



Preliminary Ecological Appraisal and Bat Roost Assessment

For

Proposed Change of Use of Agricultural Building to 1no. Dwelling House

At

Gunn's Farm, Hadleigh Road, Somersham, IP8 4PU



Report produced by:	Produced for:
Eco-Check Consultancy Ltd, White House Cottage Knapton Green North Walsham Norfolk NR28 0RU	Acorus Rural Property Services The Old Market Office 10 Risbygate Street Bury St Edmunds Suffolk IP33 3AA
Tel/ 01263 722199 -07914 130493	Louise Gregory
ecocheckconsultancy@gmail.com	Louise.Gregory@acorus.co.uk

Author:	Date	Reviewed by	Date
John Gibson	18 th March 2021	James Hodson	1 st June 2021



CONTENTS

NON-TECHNICAL SUMMARY	3
1 BACKGROUND	5
2 RELEVANT LEGISLATION	7
3 SURVEY METHODS	10
4 RESULTS	11
5 IMPACT ASSESSMENT	16
6 MITIGATION & COMPENSATION	19
7 ENHANCEMENT	23
8 RECOMMENDATIONS	24
9 REFERENCES	26
Appendix 1	27
Appendix 2	28
Appendix 3	32



NON-TECHNICAL SUMMARY

Eco Check Ltd have been commissioned by Acorus Rural Property Services to undertake a preliminary ecological appraisal (PEA) at Gunn's Farm and a bat roost assessment of a poultry shed of brick and timber construction with corrugated fiber board roof. The building is to be converted to form a new dwelling and served by the existing access to the east. The site is neighbored by agricultural buildings to the south, an equestrian area to the north-west and rough grassland to the north-east.

An ecological walkover survey and building inspection was carried out on 17th March 2021 by James Hodson of Eco-Check Ltd, an experienced ecological consultant with a BSc (Hons) in Environmental Sciences and MSc in Environmental Impact Assessment and licensed to undertake bat surveys and to disturb bats under Natural England Level 2 Bat Survey License 2017-30927-CLS-CLS and great crested newts 2018-36283-CLS-CLS.

Bare ground, building, tall ruderals, bramble thickets and improved grassland are the main habitats present within the planning application boundaries. The grassland and tall ruderal species appear to contain common species and are generally species poor. The hedgerow to the north west (H1) and the south west (H2) are defunct and species poor. The established wood piles within the building are of some interest as a refuge and hibernaculum to wildlife and it is recommended, they are carefully dismantled by an Ecological Clerk of Works (ECoW) and any herpetofauna or small mammals relocated to a habit pile recommended in this report. A mature Oak was identified off the south-west gable elevation of the building but is approximately 15 meters away and so must be protected in accordance with BS: 5837:2012 'Buildings in relation to design, demolition and construction'.

The only protected species potential meriting consideration is the possibility of birds nesting within the building, feasibly owls. No evidence was found inside the building to indicate use by bats or owls. Two bird nests (Species unknown) were recorded inside the building. The surroundings of the site also contain habitat suitable for hedgehogs and other small mammals.

There is a feasibility of Great Crested Newts (GCN) in the pond – P2, which has scored an **Average** suitability habitat scoring (0.67) for GCN. This supported by the combination of a wet ditch (D1) to the south west, surrounding wooded area near the P1 pond and an offsite pond -P4 on the neighbouring property, which scored **Good** suitability (0.72).

A great crested newt eDNA test of pond P2 was undertaken on the 30th April 2021 and was received by Surescreen Scientifics on the 7th May 2021 and a positive result for great crested newt was reported on the 24th May 2021. Despite the positive test result it is understood that works will be restricted to the footprint of the existing building and areas of bare ground and hard standing and so the impacts on any valuable terrestrial habitats or aquatic habitats will be negligible. In this case we recommend a condition is attached that a non-licensed mitigation method statement for great crested newts is produced prior to works commencing. This will likely include some form of fenced compound of the working areas and storage of building materials.

The building was assessed as having **negligible / low** bat roost potential. The assessment concluded the building has features associated more aligned with **negligible** potential rather than **low** due to the general lack of suitable roosting, lack of evidence and the building being generally draughty and subject to wider temperature fluctuations. In accordance with Bat Surveys-Good Practice Guidelines, J. Collins, 2016 and 'Bat Workers Manual, 3rd Edition, Mitchell and Jones, 2012, buildings with **Negligible** roost potential



require no further survey effort, although it is recommended that a suitably qualified ecologist is on site while sheet materials are being removed.

We advise that before the commencement of construction, it is recommended that in line with the British Standard 42020:2013 Biodiversity – Code of practice for planning and development - that a **Construction Environment Management Plan (CEMP)** is submitted and approved. The role of the CEMP is to ensure that the identified risks to biodiversity are assessed and that suitable methods are adopted on site to minimise the risks through the production of a method statement. The CEMP is also to ensure that biodiversity protection zones are enforced. As detailed above a reasonable avoidance mitigation statement for great crested newts will be required due to the positive result for great crested newt in Pond P2.

1 BACKGROUND

Eco Check Ltd have been commissioned by Acorus Rural Property Services to undertake a preliminary ecological appraisal (PEA) at Gunn's Farm and a bat roost assessment of a poultry shed of brick and timber construction with corrugated fiber board roof. The building is to be converted to form a new dwelling and served by the existing access to the east. The proposed site layout is shown in Figure 1 and aerial location plan of the site in Figure 2.

