arable crop, although it is considered unlikely that birds would choose to nest so close to the dwelling and entrance over a less disturbed location within the field enclosure. A search for nesting birds will be carried out prior to construction activities commencing. If nesting birds are found works will be delayed until dependant young have fledged.

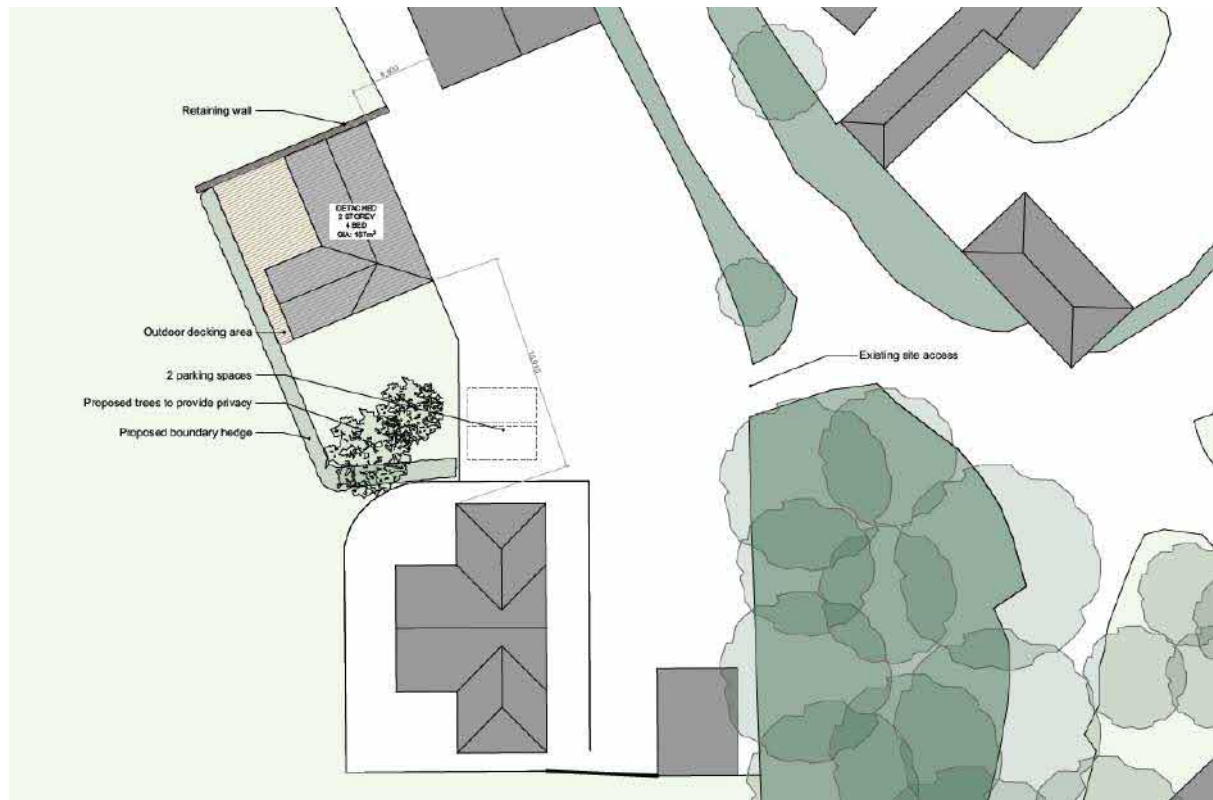
5.6 Further Surveys

No further surveys are required.

5.7 Residual Impacts

If all of the mitigation discussed above is implemented successfully, then it is considered likely that the residual impacts of the development will be minor positive due to the net gain of 35m of Cornish hedge, new retaining wall with integral bee bricks, integral bee brick, bird feature and bat box in the new dwelling and two standard trees.

Figure 3. Proposed site plan and ecological mitigation.



- Create 35m of new Cornish hedge planted with a diverse range of native shrubs
- Plant two tree standards.
- New dwelling to include one bee brick, an integral bird box and one integral bat box.
- Retaining wall to include integral bee bricks

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Appendix 1 Summary of relevant legislation and policies

Protection of Badgers Act (1992)

Badgers are protected by the Protection of Badgers Act (1992) and the Wildlife and Countryside Act 1981 (as amended), Schedule 6. It is an offence to intentionally kill, capture, injure or ill-treat any badger and to obstruct, destroy or damage a badger sett or disturb badgers within a sett.

Hedgerow Regulations 1997

Any hedgerows classified as 'important' under the 1997 Hedgerows Regulations cannot be removed without a Hedgerow Removal Notice issued by the relevant Local Authority unless previously approved as part of a planning permission.

National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) sets out national planning policy that is committed to minimising impacts on biodiversity and providing net gains in biodiversity where possible. Under NPPF, local planning authorities have an obligation to promote the preservation, restoration and recreation of Priority habitats, ecological networks and the protection and recovery of Priority species as identified under the Natural Environment and Rural Communities Act (2006). Section 118 of the NPPF also requires enhancements for biodiversity. The NPPF also recognises the wider benefits of ecosystem services.

