Barn at Shornhill Farm, Withington, GL54 4BJ.

Preliminary Ecological Appraisal

August 2023

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Notice to Readers:

The results of the survey and assessment work undertaken by All Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

All Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

All Ecology cannot accept responsibility for data collected from third parties.

Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Summary

In March 2022, All Ecology Ltd was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Barn at Shornhill Farm, Withington, GL54 4BJ. The site consists of two connected barn buildings with attached lean-tos surrounded by areas of bare ground, grass, scrub and hard standing. The site is bound by fencing, hedges and overhanging trees. The local area consists of woodland, arable and grassland fields.

The proposals for the site are to convert the barn to a dwelling with the immediate surrounding areas to be re-landscaped as new garden.

The habitats on site are common, of low ecological value and easy to replace. Any impacts as a result of loss/changes to these habitats in terms of their vegetation are considered to be negligible.

The site provides potential habitat for a range of fauna. The following require further consideration:

Bats – The building on site is deemed to have low potential for roosting bats and a further dusk emergence survey is required to determine the presence or likely absence of roosting bats. The site provides limited bat foraging habitat however, there are pockets of woodland to the east and west which may be utilised by foraging or commuting bats. No further bat activity surveys are required but a suitable lighting strategy is required.

Badgers and other mammals – No evidence of presence of Badgers but this species and other common mammals may pass through on occasion. Precautionary methods of working are advised with regards to potential passing of Badgers or presence of other common mammals.

Birds – The trees and hedge provide potential foraging and nesting opportunities for common bird species and the buildings provide nesting opportunities for birds. No further surveys are required at this time but details of timings of works to prevent impact upon nesting birds are given.

Amphibians – The site provides limited opportunities for amphibians but there are two ponds within 100 m of the site, one of which is potentially suitable for Great Crested Newts and further surveys are required to determine their presence or likely absence. Alternatively, an application to use the district licence can be made.

In July 2023, All Ecology Ltd was commissioned to re-visit the site to assess any changes of habitats and their potential to support protected or notable species, update the report and survey an additional area of land now included within an updated site boundary.

The initial site area and building on site remain largely the same and the habitats present within the new area of the site are common and of low ecological value. No further surveys are required.

A Dusk Emergence Survey of the building on site was undertaken in 2022 which found roosting bats to be absent from the building and an eDNA test of Pond 1 was undertaken in 2022 which found Great Crested Newts to be absent here.

Contents

1.0 Introduction

Background

1.1 In March 2022, All Ecology Ltd was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Barn at Shornhill Farm, Withington, GL54 4BJ. The site consists of two connected barn buildings with attached lean-tos surrounded by areas of bare ground, grass, scrub and hard standing. The site is bound by fencing, hedges and overhanging trees. The local area consists of woodland, arable and grassland fields.

1.2 The proposals for the site are to convert the barn to a dwelling with the immediate surrounding areas to be re-landscaped to new garden. A new access will be created through the existing grass field.

1.3 A re-visit to the site was carried out in July 2023 to assess any changes of habitats and their potential to support protected species and to assess the additional area of land for the new access.

Objectives and Aim

1.4 The main objectives and aim of the survey were to identify features of ecological interest, undertake a basic search of habitats present for evidence of use, or potential use, by protected species, and to identify any other possible ecological constraints to any development of the site.

Site Location & Aerial Photograph

Figure 1: Site location plan.

Figure 2: Aerial view of the site.