Gunn's Farm is located on the north west side of Offton Rd, approximately 2km west of Somersham, 1.6 km south of Offton and 1.8km north east of Elmsett. The site is bordered by agricultural buildings to the west and east, a tree line and pasture to the south-west and an arable field, wood and ponds to the east. OS maps indicate four waterbodies within 250 meters of the site (See Fig 3).

Figure 1. Proposed site layout plan

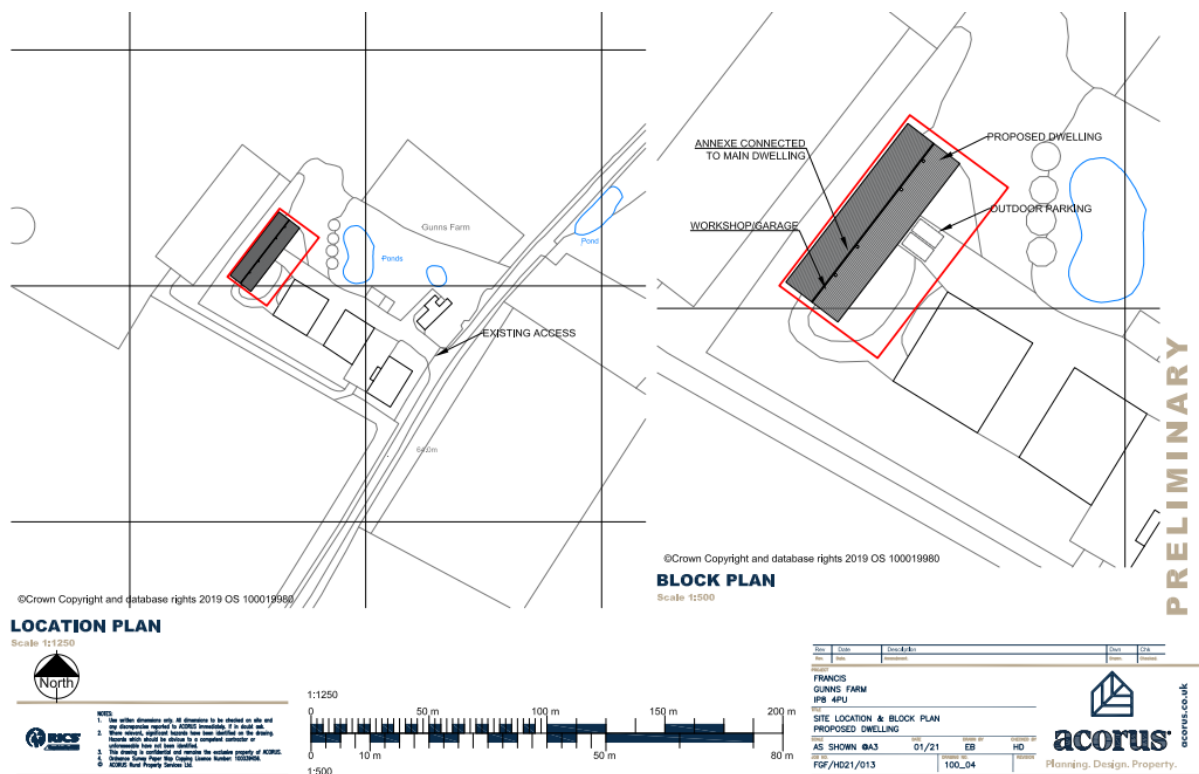


Figure 2. Development site location



The site location is indicated by the red/white plot on the map. The map highlights the surrounding arable fields, pastures, broadleaved tree line, scattered trees, ponds and hedgerows (Google earth,2021)



2 RELEVANT LEGISLATION

2.1 Protected Species

2.1.1 Bats

All bat species are listed under Annex IV (and certain species also under Annex II) of the European Union's Council Directive 92/43/EEC (The Habitats Directive), and are given UK protected status by Schedule 2 of the Conservation of Habitats and Species Regulations 2017. Bats and their roosts also receive protection from disturbance from by the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000). This protection extends to both the species and roost sites. It is an offence to kill, injure, capture, possess or otherwise disturb bats. Bat roosts are protected at all times of the year (making it an offence to damage, destroy or obstruct access to bat roosts), regardless of whether bats are present at the time.

2.1.2 Birds

All bird species are protected under the Wildlife and Countryside Act 1981 as amended. This prevents killing or injuring any bird or damaging or destroying nests and eggs. Certain species (including barn owl *Tyto alba*) are also listed under Schedule 1 of the Wildlife and Countryside Act 1981, which prevents disturbance of the species or its nest and/or eggs at any time with protection by special penalties.

2.1.3 Reptiles

All native reptiles are listed on Schedule 5 of the Wildlife and Countryside Act 1981, and are afforded protection under Sections 9(1) and 9(5). For the reptile species occurring in Norfolk, adder *Vipera berus*, grass snake *Natrix natrix*, slow-worm *Anguis fragilis* and common lizard *Zootoca vivipara*, this protection prohibits deliberate or reckless killing and injury but does not include habitat protection.

2.1.4 Herpetofauna

Herpetofauna- Native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Species such as the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slowworm *Anguis fragilis* are listed in respect to Section 9(1) & (5).

