



Preliminary Ecological Appraisal

Report prepared for: Mr Ed Shelton

Knockdown Farm

Knockdown

Tetbury

Gloucestershire

GL8 8QY

September 2025

Cotswold Environmental Ltd

Office Address: Wateredge, Fostons Ash, The Camp, Stroud, Gloucestershire GL6 7ER

T: [REDACTED]

E: info@cotswoldenvironmental.co.uk

W: www.cotswoldenvironmental.co.uk

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Methods used to prepare this report, including those carried out in the field followed The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

Report Author:	Jason Skinner (NE Class 2 Bat Survey licence 2020-50774-CLS-CLS, NE Barn Owl licence number 2025-13085-CL29-OWL)
Report Reviewer:	Tom Charlton MSc MRSB (NE Class 2 Bat licence number 2018-34622-CLS-CLS, Class 1 GCN licence number 2020-47806-CLS-CLS, NE Barn Owl licence number CL29/00581)
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1 INTRODUCTION

- 1.1 This report provides the results of a Preliminary Ecological Appraisal undertaken at Knockdown Farm, Knockdown, Tetbury, Gloucestershire GL8 8QY (central Ordnance Survey (OS) Reference ST 83917 88405).
- 1.2 Development proposals are described as the construction of a new farmhouse to the south of the existing dwelling.
- 1.3 The findings included in this report are based on a survey undertaken during September 2025 by Cotswold Environmental Ltd. The purpose of the survey was to undertake an appraisal of the site for its potential ecological value to notable and protected wildlife, and to look for evidence of such species. The survey results provide information to determine the likely ecological impact the proposed development will have on wildlife species, and to inform the level of further survey effort and mitigation required to comply with relevant nature conservation policies and legislation. The evaluation and findings in this report can be used by Cotswold District Council in their view of a planning application. Survey results detailed within this report should be considered valid for a period of 18 months from the survey date.
- 1.4 The National Planning Policy Framework (NPPF) (December 2024) sets out the government planning policies for England and how they should be applied. Chapter 15: Conserving and Enhancing the Natural Environment, is of particular relevance to this report as it relates to ecology and biodiversity¹. The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
- 1.5 Knockdown Farm is located to the immediate south of the A433, between the villages of Westonbirt and Didmorton. The site location is shown in Fig. 1.
- 1.6 All survey and assessment work was completed in accordance with official assessment guidelines² and largely followed that recommended by the Chartered Institute for Ecology and Environmental Management (CIEEM)³ and follows the British Standard Code of Practice⁴.

Survey Objectives

- To determine suitability for protected species
- Ascertain evidence of protected species

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

² Collins J (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edn. Bat Conservation Trust, London.

³ CIEEM (2017) Guidelines for Ecological Report Writing. CIEEM, Winchester.

⁴ British Standards Institution (2013) BS 42020:2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

- Determine potential ecological impacts the proposed development will have on protected species.
- Inform the level of further survey effort that is required.

2 METHODOLOGY

Desk Study

- 2.1 A records search was undertaken using freely available desktop resources such as the Multi-Agency Geographic Information for the Countryside⁵ (MAGIC) website. MAGIC was used to search for records of designated sites, habitats and granted European Protected Species Licenses (EPSLs) within a 2km radius. Google Earth⁶ was also used to study the nearby landscape.

Field Survey

- 2.2 Ecological consultant Jason Skinner (NE Class 2 Bat Survey licence 2020-50774-CLS-CLS, NE Barn Owl licence number 2025-13085-CL29-OWL) carried out a field visit on Wednesday 10th September 2025.

Relevant surveyor experience

- 2.3 Jason Skinner has nine years professional ecological experience, primarily involved with bats and reptiles through consultancy and assisting on research projects. Experienced with small-scale and large-scale development projects and involvement in the management and supervision on multiple bat mitigation licences. Co-author of peer-reviewed research papers on reptiles and amphibians. Member, BBCARG and Wiltshire Bat Group.
- 2.4 The field visit involved a walkover using visual encounter survey techniques. The dominant vegetation structure was assessed, allowing habitats on site to be valued for their ecological importance to protected wildlife. Habitats were classified using the UK Habitat Classification Version 2.0 (UKHab V2)⁷, which provides a standardised framework for describing habitat types in the UK.
- 2.5 Binoculars were also used to scan for features likely to support protected species. All protected species were considered during the assessment and all wildlife species were recorded. The work was completed largely following methodologies set out by the Chartered Institute for Ecology and Environmental Management (CIEEM) and British Standard Code of Practice.

⁵ Multi-Agency Geographical Information for the Countryside (MAGIC). Crown Copyright and database rights [2015]. Ordnance Survey 100022861. Available at: <http://www.magic.gov.uk/>

⁶ https://www.google.co.uk/intl/en_uk/earth/

⁷ UKHab Ltd (2023). UK Habitat Classification Version 2.0. Available at: <https://ukhab.org/>

Species

- 2.6 All protected species were considered during the survey. Only those considered likely to utilise the site are mentioned in this report.

Bats

- 2.7 Survey effort was completed in line with official assessment guidelines⁸ and largely followed that recommended by the Chartered Institute for Ecology and Environmental Management (CIEEM)⁹ and British Standard Code of Practice¹⁰. The assessment followed the standard methodology. The site was searched using visual encounter survey techniques. Potential bat movement corridors and movement barriers were assessed and noted. During the site visit, where possible, all suitable areas were examined for evidence of bats.