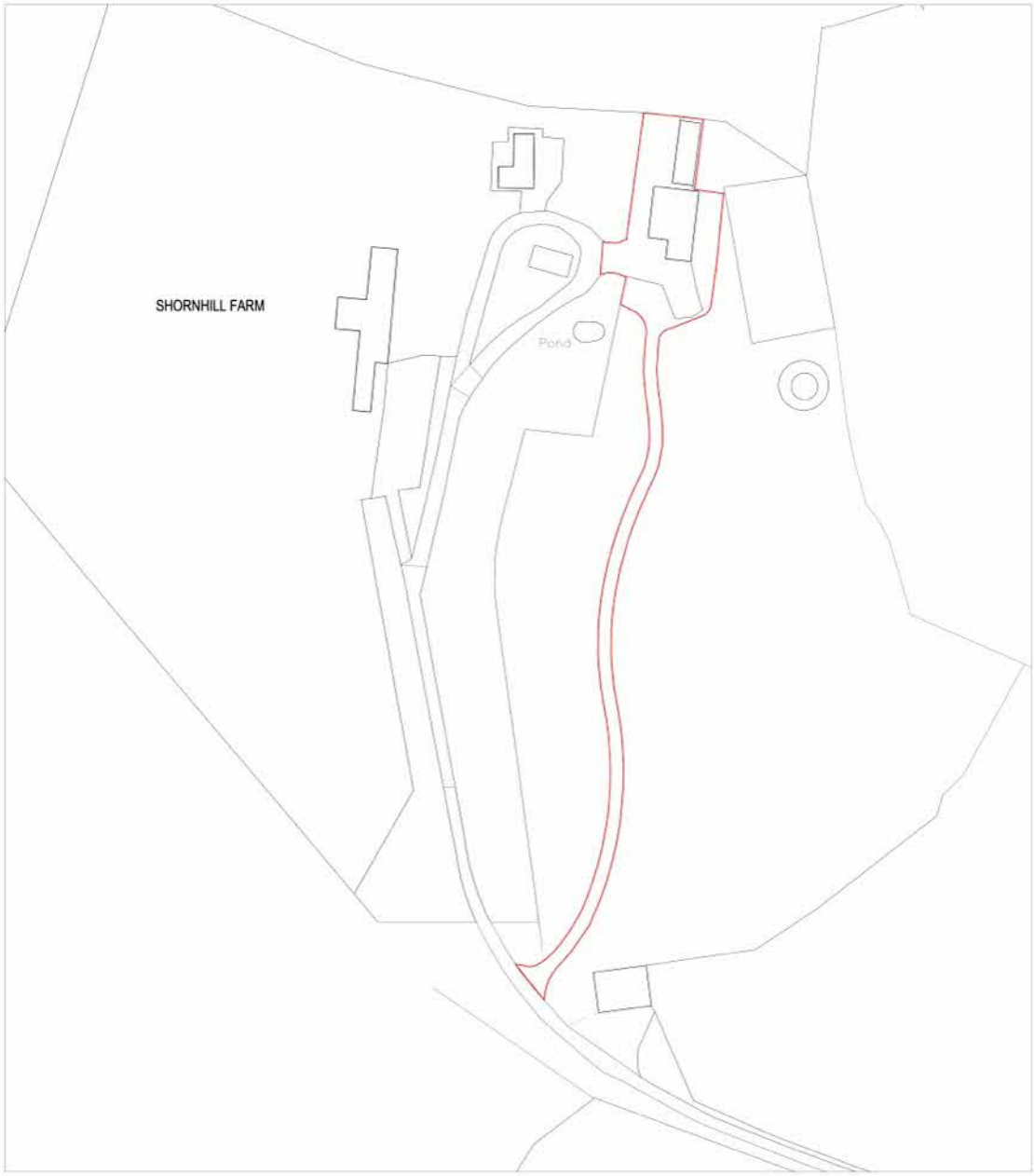

Figure 3: Site boundary.

2.0 Methodology

Personnel

2.1 The survey was carried out by Laura Cuming BSc Hons MCIEEM, an ecologist with over eight years' experience working as a consultant who holds a Class 2 Bat Licence (all species, all counties, Class Licence Registration No. 2017-32855-CLS-CLS). The work was overseen by James Godbeer BSc Hons MCIEEM, an ecologist with over 15 years' experience working as a consultant. James has extensive experience of managing environmental contracts, and particular experience in surveying, assessment and mitigation for rare and protected species. He has considerable knowledge of the development and planning process including Ecological Impact Assessments, sustainable ecological design and he has completed ecology chapters of Environmental Statements. James holds a number of protected species licences including bats (all species, all counties, Class Licence Registration No. 2015-12313-CLS-CLS), and Great Crested Newts (Class Licence Registration No. 2019-44282-CLS-CLS). He has successfully obtained European Protected Species mitigation licences for a number of bat species including Lesser Horseshoe, Greater Horseshoe, Serotine, Brown Long-eared, Common Pipistrelle and Natterer's bats, for a number of roost types including maternity and hibernation sites.