2.1.5 Great Crested Newts

The great crested newt *Triturus cristatus* is fully protected in accordance with both national and international legislation. The species is listed under Annexes IV and II of European Directive 92/43/EEC, and Schedule 2 of The Conservation of Habitats and Species Regulations 2017. The

species is also protected by Sections 9(4) and 9(5) of the Wildlife and Countryside Act 1981 as amended. It is an offence to knowingly or recklessly kill, injure, disturb, handle or sell the animal, and this protection is afforded to all life stages. It is unlawful to deliberately or recklessly damage, destroy, or obstruct the access to any structure or place used for shelter or protection; this includes both the terrestrial and aquatic components of its habitat.

2.1.6 Badgers

Badgers *Meles meles* are protected under the Protection of Badgers Act 1992 and the Wildlife and Countryside Act 1981 (as amended). Under Section 1 of the Protection of Badgers Act 1992, it is a criminal offence, subject to certain mitigating circumstances, to wilfully kill, injure or take a badger, and under Section 3 of this legislation it is a criminal offence, in most circumstances, to destroy, damage or obstruct access a badger sett or part of it. A badger sett is defined in the 1992 Act as any structure or place that displays signs indicating use by a badger. Although a sett may be empty at a particular time, it may be used as part of a regular cycle throughout the year, and can therefore be considered to be in use. Under certain conditions, activities that could otherwise give rise to an offence may be licensed by the Department for Environment, Food and Rural Affairs (Defra) (for agricultural or land drainage purposes) or Natural England (for development covered by planning permission). A sett which can be shown to have been unused for at least a full year is considered to fall outside of the provisions of the 1992 Act. The badger is listed under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended), which identifies animals that may not be killed or taken by certain methods.

2.1.7 Water Voles and Otters

The water vole and otter are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and are priority conservation species. It is an offence to:

- intentionally capture, kill or injure water voles or otters
- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care)
- disturb them in a place of shelter or protection (on purpose or by not taking enough care)
- possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity)

2.2 Statutory Designated Conservation Sites

National ecological designations, such as Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR), are also afforded statutory protection. SSSIs are notified and protected under the jurisdiction of the Wildlife and Countryside Act 1981 as amended. SSSIs are notified based on specific criteria, including the general representativeness and rarity of the site and of the species or habitats supported by it.

2.3 Local Non-statutory Designated Conservation Sites

Local sites of importance to biodiversity, but falling below the criteria for SSSI selection, are designations as County Wildlife Sites (CWS). These sites have no statutory protection, but are normally given consideration within local plans.

2.4 Species and Habitats of Principle Importance

Other priority species and habitats which are a consideration under the National Planning Policy Framework (NPPF) 2012, placing responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments. There is a general biodiversity duty in the Natural Environment and Rural Communities (NERC) Act 2006 (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'. Biodiversity, as covered by the Section 40 duty, includes all biodiversity, not just the Habitats and Species of Principal Importance.

Section 41 of the NERC Act lists a number of species and habitats as being Species/Habitats of Principal Importance. These are species/habitats in England which had been identified as requiring action under the UK BAP, and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. The protection of either Species of Principal Importance or Habitats of Principal Importance is not statutory, but "specific consideration"¹ should be afforded by Local Planning Authorities when dealing with them in relation to planning and development control. Also, there is an expectation that public bodies would refer to the Section 41 list when complying with the Section 40 duty.

3 SURVEY METHODS

3.1 Survey Objectives

The purpose of conducting this survey were to investigate and identify any ecological concerns that might be caused by the development of this site. Highlighting the impact, it could have potentially on habitats, protected and priority species.

3.2 Desk Study

Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) database (Natural England, 2020) was accessed on the 30th March 2021 for information on:

- Natura 2000 sites such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within 2km of the study area;
- Statutory sites designated for nature conservation within a 2km radius of the study area;
- Natural England's Impact Risk Zones (IRZs) for Sites of Special Scientific Interest (SSSI), Special Areas of Conservation, Special Protection Areas and Ramsar sites within which the study area was located; and
- Any European Protected Species Mitigation Licenses granted by Natural England within a 2km radius of the study area.
- Non-statutory nature conservation designations, such as County Wildlife Sites (CWS);
- Legally protected species, such as great crested newts, reptiles, birds and bats; and
- Notable species, such as those listed in the local Biodiversity Action Plan.

3.3 Limitations

The comprehensiveness of the ecological assessment was limited by the season in which the site visit was made. To confirm the presence or absence of all protected species usually requires multiple visits at suitable times of the year. Summer surveys between May and September are considered optimal. The site visit focussed on assessing the potential of the site to support species given protection under British or European law. In view of the above constraints this assessment cannot be considered to provide a comprehensive survey of the ecological interest of the site. It does however provide a "snapshot" of the ecological interest present on the day of the visit and highlights areas where further survey work may be required.

The main constraint to this survey was the timing of the season may have reduced the ability to identification of some plant species, but given the habitats present the shortfall is not anticipated to present a significant constraint. The wind recorded onsite was 20mph which feasibly influenced fauna seen.

3.4 Survey Dates and Personnel

An ecological walkover survey and building inspection was carried out on 17th March 2021 by James Hodson of Eco-Check Ltd, an experienced ecological consultant with a BSc (Hons) in Environmental Sciences and MSc in Environmental Impact Assessment and licensed to undertake



bat surveys and to disturb bats under Natural England Level 2 Bat Survey License 2017-30927-CLS-CLS and great crested newts 2018-36283-CLS-CLS.