- 2.8 Trees deemed suitable for use by roosting bats were identified at species level, their specific features were photographed, and a GPS recording was mapped. Notable bat roosting features may include:

- Rot holes
- Woodpecker holes
- Horizontal and/or vertical cankers in the stems of branches
- Knot holes
- Scar crevices
- Loose/flaking bark
- Covering of dense ivy
- Bat boxes
- Any other features deemed suitable for roosting bats

Table 1: Guidelines summary for assessing potential bat roost suitability

Suitability	Description of building, tree or structure
None	The building, tree, or structure has no features with the potential to support roosting bats and is entirely unsuitable. This includes structures that are fully sealed, modern, well-lit, and/or in exposed locations with no access points, no internal voids, and high levels of human disturbance.
Negligible	The building or tree has minimal features (e.g. small gaps or cracks), but these are assessed as highly unlikely to be used by bats due to their condition, location, or lack of access to suitable internal voids.

⁸ Collins J (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edn. Bat Conservation Trust, London.

⁹ CIEEM (2017) Guidelines for Ecological Report Writing. CIEEM, Winchester.

¹⁰ British Standards Institution (2013) BS 42020:2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.
Confirmed roost	Evidence of bats or use by bats found.

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Dormouse

- 2.10 Hedgerows, scrub and treelines within and bordering the surveyed site were assessed for their suitability to support breeding populations of hazel dormice *Muscardinus avellanarius*, as well as suitability to provide connectivity to nearby suitable breeding habitats.

European Hedgehog

- 2.11 The site was assessed for its suitability to support European hedgehog *Erinaceus europaeus*, a UK Biodiversity Action Plan species and Species of Principal Importance under Section 41 of the NERC Act 2006. Features such as hedgerows, scrub, dense vegetation, log piles, and gaps under fencing were checked for signs of hedgehog activity, including droppings, tracks, or nests. Habitat connectivity with surrounding green spaces was also considered to assess the site's value for hedgehog movement.

Reptiles and Amphibians

- 2.12 Habitats were assessed for their potential to support reptiles and amphibians, including great crested newt *Triturus cristatus* (GCN). Waterbodies typical of those utilised for breeding and foraging activity, and terrestrial refugia suited to sheltering and basking such as waste heaps and plastic/metal/timber sheeting were noted if present (see limitations). In addition, any dense vegetation including tall ruderal and scrub that is connected to hedgerows and linear tree features was inspected during the assessment.

Nesting Birds

- 2.13 The survey also included an internal and external inspection of the surveyed building for evidence of common nesting birds as well as notable and protected species. Inside the building, artificial light was used to search for birds, dead birds, dead chicks, nesting material and eggs.
- 2.14 All accessible elements of the surveyed building containing nesting potential were checked to see if the development would have any adverse effects on nesting birds. The active nests of all wild birds are protected under the Wildlife & Countryside Act 1981 (as amended). An active nest is one that is being built, containing eggs or chicks, or on which fledged chicks are still dependent. Birds within Schedule 1, such as barn owl *Tyto alba*, are also protected from disturbance during the nesting period.
- 2.15 The presence of notable and protected bird species and any signs indicative of their past and present use was taken into consideration during the inspection of the building. Likely perches and nesting locations were checked, and all ledges and cavities were examined for nesting debris where accessible.

Limitations

- 2.16 The absence of evidence for a particular species does not confirm its absence from the site. Wildlife, including protected species, can be elusive or transient, and may use habitats or structures intermittently, meaning they can go undetected during a single visit.
- 2.17 Evidence of bat activity, such as droppings or feeding remains, can degrade quickly due to weathering or be removed by wind or rain, particularly around external building features. Therefore, the absence of such signs should not be taken as confirmation that bats are not present.
- 2.18 Many UK bat species are crevice-dwellers and can roost in small or concealed spaces such as gaps under roof tiles, behind fascia boards, or within wall cavities. These features are often inaccessible and cannot always be fully inspected during a Preliminary Roost Assessment (PRA).
- 2.19 For Health & Safety purposes the roofs of the buildings were assessed from ground level.
- 2.20 Three ponds were located within a 250 m radius of the site. Access to these waterbodies was not obtained for Habitat Suitability Index (HSI) due to lying on private land, however, as the ponds lie the other side of the properties northern boundary wall and the A433 – a road that will likely serve as a dispersal barrier to amphibians during the terrestrial stage of their lifecycle and the site offers overall poor terrestrial habitat for great crested newt, this was not considered significant and did not affect the conclusions made within this report.
- 2.21 Local biological records were not obtained. Given the modest scale and scope of the proposed development, the lack of data from the Local Environmental Records Centre (LERC) is not considered likely to materially affect the conclusions drawn in this report.

- 2.22 Other than those listed above, the survey is not considered unduly constrained, and findings are considered robust within the limitations of the single visit and seasonal timing.

3 RESULTS

Desk Study

Designated sites

- 3.1 According to the MAGIC website, the site lies within the Cotswolds Area of Outstanding Natural Beauty (AONB) although no further statutory or non-statutory designated sites exist within a 2 km radius and no internationally designated sites, such as special areas of conservation (SACs) designated for their bat populations, exist within a 10 km radius of the site.

Granted European Protected Species Licences (EPSL) within a 2km radius

- 3.2 According to the MAGIC website, a single EPSL was granted in 2011 for common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *P. pygmaeus* bats at a site located 1.7 km to the north-east of the property. No EPS licences have been granted for other protected species although two GCN Class Survey Licence returns have been submitted from two sites located 1.7 km north-east and one positive Pond Surveys (2017-2019) for GCN was identified at a site located 1.4 km to the east.

Surrounding Habitats

- 3.3 The site is located within a rural agricultural landscape, immediately south of a minor road bordered by mature broadleaved trees. The surrounding environment is characterised by a mosaic of pastoral and arable farmland, with fields demarcated intermittently by hedgerows. While much of the immediate landscape comprises intensively managed agricultural land, several notable habitats of ecological importance occur within the broader 2 km study area.
- 3.4 A large expanse of Deciduous Woodland (Priority Habitat) lies approximately 500 m north of the site. This woodland complex includes multiple interconnected woodland blocks—namely Westonbirt Arboretum, Silk Wood, Didmarton Grove, and Hawkesbury Spinney—and contains areas listed on the Ancient Woodland Inventory as Ancient Semi-Natural Woodland and Ancient Replanted Woodland. Portions of this woodland complex are also designated as Woodpasture and Parkland (Priority Habitat).
- 3.5 Further notable habitats include four distinct parcels of Lowland Meadow (Priority Habitat) located approximately 1.5 km to the east of the site. The River Avon, situated 1.5 km to the southwest, contributes to the broader ecological network, although it is considered hydrologically and topographically disconnected from the site. No additional Priority Habitats were identified within the 2 km search radius.