Habitat Survey

2.2 The site was visited on the 17th March 2022 and 21st July 2023 and surveyed in accordance with the Joint Nature Conservation Committee (JNCC) Phase I Habitat Survey methodology (JNCC, 2010). This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that might warrant further study.

Fauna

2.3 The buildings were inspected externally and internally following the methodology set out in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016).

2.4 In summary, the buildings were searched externally and then internally, where access was available, for any evidence of use by bats and notes were made on the following:

- Location and number of any live bats.
- Location and number of any corpses or skeletons.
- Location and number of droppings.
- Notes on relative freshness, shape and size of droppings.
- Location and quantity of feeding remains.
- Location of clean, cobweb-free timbers, crevices and holes.
- Location of characteristic staining from urine and/or grease marks.
- Location of known and potential access points to the roost.
- Location of the characteristic smell of bats if no other evidence is recorded.

2.5 Notes were also made on the characteristics and features of the buildings as follows.

Type, age and aspect.

Wall construction, in particular the type of brick or stone used to build the walls and whether it has cavity walls or rubble- filled walls.

Form of the roof, in particular the presence of gable ends, hipped roofs, etc. and the nature and condition of the roof covering.

Presence of hanging tiles, weather boarding or other forms of cladding.

Nature of the eaves, in particular if they are sealed by a soffit or boxed eave and the tightness of the fit to the exterior walls.

Presence and condition of lead flashings.

Gaps under eaves, around windows, under tiles, lead flashings etc.

Presence and type of roof lining.

Presence of roof insulation.

Presence of water tanks in loft (note if covered or uncovered).

Structure of the roof including the truss type, age and nature of timber work.

Information or evidence of work having been undertaken that could affect use of the structure by bats.

2.6 The habitats present on the site were also searched for signs of animal activity. The trees were assessed by visually inspecting them from the ground using binoculars and high-powered torches where appropriate.

2.7 The site and surroundings, for a minimum distance of 30 m where access was available, were searched for signs of Badgers. These include setts, latrines, dung pits, snuffle marks or hairs caught in hedges or on fencing.

2.8 Incidental observations of invertebrates and birds were recorded and a search made for any signs of previous nesting.

2.9 Any refuges on site such as logs or other debris were lifted and inspected for reptiles and amphibians. There were two ponds within 100 m of the site which were subject to the Great Crested Newt Habitat Suitability Index (HSI) Assessment to assess their suitability for this species.

Equipment

2.10 Equipment used to aid the survey included a ladder, high-powered torch, mirrors endoscope, binoculars and a camera.

Valuation of Ecological Features

2.11 The valuation process used in this report follows the Guidelines for Ecological Impact Assessment in the UK and Ireland from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

2.12 The value of areas of habitat and plant communities has been measured against published criteria where available. Biodiversity Action Plans (BAPs) have been searched to identify whether action has been taken to protect all areas of a particular habitat and to identify current factors

causing loss and decline of particular habitats. The presence of injurious and legally controlled weeds has also been taken into account.

2.13 When assigning a level of value to a species, its distribution and status (including a consideration of trends based on available historic records) has been taken into account. Other factors influencing the value of a species are: legal protection, rarity and Species Action Plans (SAPs). Guidance, where it is available, for the identification of populations of sufficient size for them to be considered of national or international importance has also been taken into account.

Nomenclature

2.14 The English name only of flora and fauna species is given in the main text of this report; however, scientific names are used for invertebrates where no English name is available. Vascular plants and charophytes follow the nomenclature of The Botanical Society for the British Isles (BSBI) 2007 database (BSBI, 2007) with all other flora and fauna following the Nameserver facility of the National Biodiversity Network Species Dictionary (http://www.nhm.ac.uk/nbn/), which is managed by the Natural History Museum.

Limitations

2.15 The site was fully accessible with no limitations to undertaking the survey in accordance with the stated methodology.