The desktop survey has been completed by John Gibson MSc (Wildlife lecturer and experienced ecologist) on 30th March 2021.

4 RESULTS

4.1 Pre-existing Information on Designated Sites and Protected Species

Two SSSIs are within the 2km search from the sites. Elmsett Park Wood is an 8.6ha site, approximately 1.4km south, comprising of a Broadleaved, mixed and yew woodland - Lowland. The site currently in unfavourable condition but recovering. The other site, Middle Wood Offton, is 0.8ha and contains similar vegetation. Presently in favorable condition and approximately 1.65 km north of this development.

The development does fall within the impact zone of these SSSIs but isn't deemed to be a larger enough development to cause a concern.

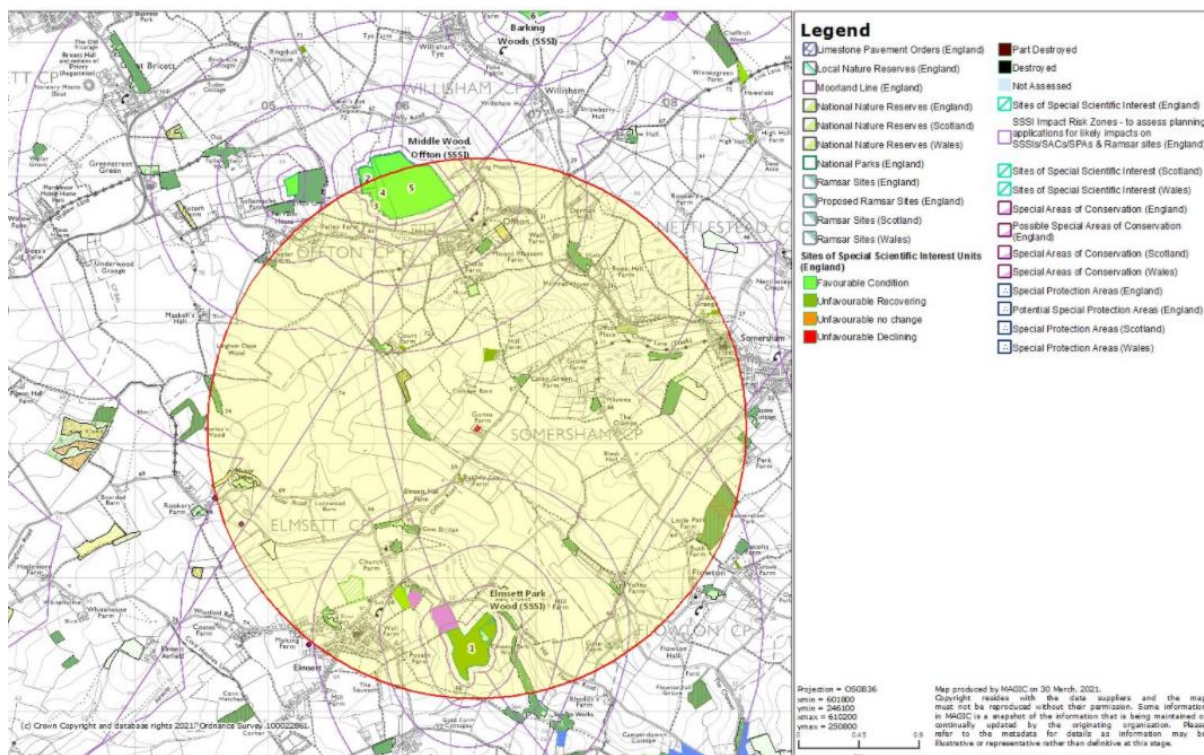
Table 1. Non-statutory sites within the landscape include:

Site name and grid references	Reason for designation	Distance from site (approximate)
Calves Wood CWS TM035482	Ancient woodland	3.1km west
Bushy Lee Farm CWS TM064478	Organic farm	370m south
Laurel Cottage Grassland CWS TM059468	Unimproved herb-rich meadow	1.4km south west
Corn Hatches Grove TM048459	Ancient woodlands	2.6km south west
Burstall Long Wood CWS TM106452	Ancient woodlands	5km south east
Borleys Wood CWS TM044482	Ancient woodland	2km west
Somersham Park CWS TM083474	Listed in English Nature's Inventory of Ancient Woodland	1.8km west
Cubitts Pit CWS TM110483	Chalk grassland	4.3km west
Nut Tree Cottage Meadow CWS TM102494	Unimproved grassland	3.8 km north east

Little Pendles TM099513	Mixed woodland, hedgerows and grassland, embankments and scrub	4.5km south west
Column Field Upper Quarry CWS TM 10355020	Exposed sand and chalk in close proximity and steep sand cliffs	4.3km south west
Calves Wood CWS TM035482	Ancient woodland	2.6km west

Within the 2km search, the following UK Priority habitats have been recorded; ancient woodlands, deciduous woodland, lowland meadows, traditional orchards, wood pasture & parkland (BAP Priority habitat).

Figure 4. Designations, habitats and impact zones within 2km of the site (Magic,2021).