Local waterbodies

- 3.6 Through the use of aerial imagery and the MAGIC website, three ponds were identified within a 250 m radius of the site boundary, see Table 2 below.

Table 2: Pond Locations within a 250 m radius

Pond	Distance from Site (Metres)	Direction	Grid Reference	Notes
1	178	North-East	ST 84006 88558	Not accessed – located on private land (see limitations)
2	195	North-East	ST 83961 88596	Not accessed – located on private land (see limitations)
3	245	North-East	ST 83996 88636	Not accessed – located on private land (see limitations)

Field Survey

- 3.7 Weather conditions during the daytime assessment are shown in the below table. Temperatures were recorded onsite using an Elitech RC-51 Temperature Logger.

Table 3: Weather conditions during Preliminary Ecological Appraisal

Date	Start	Finish	Temp °C	Wind	Cloud %	Rain	Notes
10/09/2025	10:30	12:15	17	Calm	86	Dry	N/A

Onsite Habitats

- 3.8 The site comprises a rural residential property located within a mixed-use agricultural setting. The main dwelling is situated at the northern extent of the property, with associated outbuildings and stables positioned to the east. These built structures surround an area of hard standing which forms a functional yard space. A lawned garden lies directly to the south of the buildings, with a gravel track extending from the hard standing and running through the lawned area towards the paddocks.
- 3.9 The northern boundary of the property is defined by a high stone wall and is accessed via two gated entrances from the adjacent road. Scattered trees and shrubs are present throughout the garden and around the residential curtilage, including along a section of the western boundary. To the south of the lawned garden, the land transitions into paddocks of equestrian-grazed pasture, which are enclosed by timber post-and-rail fencing. A fenced menage is present in the southwestern corner of the survey area, surfaced with a fibre mix suitable for equestrian use. A line of Lawson's cypress *Chamaecyparis lawsoniana* trees borders the western edge of the menage, although these trees fall outside the ownership boundary.

- 3.10 No priority habitats exist within the survey area and no ponds are to be destroyed or impacted by the proposed works. The individual habitat types recorded at the site are described under the sub-headings below, using the UK Habitat Classification (UKHab) framework, with the location and extent of each illustrated in the Habitat Map in Figure 2.

u1b5 – Building

- 3.11 The principal built structure within the survey boundary is a two-storey detached residential dwelling (B1) constructed from natural stone. The building features a pitched roof clad in imitation stone tiles and two chimney stacks. Fenestration includes timber-framed windows and doors of simple, traditional design. A timber-framed and glazed conservatory adjoins the southern (rear) elevation. Internally, the roof structure is subdivided into three enclosed loft spaces, accessed via ceiling-mounted hatches. No soffits, fascias, or bargeboards are present at the eaves or gable ends. The dwelling is scheduled for internal reconfiguration, although this will not affect the roof structure or loft voids. The conservatory is proposed for removal as part of the development works.
- 3.12 Three additional barn structures are present within the survey boundary, though no impacts to these buildings are proposed as part of the scheme.

u1b – Developed land, sealed surface

- 3.13 Concrete hardstanding is present at the northern extent of the property, forming a yard area to the east of the main dwelling. This sealed surface provides vehicular access to the adjoining stables and outbuildings. A paved patio area adjoins the southern elevation of the dwelling, directly linking to the surrounding lawn.

u1c – Artificial unvegetated unsealed surface

- 3.14 Permeable gravel substrate covers a track that leads southwards from the yard through the central section of the site and across the lawned garden. In the southwestern corner of the property, a rectangular riding menage surfaced with an artificial fibre mix is present. These areas represent unsealed artificial surfaces which support no vegetation.

g4 – Modified grassland

- 3.15 The lawned areas located to the south of the buildings are maintained as short, amenity grassland with an average sward height of less than 5 cm. These areas are regularly mown and species-poor, dominated by perennial ryegrass *Lolium perenne*. Forb diversity is low, with only occasional presence of white clover *Trifolium repens*, daisy *Bellis perennis*, and creeping buttercup *Ranunculus repens*. An undefined portion of this grassland is expected to be lost as part of the proposed construction works.

Vegetated garden

- 3.16 A raised planter is situated within the central lawned area, containing a small mix of herbaceous species including common mullein *Verbascum thapsus*, lambsquarters *Chenopodium album*, and carrot *Daucus* sp. Additional ornamental planting is present across the grounds, primarily in the form of scattered

woody shrubs such as butterfly-bush *Buddleja davidii* and bay laurel *Laurus nobilis*, particularly concentrated along the western boundary and between the mature trees near the centre of the site.

Scattered individual trees

- 3.17 19 trees are present within the survey boundary, distributed across the garden, hardstanding, and boundary areas. These range from recently planted saplings to mature specimens, with diameter at breast height (DBH) measurements ranging from 2 cm to 35 cm. Species recorded include ash *Fraxinus excelsior*, English oak *Quercus robur*, crab apple *Malus sylvestris*, domestic apple *Malus domestica*, plum *Prunus domestica*, silver birch *Betula pendula*, white poplar *Populus alba*, and blue spruce *Picea pungens*. The most mature specimens, including silver birch and white poplar, are located near the centre of the site. All trees are to be retained under the current development proposals.

Notable Flora

- 3.18 No notable plant species were identified during the survey and no Schedule 8 or 9 plant species of the Wildlife and Countryside Act 1981 (as amended) were identified on site (see limitations). An indicative plant species list is provided in Table 4: Plant Species Recorded Onsite. Site habitats are shown in Fig 2: Site Map.