3.0 Results

Habitats

3.1 The following habitats or vegetation types were identified during the course of the habitat survey:

- Building
- Improved grassland
- Bare ground
- Tall ruderal
- Scattered scrub
- Standard tree
- Species-poor hedge
- Fence

3.2 The two attached barn buildings with attached lean-to sections are surrounded by an area of concrete hard standing to the west and an area of bare ground to the east, which is being colonised by tall ruderal and scrub species. This colonising vegetation was dominated by Common Nettle with abundant Cleavers, frequent Hogweed, Perennial Rye-grass, Common Ragwort and Bramble agg., and there were rare occurrences of Common Chickweed. In 2023 this area had appeared to have grown mostly as Common Nettle before being strimmed with abundant Chamomile and False Oat-grass and rare occurrences of Timothy, Bird's-foot Trefoil, Creeping Thistle, Cleavers and Hogweed.

3.3 There was an area of bare ground to the south of the buildings with a grass bank along the east edge of the site. This was dominated by Perennial Rye-grass with abundant Common Nettle, frequent Broad-leaved Dock and rare occurrences of Cock's-foot and Snowdrop. There was another area of grass to the south of the bare ground which was also dominated by Perennial Rye-grass with abundant Fescue sp., Common Nettle and Broad-leaved Dock. There was frequent Cock's-foot and occasional Ribwort Plantain, Creeping Buttercup and Red Dead-nettle. There were rare occurrences of Common Chickweed and Common Ragwort. In 2023 these areas remained relatively the same but the area of bare ground had become more colonised by False Oat-grass , Fescues sp., and Yorkshire-fog with frequent Common Nettle, occasional Yarrow, Hogweed, Red Clover, Creeping Buttercup and Hedge Woundwort and rare occurrences of Common Knapweed also recorded here.

3.4 There were two young Ash trees along the east boundary and one Willow sp., adjacent to the building. There were overhanging branches of Leyland Cypress along part of the west boundary which was defined by timber post and rail fencing. The remainder of the west boundary consisted of Cherry Laurel hedge with the existing site entrance also through this boundary. The north boundary was defined by panel and timber post and rail fencing with timber fencing also defining the majority of the east boundary. The remainder of the east boundary was defined by off-site adjacent dense scrub.

Photograph 1: General view of the building on site.

Photograph 1a: General view of the building on site in 2023.

Photograph 2: View looking south with the grass bank along the east side of the site.

Photograph 2a: View looking south with the grass bank along the east side of the site in 2023.

Photograph 3: Area of bare ground being colonised by vegetation to the east of the building.

Photograph 3a: Same area of ground in 2023 which appeared to have been strimmed.

Photograph 4: Area of bare ground to the south of the building.

Photograph 4a: Same area looking south.

Photograph 5: Area of improved grassland to the south of the bare ground.

Photograph 5a: Area of improved grassland to the south in 2023.

Photograph 6: Area of hard standing to the west of the building.

Photograph 6a: Same area in 2023.

3.5 The additional area of land to the south and part of the grass field to the south were surveyed in 2023. The following habitats or vegetation types were identified during the course of the habitat survey:

Semi-improved grassland

Tall ruderal

Species-poor hedge

3.6 To the south of the timber fence was a patch of tall ruderal vegetation which was dominated by Common Nettle with abundant Cleavers and Broad-leaved Dock, frequent Common Hogweed, occasional European Speedwell and rare occurrences of Mallow. This was surrounded by an area of long damp grass which was dominated by False Oat-grass with abundant Fescue sp., frequent Yorkshire-fog and Tall Fescue, occasional Hard Rush and rare occurrences of Meadow Foxtail, Common Knapweed, Self-heal, Rosebary Willowherb and Yellowcress.

3.7 To the west of the timber fence was the remainder of the Cherry Laurel hedge which then extended to the south of the tall ruderal patch.