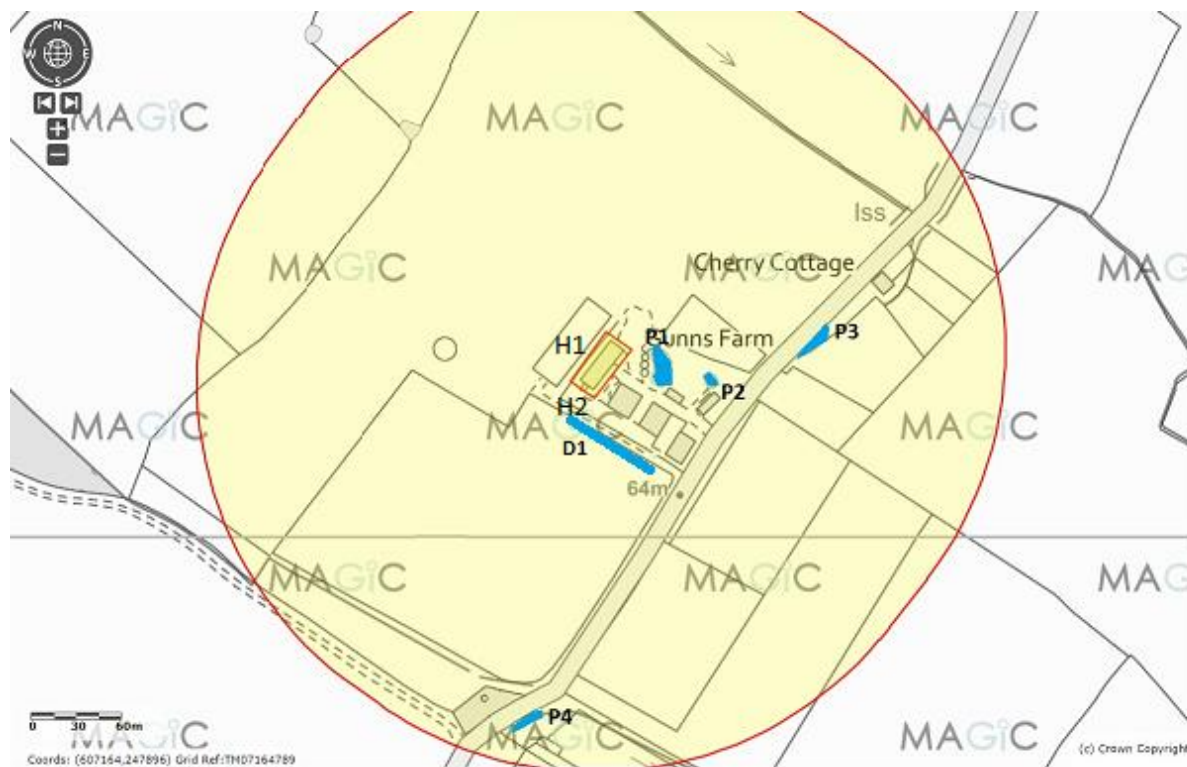


4.2 Habitat Inspection

Arable land, hedgerows, pasture, ponds and scattered trees are the main habitats surrounding the sites boundaries. There are four ponds nearby, two onsite ponds (P1+P2) appear to have regular waterfowl use and P1 likely dries on an annual basis. P1 surrounding habitat would be suitable for hibernating GCN but the pond itself scored only 0.30 HSI (poor) on the HSI calculator scoring. P2 scored better at 0.67 HSI (Average). The two ponds close to the development but off site scored, P3 -0.39 HSI (poor) however P4 scored better at 0.72 HSI (good).

A wet ditch (D1) runs along the south west boundary, possibly holding water at times due to the heavy persistent rainfall in the area. It is assumed these would be dry during the summer.

Figure 3. location of nearby ponds within 250m



Map produced using MAGIC highlight the four ponds near the site, P1 is approximately 25m , P2 – 53m, P3- 115m and P4- 265m

Within the boundary there is a mature Oak *Quercus robur* approximately, 15 meters from south west gable end of the building subject to conversion, two defunct Hawthorn *Crataegus monogyna* on the northwest boundary (H1 - 2.5m high & managed) and south west boundary (H2 - 5m high & unmanaged) boundary. The northeast boundary is post and rail opening onto an arable landscape and there are agricultural buildings to the south-east and north-west of the building.

The managed grassland found throughout the site was identified as amenity and species poor improved grassland, including the following species; Dandelion *Taraxacum*, Dock *Rumex obtusifolius*, Common daisy *Bellis perennis* and Rye grass *Lolium*.

Less managed areas of the site such as building edges, fencing etc. contained some common tall ruderal species such as nettle *Urtica dioica*, Bramble *Rubus fruticosus* and Common thistle *Irsium arvense*. Sporadic clumps of Soft rush *Juncus effusus*, Dock *Rumex obtusifolius*, Teasel *Dipsacus fullonum*, Primrose *Primula vulgaris* and Purple dead nettle *Lamium purpureum* were also recorded.

4.3 Protected Species Potential

4.4.1 Priority and Protected Species

Desktop studies revealed 1104 species recorded within 2km of the site, including 90 bird species, 2 reptile species, 3 amphibian species, 25 mammal species, 396 flowering plants and 312 insect species. Protected species of interest include (all are Red listed and UK priority species); Lapwing *Vanellus vanellus*, Yellow hammer *Emberiza citronella*, Starlings *Sturnus vulgaris*, Linnets *Linaria cannabina*, Song thrush *Turdus philomelos* and Skylark *Alauda arvensis*.