Species

Bats

- 3.19 The residential dwelling (B1) was subject to a detailed internal and external inspection for signs of bat roosting activity. Externally, the building was generally in good condition. The stone walls were well pointed, with no visible gaps in the mortar. A small number of potential access points were identified beneath some imitation stone roof tiles, along with four vented ridge tiles that featured accessible gaps although no bat droppings, staining, feeding remains, or other field signs were identified during the external survey.
- 3.20 Internally, all three individual loft spaces were accessed via ceiling hatches and thoroughly inspected. Each loft was of limited height (approximately 1 m) and contained exposed timber rafters, a plastic roofing membrane in good condition, and a thick layer of insulation at the loft floor. The underlining membrane was fully intact and showed no signs of tearing or daylight ingress that might indicate entry points. The vented ridge tiles were found to be backed internally by wire mesh, effectively preventing access to bats. No evidence of roosting bats or their usage of the loft spaces was observed.
- 3.21 A mature white poplar located near the centre of the survey area at approximate National Grid Reference: ST 83916 88398, was found to contain a single Potential Roosting Feature (PRF) in the form of a rot hole at the junction of two limbs. Following a ground level tree assessment, no other trees within the survey boundary were found to support PRFs. No evidence of bat activity was recorded around or beneath the identified PRF at the time of survey.

- 3.22 The site includes several mature trees and garden habitats which may offer localised foraging and commuting opportunities to local bat populations.

Badger

- 3.23 [REDACTED]

- 3.24 The habitats present across the majority of the property - comprising intensively managed, species-poor modified grassland and gravelled tracks - offer limited suitability for foraging or sett excavation. The property is also partially enclosed to the north and isolated from larger tracts of suitable badger habitat.

Dormouse

- 3.25 The site was assessed for its suitability to support hazel dormouse, a species typically associated with species-rich hedgerows, woodland edge, and structurally diverse scrub. The habitats within the survey boundary consist primarily of short-managed lawn, gravelled surfaces, and a limited number of ornamental shrubs and trees. While some of the shrubs and trees could provide minimal foraging or commuting resources, they are largely isolated and well-managed, lacking the dense structure, floral diversity, and connectivity typically associated with optimal dormouse habitat. Additionally, the site is not directly linked to any nearby woodland or hedgerow network that could serve as a movement corridor for this species. No evidence of dormouse activity was observed during the site assessment.

European Hedgehog

- 3.26 No direct evidence of European hedgehog, such as droppings, footprints, or day nests, was recorded during the field survey. The majority of the grounds consist of short, intensively managed lawns and compacted gravelled surfaces, which provide poor-quality foraging or sheltering habitat for hedgehogs.
- 3.27 However, boundary vegetation, including mature trees and ornamental shrubs, could provide a limited extent of suitable habitat for commuting or foraging hedgehogs. These areas, while suboptimal, may still be accessed occasionally by hedgehogs moving through the landscape.

Nesting Birds

- 3.28 A visual inspection of the dwelling was undertaken to assess its potential to support nesting birds. A low number of gaps were noted beneath the roof tiles, which could theoretically be used by small cavity-nesting passerines such as blue tit *Cyanistes caeruleus*, though no signs of nesting (such as nesting material, droppings, or bird activity) were observed at the time of survey.

- 3.29 The site's mature trees and scattered shrub cover offer suitable nesting opportunities for a range of bird species. No active nests were discovered during the survey, though suitable nesting habitat is present and may be seasonally used by birds for breeding, roosting, or foraging.

Reptiles and Amphibians

- 3.30 The majority of the property grounds provide low suitability for reptile and amphibian species due to the dominance of intensively managed modified grassland and compacted gravelled surfaces. These habitats lack the structural diversity, refugia, and connectivity typically required by these species groups.
- 3.31 Some vegetated areas, such as garden shrubs and boundary features, may offer marginal foraging or sheltering opportunities for individual animals; however, these features are isolated, fragmented, and limited in extent. No ponds or other aquatic habitats are present within the survey boundary, as such, the site lacks breeding habitat for amphibian species such as GCN.

4 DISCUSSION & RECOMMENDATIONS

Habitats

- 4.1 The site is located within a rural setting and comprises a residential dwelling with associated outbuildings, hard standing yard, lawned garden, and surrounding equestrian paddocks. Onsite habitats are limited in extent and include modified grassland in the form of intensively managed amenity lawn and grazed pasture, gravelled and sealed surfaces, ornamental planting, and a small number of scattered native and non-native trees and shrubs. A stone wall defines the northern boundary, with no hedgerows or watercourses present. All trees and shrubs within the survey boundary are to be retained.
- 4.2 The dominant habitat type within the development footprint is modified grassland. This comprises short, species-poor lawn and equestrian pasture of low botanical interest, supporting a limited assemblage of common grasses and forbs. Given its structure, species composition, and level of management, the grassland is considered to be of low ecological value and no further botanical assessment is required.
- 4.3 The proposed development involves the construction of a new residential dwelling within the centre of the site. The existing dwelling will be retained, with minor works including internal reconfiguration and the removal of a south-facing conservatory. The development will result in the permanent loss of a currently undetermined area of modified grassland. However, as this habitat is of low ecological value and commonly found in the local landscape, its removal is not expected to result in any significant ecological impact. All mature trees and shrubs are to be retained, avoiding the loss of features that provide localised structural and habitat diversity.
- 4.4 In the wider landscape, the site lies within a matrix of pastoral and arable farmland, with nearby tree-lined roads and intermittent hedgerows providing limited ecological connectivity. A significant area of

high-value woodland habitat occurs approximately 500 m north of the site, comprising a mosaic of Deciduous Woodland (Priority Habitat), Ancient Semi-Natural Woodland, Ancient Replanted Woodland, and areas of Woodpasture and Parkland associated with Westonbirt Arboretum and Silk Wood. These habitats lie beyond the immediate zone of influence of the proposed development and will not be directly or indirectly affected.