Natural Environment and Rural Communities Act (NERC) 2006

The Natural Environment and Rural Communities Act (NERC) requires all public authorities, including planning authorities to have regard to the purpose of conserving biodiversity whilst carrying out their normal functions. The NERC Act includes lists of Habitats and Species of Principal Importance (HPIs and SPIs) to the conservation of biodiversity (Section 41) that should be considered in the implementation of duties under the NERC Act. In line with government circular 06/2005 (ODPM, 2005) which provides supplementary guidance, the presence of a Priority species may be a material consideration when a planning authority is considering a development proposal.

The HPI and SPI listed under the NERC Act are largely also UK BAP Priority habitats and species. The UK Post-2010 Biodiversity Framework succeeds the UK BAP partnership; though its list of Priority species and habitats agreed under the UK BAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services'.

The Wildlife and Countryside Act 1981 (as amended) (WCA)

The Wildlife and Countryside Act 1981 (as amended) is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part 1 of the Act deals with the protection of wildlife.

Amended by the Countryside and Rights of Way (CRoW) Act 2000

Most European Protected Species are now covered under the Conservation of Habitats and Species Regulations (see below) but some activities are still covered by the WCA such as obstructing access to a bat roost.

The WCA prohibits the release into the wild of non-native animal species listed on Schedule 9. It is also an offence to 'cause the spread' of plants listed on Schedule 9.

All British birds, their nests and eggs are protected in law. It is an offence to deliberately take, kill or injure any wild bird or to take, damage, or destroy any nest or egg of any wild bird. The birds listed under Schedule 1 of the Wildlife and Countryside Act are afforded additional protection against intentional or reckless disturbance whilst building a nest or in or near a nest containing eggs or dependent young.

All species of reptile and amphibian are protected by the WCA. Under Schedule 5, Reptiles such as adder, common lizard, slow worm and grass snake are protected against intentional killing, injuring or selling, and smooth newt, palmate newt, common frog and common toad are protected only against sale. Species such as the smooth snake, sand lizard and great crested newt are afforded additional protection by European legislation as described below. These species are thought to be absent from Cornwall (apart from one site in north Cornwall where sand lizard has been reintroduced).

A number of invertebrates, including the white-clawed crayfish, are protected under Schedule 5 of the Act.

The CRoW Act also specifies the duty of Local Authorities to further the conservation of listed (UK BAP priority) habitats and species.

Conservation of Habitats and Species Regulations 2010 (as amended)

The Conservation of Habitats and Species Regulations 2010 (as amended) are the means by which the EC Habitats and Species Directive (92/43/EC) is transposed in England and Wales and update the legislation and consolidate many amendments which have been made to the Regulations since they were first made in 1994.

These Regulations provide protection for European Protected Species (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts and otters. The Conservation of Habitats and Species (Amendment) Regulations 2012 placed new duties on public bodies to help "preserve, maintain and re-establish habitat for wild birds".

The designation and protection of domestic and European Sites e.g. Sites of Special Scientific Interest and Special Areas of Conservation (SAC) also falls within these Regulations.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in carrying out their duties i.e. when determining a planning application.

European Protected Species (EPS) occurring in Cornwall: Bats, Dormice and Otter are protected under both the Conservation Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended), it is an offence to:

Intentionally kill, injure or capture an EPS;

Intentionally or recklessly disturb an EPS;

Intentionally or recklessly damage, destroy or obstruct access to a place of shelter or breeding (for example, bat roosts, hedgerows used by dormice), and this applies regardless of whether the species is actually present at the time (for example, a bat roost used in the winter for hibernation is protected throughout the year, even during the summer when it is not occupied).

Possess or transport a bat or any part of an EPS, unless acquired legally;

Sell, barter or exchange bats, or parts of an EPS.

Intentionally handle a wild EPS or disturb an EPS whilst using a place of shelter/ breeding unless licensed to do so by the statutory conservation agency (Natural England).

Town and Country Planning Environmental Impact Assessment Regulations 2017

These regulations apply the amended EU directive "on the assessment of the effects of certain public and private projects on the environment" (usually referred to as the 'Environmental Impact Assessment Directive') to the planning system in England.

Case Law

There are several case laws in Britain relating to the duty of developers and planning authorities with respect to wildlife, resulting in several key principles summarised in the table below:

Case / Appeal	Providing support for
Morge v Hampshire County Council (2011)	'Disturbance' under the Conservation Regulations 2010 applies to an activity likely to impact negatively on the local population of a European Protected Species.
R v Cheshire East Council 'The Woolley Case' (2009)	Regarding European Protected Species, Local Authorities must apply the 'three tests' under the Conservation Regulations 2010 when deciding on planning applications: that there is no satisfactory alternative, there is an appropriate reason for the development, and that the development will not affect the favourable conservation status of protected species present.
APP/P9502/A/08/2070105 (Appeal decision, Brecon, 2008)	Para 18: Local Planning Authorities cannot condition provision of a mitigation scheme; detailed mitigation must be provided prior to determination.

APP/C0820/A/07/2046271 (Appeal decision, Padstow, 2007)	Para 18: Full survey information must be provided prior to determination; not just for protected species, but also for BAP species (in this case corn buntings).
R v London Borough Council Bromley (2006)	Para 30: Environmental Impact Assessment required at outline planning stage.
R v Cornwall County Council 'The Cornwall Case' (2001)	Surveys for protected species cannot be conditioned; must be undertaken prior to determination.