The following protected species have also record close to the site; Common pipistrelle *Pipistrellus pipistrellus* 1km south, Brown Long-eared Bat *Plecotus auratus*, Noctule *Nyctalus noctule* Serotine Eptesicus serotinus, Natterer's bat *Myotis nattererii*, Brown hare *Lepus europaeus*, Badger *Meles meles*, European Water Vole and Hedgehogs *Erinaceus europaeus*.

Hedgehogs have been recorded 11 times since 2007 and 19 counts of Badgers *Meles meles* since 2006 within a 2km search of site.

Herpetofauna records includes species: Grass snake *Natrix Helvetica*, Common lizard *Zootoca vivipara*, Common toad *Bufo bufo* and Common frog *Rana temporaria* and 9 counts of Great crested newts since 2010.

There are three returned European species applications for Great crested newts within the 2km search radius and all from 2016-2017. The closest record to the site is 1.8km West, grid reference TM048474.

Furthermore, there has been a European protected species application for the destruction of a resting place for Common Pipistrelles in 2016 at TM05914708, 1.2km south west of the site.

The surveyor noted three species of bird present during the visit; Moorhen *Gallinula chloropus*, Pheasant *Phasianus colchicus* and Mallard *Anas platyrhynchos*.

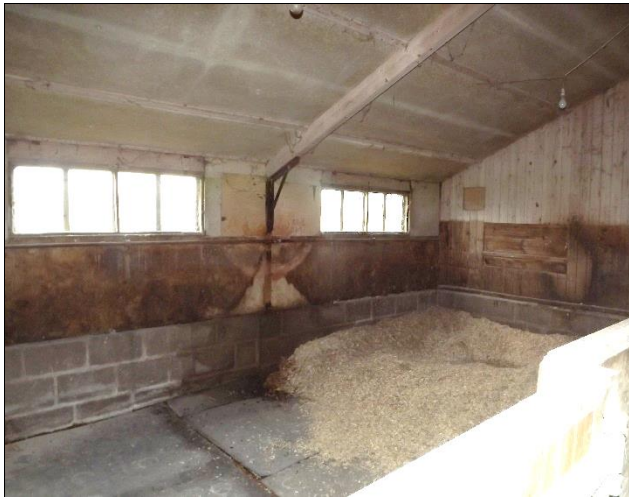
4.4.2 Building assessment

The building has been assessed for bat and bird roosting potential. The agricultural building has timber boards over a concrete block / breeze block wall construction with concrete/ bare ground floors. A timber frame roofing structure with corrugated asbestos roofing with rockwool installation and fireboards. Open gables at both ends of the building which appear to be constantly open allow wildlife to freely access the structure.

Inside, the walls have been painted and have limited the potential for roosts. The building has numerous access points for wildlife as seen in Figure 5. No evidence of bat activity was found inside the building. There was some evidence of nesting birds with two nests inside the building.

There are areas that could potentially be used for owls as a roost site but the building is unsuitable for nesting owls and no evidence use was found during the survey. There are additional nesting/ hibernation opportunities due to the stored wood piles within the building and other rubble/timber/brush piles.

Figure 5 The building and pictures highlighting the access potential and limited roost sites within



Top left: Well pointed, concreted and breeze block construction walls



Top right: Open gable at both ends.



Bottom left: Timber rafters with fire boards.



Bottom right: Additional access points through windows and example of the close-fitting external timber boards.



5 IMPACT ASSESSMENT

The assessment was undertaken in accordance with CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

In summary the impact assessment process involves:

- Assessing the value of ecological receptors at the site and those nearby that could be affected (e.g. designated sites, habitats, species);
- Identifying the unmitigated impacts of the development (magnitude, spatial extent, duration, timing/frequency, reversibility);
- Providing measures to avoid and mitigate for impacts;
- Assessing the significance of residual impacts after specified mitigation;
- Identifying appropriate compensation measures to offset significant residual effects, and;
- Identifying enhancement opportunities to provide a new benefit for biodiversity

Value/scale of ecological features:

The value of ecological features uses conservation status (i.e. extent, relative abundance and distribution) to assign geographic levels at which the feature is considered to hold importance.

Ecological features should be evaluated within a defined geographical context (CIEEM, 2016). These are based upon criteria identified in the CIEEM (2016) guidance, which categorises the geographic context of ecological importance as within one of the following:

- International and European;
- National;
- Regional;
- County, or local authority; and,
- Local Importance/Parish (High or Low Value).

Only features deemed “important ecological features” (the term used in CIEEM, 2016) are carried forward into the assessment of potential impacts. Important ecological features are:

Considered to be sufficiently valuable to the decision-making process; and specifically of “ Local Importance (Higher value)” or higher using the geographic frames of reference in Appendix B and, Likely to be significantly affected by the project (CIEEM, 2016).

For habitats, this includes the structure and composition of plant communities, the species they may support, and over what distance the habitat may have influence over e.g. wetlands may attract wintering birds from hundreds of miles away, whereas a small block of scrub may only support fauna in the local area

For species, this includes the abundance and distribution within a given geographical area e.g. a small population of great crested newt may be assessed to be of ‘local’ importance in the south of England

where populations are abundant but, but of ‘county’ importance in the north of England where the species is scarcer.

Ecological features valued at Local Importance (Lower Value) or of negligible value are not considered significant features and are scoped out of impact assessment.

It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable (CIEEM, 2016). In some cases, the data collected as part of the scoping process will be sufficient to inform the assessment of effects on a given feature. In other cases, additional surveys will need to be undertaken.