- 4.5 No statutory or non-statutory designated sites are located within a 2 km radius of the application boundary. While the site falls within the SSSI Impact Risk Zones (IRZs) of designated sites located further afield, the scale and nature of the proposed development are such that it does not meet the relevant consultation thresholds. As such, consultation with Natural England is not required.
- 4.6 Overall, the habitats present within the survey boundary are typical of managed domestic and equestrian land and are of limited ecological value. No Priority Habitats are present onsite, and no habitat losses of notable ecological importance are anticipated. Nevertheless, as some limited foraging and commuting opportunities for nocturnal species such as bats are present, nocturnal lighting should be carefully managed during and after construction. Light spill onto retained trees and vegetated boundaries should be avoided through the use of directional, low-level, and motion-activated lighting to maintain dark corridors within and around the site.

Species

Bats

- 4.7 A single EPSL has been granted for two species of bats, within the surrounding environment and habitats surrounding the site are considered to have a high level of suitability to support roosting, foraging and commuting activity for bats of various species.
- 4.8 The residential dwelling exhibits a low number of external Potential Roosting Features (PRFs), including gaps beneath imitation stone roof tiles and four vented ridge tiles. Internal inspection of the three separate loft voids revealed no evidence of bat presence, and all internal spaces were well sealed, with no signs of ingress, staining, droppings, or feeding remains. The vented ridge tiles were lined with mesh, restricting access. As such, while the building retains moderate roosting potential, no evidence of use by bats was recorded.
- 4.9 Under current proposals, the roof structure - including all identified PRFs - will be retained and unaffected by the internal reconfiguration works or removal of the conservatory. As such, no direct or indirect impacts to roosting bats are anticipated.
- 4.10 A single PRF in the form of a small rot hole was identified within a mature white poplar tree in the centre of the survey area. This tree is to be retained, and no arboricultural works are proposed that would affect this feature. As such, no further survey effort for bats is considered necessary at this time, provided that proposals remain unchanged.

- 4.11 Vegetated areas within the site, including scattered mature trees and shrubs, provide limited foraging and commuting opportunities for local bat populations. To prevent indirect impacts to commuting and foraging bats, it is recommended that external lighting associated with the proposed development follows best practice guidance.

Nocturnal lighting measures

- 4.12 The insensitive use of external lighting within the proposed development could have a negative impact upon bats using the site for foraging and commuting activity.
- 4.13 As suitable bat habitat occurs within the nearby surrounding environment, low-level lighting measures should be implemented to avoid indirect disturbance to bats and other nocturnal animal species that may exploit local habitats. Measures must be taken to ensure nocturnal animals are safeguarded from inappropriate use of light and noise throughout the hours of night during the construction period, as well as to protect important commuting corridors for bats. Any external lighting installed as part of the development must be used in accordance with Guidance Note 08/23: Bats and Artificial Lighting¹¹.
- 4.14 Sensitive lighting strategy measures during the construction period are as follows:
- Works must not be carried out after dusk and must not commence until after dawn.
 - Generators and machinery that emit significant noise levels must not be left to run after dusk.
 - LED lighting sources must be used, which generally have a narrower and more directional beam.
 - Light spill must be controlled and if lighting is required at night, hooded shields must be fitted to prevent spill onto nearby habitats that are likely to support wildlife, including nearby trees and hedgerows.
 - Lighting must not be directed towards any bat or bird compensation features.
- 4.15 In addition to the above, when selecting appropriate external lighting, the following specifications should be taken into consideration:
- Any external lighting incorporated into the proposed development should be LED luminaires due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
 - Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats¹².
 - All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used¹³

¹¹ <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

¹² Stone, E.L. (2013) *Bats and lighting: Overview of current evidence and mitigation*

¹³ Bat Conservation Trust & Institute of Lighting Professionals (ILP) 2018. *Guidance Note 8: Bats and artificial lighting in the UK*. Bats and the Built Environment Series.

[REDACTED]

- 4.17 Although impacts are not anticipated, it is recommended that general Reasonable Avoidance Measures (RAMs) are followed during groundworks and construction to safeguard any individual that may traverse the site opportunistically (see Section 5).

Dormouse

- 4.18 The site is not connected to any suitable dormouse habitat corridors, such as species-rich hedgerows or deciduous woodland networks. Vegetation within the survey boundary consists of scattered ornamental shrubs and isolated trees with limited floristic or structural diversity. These features are suboptimal and unlikely to provide nesting, foraging, or commuting opportunities for hazel dormouse.
- 4.19 As all vegetated features are to be retained and no suitable habitat will be lost, no impacts to dormouse are anticipated and no further survey effort is required.

European Hedgehog

- 4.20 No field signs of hedgehog were recorded during the survey. The majority of the site comprises unsuitable habitat including intensively managed grassland, hardstanding, and gravelled surfaces. However, the site remains accessible to hedgehogs, and boundary vegetation may provide limited opportunities for shelter or foraging.
- 4.21 Although the likelihood of direct impacts is considered low, it is recommended that RAMs are followed during all vegetation clearance and site preparation works to safeguard any individuals that may be present (see Section 5). If new fencing is introduced, it should include gaps measuring at least 130 mm x 130 mm to allow continued access for hedgehogs and other small mammals.

Nesting birds

- 4.22 No active nests were observed during the survey, although onsite trees and shrubs offer potential nesting opportunities for a variety of bird species during the breeding season. While a limited number of gaps were recorded beneath the roof tiles of the dwelling, no signs of bird nesting were identified in these locations.
- 4.23 As all trees, shrubs, and other vegetation with potential value to nesting birds are to be retained, no direct impacts are anticipated. However, best practice should be followed to avoid vegetation clearance

during the bird nesting season (typically February to September). If this is not possible, a nesting bird check should be undertaken by a suitably qualified ecologist within 24 hours prior to works commencing.