3.8 The majority of the new area of the site consisted of a short grass field. This was well maintained and dominated by Fescue sp., with abundant Yorkshire-fog, Self-heal, White Clover, Creeping Buttercup, Perennial Rye-grass and frequent Red Clover, Smooth Meadow-grass and Ribwort Plantain. There was occasional Common Knapweed, Cock's-foot, Greater Plantain and Creeping Thistle. There were rare occurrences of Broad-leaved Dock, Dandelion agg., Small Timothy and Crested Dog's-tail.

3.9 Where the new entrance would join the existing driveway was a short section of Beech hedge.

Photograph 7: Area of tall ruderal and long damp grass patch.

Photograph 8: Cherry Laurel hedge.

Photograph 9: Short semi-improved grassland.

Photograph 10: Short section of Beech hedge.

Fauna

Bats

3.10 The two attached barns and lean-tos were inspected for their potential for roosting bats. The building has been separated into the following sections for ease of reporting:

Figure 3: Building sections.

3.11 External – Section A is a lean-to type building constructed from concrete blocks and covered with a corrugated metal roof. The eaves are covered with timber fascia boards. Section B is a corrugated metal and rendered barn of gable-end construction. The barn is covered with a corrugated metal roof with the walls extending up to the roofing material. Section C is a lean-to type building constructed from rendered concrete blocks. The building was covered with a flat roofing material. Section D was another corrugated metal barn of gable-end construction with the east wall constructed from concrete blocks. Sections C and D were connected by a walkway covered with a flat bitumen felt and fibreglass roof. This roof extended out to the east to form a porched area over the gap between Sections B and D.

3.12 Internal – Section A had an unlined roof which was supported by timber beams. No roof void was present and the lean-to consisted of one room with plywood walls. Section B interior was divided into a number of rooms with ceilings that created an inaccessible roof void. The west side of the building interior opened into the interior of Section C. Section C had vaulted plywood ceilings which were supported by timber beams and no roof void was present. The interior of Section C was connected to Section D through the walkway. Section D had vaulted interior ceilings which were formed by the timber sarking boards lining the roof. The roof was supported by a timber frame and no roof voids were present.

3.13 Access and potential for roosting bats – There was a small gap behind the timber fascia boards of Section A which led to a small wall cavity between the exterior concrete block walls and interior walls. This was partially inspected by endoscope; however, the full cavity could not be inspected and crevice-dwelling species may utilise this void and the gaps behind the fascia board for roosting. Sections B and D had gaps along the bottom of the corrugated roofing which provide potential access to the roof voids of Section B and the small void between the corrugated roof

and timber sarking boards of Section D. Although this roofing material is not optimal for roosting bats, the roof voids of Section B could not be inspected for bats and could potentially be used for roosting.

3.14 In 2023, the building was found to be in the same condition as when first surveyed and remained largely the same. However, the boarded walkway which had been installed along the west elevation of Section D had been removed so this elevation now had a porch area. The porch, doors to the rooms of Section D and the sealed off Section E were well sealed with no potential points of entry to the remainder of Section D and E. The building was deemed to have the same potential for roosting bats and no new evidence of bats was found.

Photograph 11: View of Section A lean-to attached to the gable end barn, Section B.

Photograph 11a: View of Building in 2023.

Photograph 12: View of the southwest corner of the building with Section C attached to the west elevation.

Photograph 13: View of the north elevation of Section C with Section E walkway to the left.

Photograph 13a: View of the building in 2023.

Photograph 14: East elevation of Section B.

Photograph 15: East elevation of Section D.

Photograph 15a: East elevation of Section D in 2023.

Photograph 16: Porch area between Sections B and D.

Photograph 17: Gap behind the timber fascia board of Section A.

Photograph 18: Section A interior.

Photograph 18a: Section A interior in 2023.

Photograph 19: Gaps along the bottom of Section B corrugated roof.

Photograph 20: View of Section B interior with inaccessible roof void above.

Photograph 20a: View of Section B interior with inaccessible roof void above in 2023.

Photograph 21: View of Section C interior.

Photograph 22: Section E walkway interior joining Sections C and D.

Photograph 22a: Walkway along west elevation of Section D had been sealed off.

Photograph 22b: New porch area along west elevation of Section D where boarded walkway had been removed.

Photograph 23: Gaps along the corrugated roof of Section D.