Ecological features which are within the zone of influence of a development, but not considered important ecological features, can be ‘scoped out’ (excluded), with justification.

Scale of impact and confidence levels:

Impacts on ecological features can occur either directly (e.g., loss of habitats, habitat fragmentation, noise/light disturbance) or indirectly (e.g., water/air quality, noise and light pollution, recreational disturbance). The overall impact is subjectively assessed taking into consideration a range of factors, including conservation status of an ecological feature, magnitude, spatial extent, duration, timing/frequency and reversibility. Impacts can be both positive and negative. The guidance used to quantify the scale of impacts is provided below;

Table 2 – Definitions of impact magnitude

Major	Loss of over 50% of a site feature, habitat or population Adverse change to all of a site feature, habitat or population For benefits, an impact equivalent in nature conservation terms to gain of over 50% of a site feature, habitat or population
Intermediate	Loss affecting 20-50% of a site feature, habitat or population Adverse change to over 50% of a site feature, habitat or population For benefits, an impact equivalent in nature conservation terms to a gain of 20-50% of a site feature, habitat or population
Minor	Loss affecting 5-19% of a site feature, habitat or population Adverse change to 20-50% of a site feature, habitat or population For benefits, an impact equivalent in nature conservation terms to a gain of 5-19% of a site feature, habitat or population
Neutral	Loss affecting up to 5% of a site feature, habitat or population Adverse change to less than 20% of a site feature, habitat or population For benefits, an impact equivalent in nature conservation terms to a gain of up to 5% of a site feature, habitat or population

The assessment of these impacts is subjective and based on predictions based on the available evidence and therefore may be inaccurate if predicted activities change or scale/extent of the proposed development alters. Therefore, we provide an indication of confidence levels for our assessment using the following criteria:

- Certain probability estimated at above 95%
- Likely probability estimated above 50% but below 95%
- Possible probability estimated at above 5% but below 50%
- Unlikely probability estimated at less than 5%

Consideration is also given to the potential for the development proposal to give rise to significant negative impact in combination with other proposed development in the area, where relevant. An overall assessment of value and predicted impact is provided, and this is based upon the highest level of value of any of the features or species present or likely to be present on the site, and similarly the overall assessment would be the impact of greatest significance

5.1 Review site impacts assessment

a. Habitats

The habitats that are within the site are likely to be affected but are not seen as highly valued natural habitats generally, and so the proposed development would **likely** have **minor impact** on valued ecological receptors. However, bordering habitats of trees, hedges, ponds and ditch and some refugia/hibernacula are of some value to wildlife, but probably only on a **local scale** only. Mitigation and enhancements are proposed within the site to enhance and protect the ecological receptors.

b. Protected Species

As seen, birds have been using the site and building for nesting/shelter. Bats have numerous opportunities to access the building but very limited options to roost. The roofing area probably has some access through the corrugated asbestos profile and the rockwool insulation would provide some thermal regulation. Overall, the building, has been seen as having a **Negligible / Low potential** for bat roosting and the impact of the conversion of the building is seen as **Neutral**.

The trees, scattered scrub and unmanaged vegetation around P1 could provide small isolated areas of habitat for amphibians, reptiles and small mammals. The stored wood piles within the building could be used as a refuge or hibernaculum, especially by species such as hedgehog and amphibians.

A great crested newt eDNA test of pond P2 was undertaken on the 30th April 2021 and was received by Surescreen Scientifics on the 7th May 2021 and a positive result for great crested newt was reported on the 24th May 2021. Despite the positive test result it is understood that works will be restricted to the footprint of the existing building and areas of bare ground and hard standing and so the impacts on any valuable terrestrial habitats or aquatic habitats will be negligible. In this case we recommend a condition is attached that a non-licensed mitigation method statement for great crested newts is produced prior to works commencing. This will likely include some form of fenced compound of the working areas and storage of building materials.

c. Designated Sites

The proposed development is likely to have limited impact on nearby designation sites due to the small scale of the proposed development and small increase in residents. The building conversion does not require any notable habitat loss or disturbance to the more valuable boundary habitats, therefore the direct (e.g. loss habitat) and indirect (e.g. disturbance) impacts are **likely** to be very limited (**Neutral**) from the information and assessments we have compiled



6 MITIGATION & COMPENSATION

a. Habitats

The proposal will result in the loss of some low value terrestrial habitat and common plant species, no trees or hedges will require removal. To mitigate the disturbance caused from the likely removal of the internal wood piles, a habitat pile, should be created on the north eastern side of P1. This will give an area that species can be transported to whilst the site is cleared.

Due to the likely loss of some grassland habitat through the developments process, it is advised to improve the grassland mix. With a soil analysis, it would be possible to match the species to the soil type and ensure that maximum flora success is achieved. Emorsgate EM4 or similar species rich grass seed mixes should be used in the amenity grass areas of the dwelling. Additionally, leaving a 2m buffer strip and using a wildflower mix against the boundaries and around the ponds will give further biodiversity enhancements.

b. Protected Species

There will be likely significant disturbance to birds during the development of the site and so a selection of roost/nesting boxes will need to be placed throughout the site and on the building to mitigate the loss of roosting/ nesting sites.