- 4.24 Should an active nest be discovered during works, an appropriate buffer zone (typically 5 m radius) must be established, and all works within this area should cease until the young have fledged and the nest is no longer in use.

Reptiles and Amphibians

- 4.25 The majority of habitats within the survey boundary, including closely mown grassland and gravelled surfaces, are of low suitability for reptiles and amphibians due to their lack of structural diversity and refugia. No evidence of herpetofauna was recorded during the field survey.
- 4.26 A review of existing ecological data identified two GCN Class Licence survey returns and one positively identified breeding pond within a 2 km radius. However, no waterbodies are present within the site boundary, and the site is isolated by surrounding built and agricultural land. As such, the likelihood of great crested newt or other amphibian species being present within the site is considered to be low.
- 4.27 No further surveys are considered necessary, and the risk of impact is negligible, provided that Reasonable Avoidance Measures (RAMs) are implemented during vegetation clearance and groundworks (see Section 5).

Biodiversity Enhancement

- 4.28 As the proposal qualifies as a self-build development, it is currently exempt from the mandatory 10% Biodiversity Net Gain requirement under the Environment Act 2021. However, the NPPF (2024) outlines obligations of Local Planning Authorities to promote Biodiversity Net Gain where possible.
- 4.29 A suitable option with regards to biodiversity enhancement on site is the planting of a species rich hedge comprising a minimum of six native woody species to feature as part of the proposed plans.
- 4.30 Hedge plants should be approximately 0.5m transplants of locally common native species and of British provenance (preferably local) and should comply to British Standard 3936. A diverse mixture of species is recommended to enhance the wildlife value of the hedgerow and provide a good feeding resource for both pollinating insects and birds. Recommended species composition is 10% Hazel (*Corylus avellana*), 60% Hawthorn (*Crataegus monogyna*), 10% Field Maple (*Acer campestre*), 5% Holly (*Ilex aquifolium*), 10% Blackthorn (*Prunus spinosa*), 5% Dog Rose (*Rosa canina*) with the addition of Wayfaring Tree (*Viburnum lantana*) and/or Guelder rose (*Viburnum opulus*) with no less than six species in total.

Bats

- 4.31 In addition to any mitigation that may be required, an option to increase biodiversity relating to bats on site would be to affix one or more bat boxes to mature trees within the site boundary, ideally using either Schwegler 1FF boxes (or similar) or Schwegler 2F boxes (or similar). Alternatively, they may also be pole-mounted in an appropriate position or fixed to the walls of buildings. Bat boxes must be positioned no lower than 4m above ground level and they must not face in a northerly direction.

Nesting Birds

- 4.32 Ways to enhance the site value with regards to bird nesting would be to fit nest boxes to existing trees or buildings. Options include close-hole boxes and open-fronted boxes which would then provide opportunity for a variety of bird species. We recommended that one external bird nest box (Schwegler 1B or similar) is installed onsite. For maximum success, our recommendations are as follows:
- Bird boxes must be positioned away from busy areas where disturbance would be more likely.
 - Following British Ornithology Trust guidelines, bird boxes must be positioned no lower than 2m from ground level and preferably above 3 m to prevent possible predation.
 - The proposed placement of the bird nest boxes must allow for a clear flight path, without obstruction to the nest box entrance.
 - Avoid installing nest boxes in a south-westerly facing direction in order to offer protection from prevailing winds and rain.
 - The nest box should ideally be slightly tilted in a downwards position to offer further weather protection.

5 REASONABLE AVOIDANCE MEASURES

- 5.1 Vehicles will use existing tracks onto and within the construction zone. It is advisable that only building products to be used on the day are brought and stored on the site. If building products need to be stored onsite (e.g. overnight or for more than one day), they will be stored on pallets or retained in bags on pallets to ensure that refuges are not created that may attract animals. Building products will be placed on existing hard standing if possible.
- 5.2 All holes created during the construction period will be filled in and finalised on the same day so as not to leave any pitfall traps. If this is unavoidable, they will be left with a sloping end or ramp to allow animals that may fall in to escape.
- 5.3 Lighting will be carefully considered during the construction phase and post-development. If lighting must be used at night, it will not be allowed to spill over habitats beyond the site boundaries or nearby sensitive features that may be used by nocturnal wildlife and it will only be used when absolutely necessary (see Nocturnal Lighting Measures point 4.13).

- 5.4 Any spoil resulting from excavations will either be spread and compacted within the area on the same day or be removed from the construction area on the same day. It will not be left in loose heaps overnight.
- 5.5 All cut vegetation will be removed from the development site and immediate surroundings to avoid use by birds as nesting habitat.
- 5.6 Vegetation within the zone of impact will be cut and maintained at a height of 15 cm or below throughout the development to discourage wildlife including great crested newt from taking refuge within the site boundary.
- 5.7 Should any impacts to protected species be determined during phased development, then all works must cease immediately and the appointed ecologist contacted for further advice. A European Protected Species Licence may be required from Natural England in order to allow works to proceed further.
- 5.8 Should onsite habitats become significantly overgrown, a new mitigation plan may be required in the form of a site specific Precautionary Working Method Statement (PWMS) which will contain more stringent RAMs.

APPENDIX A: PLANTS RECORDED¹⁴

Table 4: Indicative plant list recorded on site

Scientific Name	Common Name	DAFOR*
g4 - Modified grassland		
<i>Lolium perenne</i>	Perennial ryegrass	D
<i>Poa annua</i>	Annual meadowgrass	O
<i>Festuca rubra</i>	Red fescue	O
<i>Taraxacum sp.</i>	Dandelion	R
<i>Ranunculus repens</i>	Creeping buttercup	O
<i>Bellis perennis</i>	Common daisy	O
<i>Trifolium repens</i>	White clover	F
Vegetated garden		
<i>Chenopodium album</i>	Lambsquarters	A
<i>Verbascum thapsus</i>	Common mullein	O
<i>Campanula spp.</i>	Bell flower	R
<i>Daucus sp.</i>	Carrot	F

¹⁴ Plant names according to Rose F, O'Reilly C (2006) The Wild Flower Key, Revised Edition. Penguin Books, London.