Photograph 24: Section D interior with timber sarking boards lining the roof.

Photograph 24a: Section D interior with timber sarking boards lining the roof in 2023.

3.15 The trees on site were inspected for their potential for roosting bats such as rot holes, flaking bark, split limbs etc of which none were found. The site itself provides poor bat foraging and commuting habitat but is likely to be used by at least low numbers of bats on account of it being surrounded by pockets of woodland to the west and nearby to the east.

Birds

3.16 The site provides limited foraging opportunities for birds in the trees and hedges with the grassland on site providing limited foraging opportunities. The hedges, trees and overhanging branches of adjacent trees may also be used by nesting birds. The site was visited at the beginning of the bird nesting season of March – August for vegetation and March – September for buildings so was searched for evidence of current and previous nesting by birds of which none was found but nests may have been missed in the denser vegetation and birds may nest in the vegetation and species such as Swallows may nest in the porch area between the north and south barn buildings, in future.

Badgers

3.17 The site provides limited potential foraging habitat in the small areas of grassland and bare ground but the site is unlikely to be used by this species for the construction of setts. The site and immediate surroundings were searched for evidence of Badgers such as setts, digging,

latrines and dung pits of which none were found. Badgers are considered to be generally absent from the site but may pass through on occasion.

Hazel Dormouse

3.18 The majority of the site does not provide any potential for Hazel Dormouse, being mostly bare ground and short grass. Potential Hazel Dormouse habitat is limited to the species-poor hedges along the west boundary however, these consist of Cherry Laurel which is sub-optimal. Part of the hedge connects to a small pocket of woodland to the west however, this is also dominated by evergreen Leyland Cypress which is also sub-optimal. Therefore, this species is likely to be absent from the site.

Otters and Water Voles

3.19 There are no watercourses on or adjacent to the site with no potential for these species to be present here.

Other mammals

3.20 The site provides limited opportunities for common mammals being mostly short grassland and bare ground. The hedges, brash piles and a pile of leaf litter may provide areas of cover for common small mammals. The site is expected to support a small number of common small mammals and Hedgehogs may pass through on occasion.

Reptiles

3.21 The site provides generally poor habitat for reptiles with the areas of grass lacking in structure and areas of cover limited to short sections of hedge and small areas of brash and leaf litter. There is an area of off-site dense scrub adjacent to the east boundary and a log pile to the east of the site which may be utilised by reptiles; however, the majority of the site consists and is surrounded by short grassland and unsuitable conifer woodland. Therefore, reptiles are likely to be absent from the site.

Amphibians

3.22 The site provides generally poor terrestrial habitat for amphibians with the areas of grass mostly lacking in structure. The short sections of hedge and small areas of brash and leaf litter may provide areas of cover for amphibians but there are no ponds on site. There are two ponds within 250 m of the site which were subject to the Great Crested Newt Habitat Suitability Index (HSI) Assessment to determine their suitability for this species. In summary, Pond 1 scored 0.52 and rated as 'below average' and Pond 2 scored 0.48 and rated as being 'poor' for this species. Pond 1 is above the 0.5 threshold at which further surveys are usually required to determine presence or likely absence of this species.

3.23 Table 1: HSI Calculation

HSI Calculator		Pond 1	Pond 2
SI1 - Location	1	1	1
SI2 - Pond area	2	0.05	0.05
SI3 - Pond drying	3	0.9	0.1
SI4 - Water quality	4	0.67	0.67
SI5 - Shade	5	1	1
SI6 - Fowl	6	1	1
SI7 - Fish	7	0.67	1
SI8 - Ponds	8	0.55	0.55
SI9 - Terr'l habitat	9	0.33	0.33
SI10 - Macrophytes	10	0.4	1
HSI Score	Score	0.52	0.48

Figure 4: Pond locations.

3.24 Pond 1 – Adjacent to the west boundary of the site and approximately 30m^2 in size. The pond appeared to have moderate water quality and no waterfowl were present but the pond may contain fish and is permanent year-round. The pond had a small amount of macrophyte cover and was mostly unshaded, surrounded by maintained lawn. There are two other ponds within 1 km of the pond.

3.25 Pond 2 – Approximately 20 m south of the site and approximately 40 m^2 in size. The pond had moderate water quality and high level of macrophyte cover however, is likely to dry annually. Fish

and waterfowl were absent and the pond was surrounded by short grassland. There are two other ponds within 1 km of the pond.

Photograph 25: Pond 1.

Photograph 25a: Pond 1 in 2023.

Photograph 26: Pond 2.

Photograph 26a: Pond 2 in 2023 found to be dry.

Invertebrates

3.26 The site provides common habitats which provide small areas of suitable habitats for common species. The potential for the site to support more notable species appears to be negligible.

4.0 Development Constraints and Recommendations

Development Proposals

4.1 The proposals for the site are to convert the barn to a dwelling with the immediate surrounding areas to be re-landscaped to new gardens. A new access will be created through the existing grass field.

Habitats

4.2 The NERC Priority Habitats include all hedgerows with at least 80% cover of at least one woody UK native species (JNCC, 2020). The species-poor hedges along the west boundary consisted of Cherry Laurel so cannot be classified as NERC Priority Habitat however, the Beech hedge did can be classified as NERc Priority Habitat. The Beech hedge and some of the Cherry Laurel hedge will be removed for the new access driveway, but no further assessment is required as they form part of a residential curtilage and are exempt from the Hedgerow Regulations 1997.

4.3 The grassland on site was improved grassland and semi-improved grassland. The semi-improved grassland has been classified as poor semi-improved grassland as although it does contain some flowering species such as Common Knapweed, the majority of the grass if maintained to a short sward and treated as amenity lawn. In order to qualify as a NERC Priority Habitat, grassland typically has to be unimproved (good semi-improved grassland can also qualify) and would have to be examples of grasslands such as lowland calcareous grassland or lowland dry acid grassland, habitats not found on site.

4.4 The remaining habitats on site are also common, of low ecological value and easy to replace. Any impacts as a result of loss/changes to these habitats in terms of their vegetation are considered to be negligible.

4.5 If new areas of habitat are to be created, consideration should be given to the seeding of these areas using appropriate seed mixes. Where possible these seeds should be locally sourced to support the genetic integrity of local wild plant populations. Where new trees or shrubs are to be planted, native tree and shrub species should be used as these are most beneficial to invertebrates, and many also produce seeds, nuts and berries that are food for native mammals and birds. Planting of non-native plant species should be limited to those that are not invasive and should prioritise those that provide a good source of nectar for invertebrates.

Protected and Notable Species

Bats

4.6 There was a small gap behind the timber fascia boards of Section A which led to a small wall cavity between the exterior concrete block walls and interior walls that could be used by crevice-dwelling species. Sections B and D had gaps along the bottom of the corrugated roofing which provide potential access to the roof voids of Section B and the small void between the corrugated roof and timber sarking boards of Section D. Although this roofing material is not optimal for roosting bats, the roof voids of Section B may be utilised by roosting bats. The building is deemed to have low potential for roosting bats.

4.7 In accordance with Bat Conservation Trust Good Practice Guidelines (2016), buildings with low potential for roosting bats should be subject to a dusk emergence survey between May – September inclusive to determine the presence or likely absence of roosting bats. This should be undertaken in appropriate weather conditions for bats. If bats are found to be roosting here a further dusk emergence survey and pre-dawn re-entry survey will be required.

4.8 A Dusk Emergence Survey was undertaken in May 2022 which found no bats to be roosting within the building. The full results of this survey are detailed within the Dusk Emergence Survey for Bats report dated June 2022.

4.9 The trees on site were not found to have potential roosting features and no further surveys are required but the following procedures should be employed in the unlikely event a bat or bats are discovered whilst removing trees or undertaking tree works:

If the roost is still on the tree and bats are not injured, seek advice from a licensed ecologist. If help is not available, allow bats to fly out of harm's way.

If the timber is felled, the roost is not exposed and the bats are not injured, temporarily seal and isolate the roost and seek advice from a licensed ecologist. If advice is not readily available, position the roost off the ground, re-open it and allow bats to relocate of their own accord.