<i>Buddleja davidii</i>	Butterfly bush	O
<i>Laurus nobilis</i>	Bay laurel	R
Individual Trees		
<i>Fraxinus excelsior</i>	Ash	-
<i>Betula pendula</i>	Silver birch	-
<i>Quercus robur</i>	Oak	-
<i>Malus sylvestris</i>	Crab apple	-
<i>Malus domestica</i>	Domestic apple	-
<i>Prunus domestica</i>	Plum	-
<i>Populus alba</i>	White poplar	-
<i>Picea pungens</i>	Blue spruce	-

*D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

APPENDIX B: LEGISLATION SUMMARY

Habitats Directive

Species listed in the Habitats Directive 1992 (transposed into UK law through the Conservation of Habitats and Species Regulations 2010 and subsequently 2017 as amended) for which it is illegal to deliberately capture, kill or disturb any individual, or deliberately damage or destroy a breeding site or resting site. In 2007 and 2009, the Habitats Regulations were amended to define illegal disturbance as that which would affect the ability of a significant group of animals of a European Protected Species to survive, breed or to rear or nurture their young, or to hibernate or migrate, or to affect the local distribution or abundance of the species.

Natural Environment and Rural Communities (NERC) Act 2006

The act to makes provision about bodies concerned with the natural environment and rural communities; to make provision in connection with wildlife, Sites of Special Scientific Interest, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways Amenity Advisory Council; to provide for flexible administrative arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes.

Countryside and Rights of Way (CROW) Act 2000

The CROW applies to England and Wales only, enforcing a statutory policy for biodiversity conservation. The UK Biodiversity Action Plan (BAP) provides the framework for fulfilling the UK's responsibilities towards the Convention on Biological Diversity. The CROW Act is compliant with the provisions of the

European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.

The Conservation of Habitats & Species Regulations 2017 (the Habitat Regulations) (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017 and extend to England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters). In Scotland, the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the and the Conservation (Natural Habitats &c.) Regulations 1994. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland.

Bats

In England and Wales, bats and their roosts are protected under the Conservation of Species and Habitats Regulations 2017 (as amended) and the Wildlife & Countryside Act 1981 (as amended). Taken together, this legislation makes it an offence to:

- Deliberately capture (or take), injure or kill a bat
- Intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not
- Damage or destroy the breeding or resting place of a bat
- Possess a bat (alive or dead) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost
- Sell (or offer for sale) or exchange bats (alive or dead) or parts of bats

A roost is defined as being 'any structure or place that is used for shelter or protection' and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

Reptiles

All native British species of reptile (of which there are six) are listed in Schedule Five of the Wildlife and Countryside Act (1981) (as amended) and as such are protected from deliberate killing, injury or trade. Therefore, where development is permitted and there will be a significant change in land use, a reasonable effort must be undertaken to remove reptiles off site to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without an appropriate licence.

Great Crested Newts

Great crested newts and their habitats receive protection under The Conservation of Habitats and Species Regulations 2017 (as amended). This species is also afforded full protection under the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under such legislation it is an offence to:

- Intentionally or recklessly kill, injure or capture a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly* damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt; and
- Intentionally or recklessly* disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.
- Damage or destroy a breeding site or resting place.
- Sell, barter, exchange or transport or offer for sale great crested newts or parts of them.

*Reckless offences were added by the Countryside and Rights of Way Act 2000, which applies only to England and Wales.

Badger

Badger is protected in Britain under the *Protection of Badgers Act 1992* and *Schedule 6 of the Wildlife and Countryside Act 1981* (as amended).

The legislation affords protection to Badgers and Badger setts and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

Dormouse

The dormouse has undergone substantial declines in recent years as a result of habitat loss, deterioration and fragmentation and is consequently protected as a 'European Protected Species' under the 2017 Conservation of Habitats and Species Regulations, which implements the EC Habitats Directive 92/43/EEC in the United Kingdom. In relation to European Protected Species (EPS), the 2017 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of a EPS;
- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to:
 - (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate or
 - (ii) affect significantly the local distribution or abundance of the species to which they

belong;

- Damage or destroy a breeding site or resting place of such an animal; and/or
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

In addition, Dormice are protected under the 1981 Wildlife and Countryside Act (as amended).

Dormice are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a Dormouse while it is occupying a structure or place which it uses for shelter or protection; and/or
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a Dormouse.

Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended).

Under this legislation it is an offence to:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is in use or being built
- Take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