If the roost has been exposed, and especially if bats have been injured, collect bats in a secure box or bag (using a glove) and contact a licensed ecologist.

Note the date, locality, type of tree, situation in tree and bat species if known.

4.10 The site itself provides poor bat foraging and commuting but is surrounded by pockets of woodland to the west and nearby to the east which may be utilised by foraging or commuting bats. The dusk emergence survey will give an indication of bat activity on site and due to the limited suitable habitats on site further bat activity surveys are not deemed necessary provided a suitable lighting strategy is implemented.

4.11 A suitable lighting design strategy should be designed to ensure impacts to foraging and commuting bats are minimised. In general, measures should include the use of lighting only where absolutely necessary utilising highly directional warm white LED lighting, an example being down spots at 2.5 m high using warm white (2700 K) 8W LED lamps, 550 lumens, 35 degree beam angle. These could be individually activated by PIR sensors on a 5 minute cut off to further reduce their impacts. These will assist in lighting only the areas where lighting is required and minimising light spill either directly or through reflected light. The surrounding hedges, trees and woodland must not be subject to direct lighting and no more than 0.5 lux light levels.

Badgers and other mammals

4.12 The potential for other species of protected or notable mammal species to use the site is deemed to be low. No constraints are predicted as a result of the potential presence of common small mammals and passing Badgers. As a precaution it is recommended that during the construction phase of the project any trenches and other excavations are back-filled before nightfall or a ramp left to allow animals to easily exit, and any open pipes larger than 150 mm should be capped off overnight. It is recommended any brash piles on site are dismantled by hand so not to cause injury to any mammals, such as Hedgehogs, using these for cover.

Birds

4.13 The site provides limited foraging opportunities for birds in the trees and hedges with the grassland on site providing limited foraging opportunities. The hedges, trees and overhanging branches of adjacent trees may also be used by nesting birds. The site was visited at the beginning of the bird nesting season of March – August for vegetation and March – September for buildings so was searched for evidence of current and previous nesting by birds of which none was found; however, birds may nest in the vegetation and species such as Swallows may nest in the porch area between the north and south barn buildings, in future.

4.14 Nesting birds are protected under The Wildlife and Countryside Act 1981 (and amendments). No further surveys for birds are required at this time. Works should be scheduled to take place outside the nesting season of March to August for vegetation and March – September for the buildings. Where this is not possible, the buildings and affected vegetation would need to be surveyed for nesting birds by a suitably qualified ecologist prior to works commencing. If they are found, then the nest and surrounding habitat must remain intact until the young have fledged.

4.15 The proposed development should include enhancements for nesting birds to compensate for the loss of potential nesting sites and generally enhance the development. The following options could be explored for inclusion on the north and/or east sides of the buildings:

Individual boxes, such as the Schwegler Bird Home 1MR, could be installed at a height of at least 2 m.

Groups of multiple small bird boxes could also be installed at a height of least 2 m to provide nesting sites for birds such as House Sparrows.

Amphibians

4.16 The site provides generally poor terrestrial habitat for amphibians with the areas of grass lacking in structure. The short sections of hedge and small areas of brash and leaf litter may provide areas of cover for amphibians but there are no ponds on site. With regard to Great Crested Newts, there are two ponds within 100 m of the site and Pond 1 scored 0.52, a rating of 'below average', and Pond 2 scored 0.48, a rating of 'poor' for this species. Pond 1 is above the 0.5 threshold at which further surveys are usually required to determine presence or likely absence of this species where the risk of impacts cannot be ruled out.

4.17 The main area of the site measures approximately 0.25 ha in size. Using Natural England's Great Crested Newt Rapid Risk Assessment, for any land (not just newt habitat) within 100 m of any breeding pond, where 0.1 – 0.5 ha is to be lost or damaged the risk of an offence being committed is 'amber: offence likely'. Therefore, a district licence or further surveys to determine presence/absence of this species were required.

4.18 An eDNA test of Pond 1 was taken in April 2022 which found the pond to test negative for Great Crested Newt eDNA and it can be concluded this species is absent from this pond. Therefore, this species is likely to be absent from the site and no further consideration is required.

5.0 References

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