APPENDIX C: MAPS & SITE PLANS

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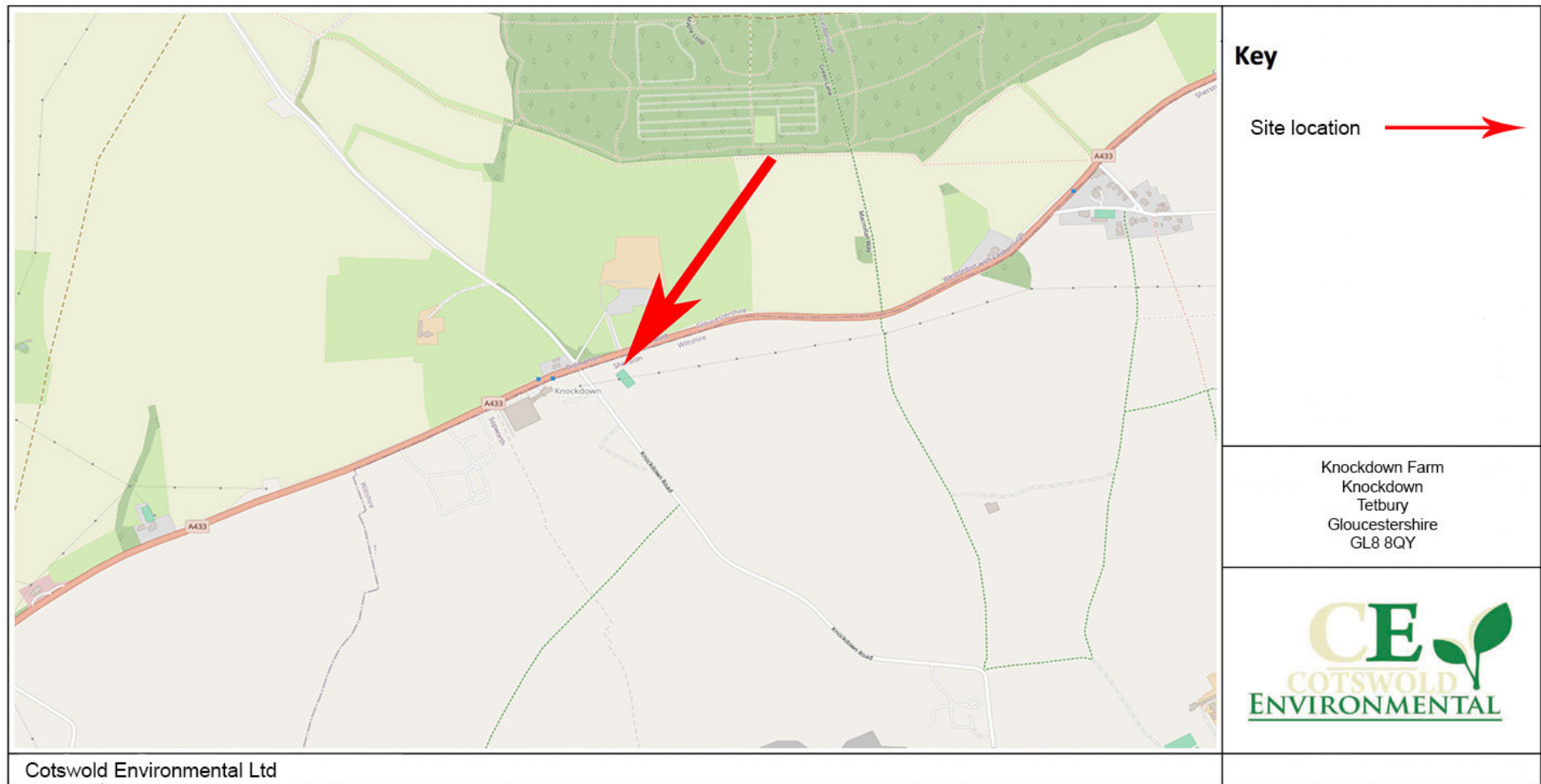


Figure 1: Location Map



Key

- Survey boundary 
- g4 - Modified Grassland 
- u1b - Developed Land/Sealed Surface 
- u1c - Artificial unvegetated, unsealed surface 
- Individual tree 

Knockdown Farm
Knockdown
Tetbury
Gloucestershire
GL8 8QY



Cotswold Environmental Ltd

Figure 2: Habitat Map

APPENDIX D: SITE IMAGES



Photo 1: The northern roadside boundary wall.



Photo 2: The north facing elevation of the residential dwelling.



Photo 3: The south facing elevation of the residential dwelling.



Photo 4: The conservatory which adjoins the south facing elevation of the dwelling.



Photo 5: An internal view of one of the three loft voids.

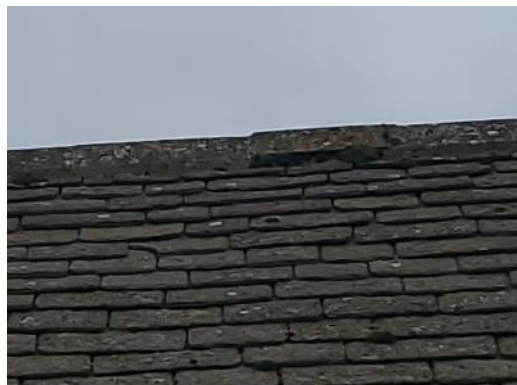


Photo 6: An example of the four vented ridge tiles.



Photo 7: An example of the low number of gaps identified beneath the imitation stone tiles.



Photo 8: A view of the hardstanding yard located to the immediate south of the stables.



Photo 9: A view of the gravelled track that runs through the lawned areas of the garden.



Photo 10: An example of the scattered trees located throughout the garden.



Photo 11: The mature trees which grow in the centre of the survey area.

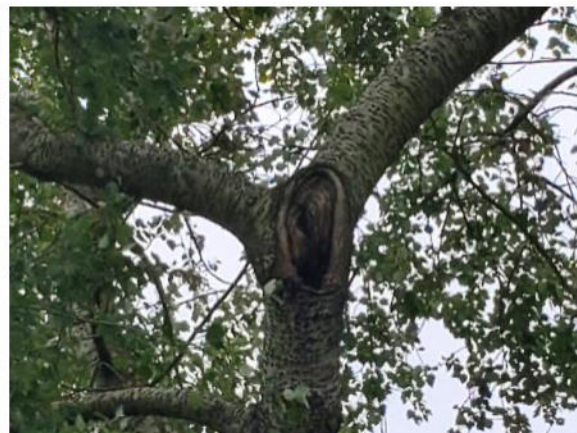


Photo 12: The rot hole identified within the mature white poplar tree.



Photo 13: Mature trees and shrubs growing along the western boundary.



Photo 14: The riding menage, located at the south-western extent of the survey area.



Photo 15: A view of the short-mown amenity lawn that dominates the survey area.



Photo 16: A view of the grazed pasture which is located to the south of the garden.