As mentioned above, a habitat pile should be created close to either pond P1 or P2, so species such as amphibians, hedgehogs and reptiles, that might be found during the development of the site can be re-located safely.

c. General mitigation during works without detailed assessment for site

The development proposals for this site have been considered in terms of the mitigation hierarchy (BSI 2013) ⁵. This consists of a 4-point framework of reference as reproduced below:

Avoidance, mitigation, compensation, and enhancement measures can be secured through planning conditions or obligations.

1. Avoidance should be the primary objective of any proposal.

If protected species are discovered on site either before or during the proposed works, all works should stop a suitably qualified ecologist should be contacted for advice on mitigation before continuing. Requirements below outline how impacts to reptiles, great crested newt, birds and small mammals such as hedgehogs can be avoided.

2. Mitigation measures aim to reduce or remove impacts.

Mitigation for this site should take the form of informed landscape planting and retention of boundary habitats to maintain a corridor for wildlife around and through the site.

3. Compensation is considered to be the last step on the hierarchy

Compensation 'should only be used in exceptional circumstances and as a last resort after all

options for avoidance and mitigation have been fully considered' (BSI 2013). No compensation measures are considered necessary for these proposals.

4. Enhancement measures

These aim to provide opportunities for ecological gain as part of a development proposal in line with the NPPF13⁶. Suggestions for enhancement are provided below in Section 7.

Ground Clearance Works-

- As per the recommendations above vegetation clearance and tree works across the site should ideally be performed outside of the active bird breeding season 1st March- 15th September inclusive. If this is not possible a bird surveyor should visit the site to check for evidence of nesting birds prior to any clearance works.
- Any artificial and natural refugia within the working areas (brash, grass, sheeting) would be hand-searched for the presence of reptiles and amphibians prior to commencement of works.
- Clearance of any potential reptile habitat should ideally be undertaken between mid-march and mid-june on a warm (above 13°C), dry day with little wind. In this way, the majority of amphibians would be in breeding ponds/standing water and therefore would be less likely to be in terrestrial refuges where they may be at risk of harm. Widespread reptiles would also be active at this time and so could escape harm's way were they present.
- A minimum buffer strip of 3m should be left undisturbed along the boundary hedges upon project completion to maintain some habitat connectivity. Care should be taken with regards to vegetation clearance and earthworks due to potential disturbance to nesting birds, herpetofauna and small mammals.

Construction and Working Practices-

- The timing of construction works will be sensitive to nesting birds. If possible, it is proposed that operations within the working area would preferably be started outside of the bird breeding season to minimise the risk of disturbance to breeding birds that have already commenced nesting. Once works commence birds are unlikely to start nesting within the working area. However, in order to avoid accidental harm to nesting birds, a 15m buffer zone will be marked around any nest using high visibility fencing to ensure that the nest is not disturbed, damaged or destroyed whilst in use.
- If any ground nesting birds are found to be nesting within or close to the working areas during the pre-inspection survey or clearance, a 25m standoff from the nest will be marked out and observed, within which no operational activity would be permitted until the breeding attempt had concluded.
- Bird and bat boxes will be erected on the boundary trees and building to provide additional nesting and roosting opportunities and to compensate for potential disturbance to nesting birds. There is sufficient off-site habitat for nesting birds.
- In the event that protected species are discovered within the site, works would need to stop until the situation has been further assessed, and if necessary, a mitigation strategy developed and an application made for a site license.

- The site manager and other relevant staff will be briefed (by suitably qualified ecologist) on the possible presence of protected species in the area (Toolbox talk). Staff will be provided with information relating to the legislation which protects species and habitats and briefed on the procedures to prevent disturbance or destruction of individuals or their habitats. Staff will also be briefed on the emergency procedures to be implemented should protected species be found during clearance and construction works.
- Habitats removed, wherever possible will be replaced at the earliest opportunity with native or wildlife attracting species.
- Trenches, pits or holes dug on site that are to be left over night will be covered over or have a ramp placed in them so that any wildlife that falls in can climb out safely;
- The proposed location of the site compounds and any material storage areas will not extend into more important habitats, notably the hedge bases and tree root protection areas RPA's. These key areas should be fenced off with Heras fencing or similar to prevent direct habitat disturbance.
- Care should also be taken if lighting any bonfires as these may be potential hedgehog refugia/hibernation sites. Any brash and log piles on site will be searched by hand before removal/burning (see above) and if discovered translocated to a suitable location.

Lighting

Any new external lights will be set on a motion detector and positioned in such a way that they do not shine on the boundary trees and hedges. Low intensity lighting should be used where possible in place of high intensity discharge or sodium lamps, this will minimize disturbance to foraging and commuting bats. In accordance with the Bat Conservation Trust's publication *Bats and artificial lighting* (BCT, 2018) light pollution by artificial lighting will be kept to a minimum and light spillage avoided. The following specific mitigation will be put in place to minimize disturbance to bats caused by the lighting of the site. The following mitigation strategies have been taken from Bat Conservation Trust Landscape and Urban Design for Bats and Biodiversity (Gunnell et al., 2012) and other referenced sources:

- Minimise light spill by eliminating any bare bulbs and upward pointing light fixtures. The spread of light should be kept near to or below the horizontal plane, by using as steep a downward angle as possible and/or shield hood. Flat, cut-off lanterns are best;
- Use light sources that emit minimal ultra-violet light (van Langevelde and Feta, 2001) and avoid the white and blue wavelengths of the light spectrum, so as to avoid attracting insects and thus potentially reducing numbers in adjacent areas;
- Limiting the height of lighting columns to eight metres and increase the spacing of lighting columns (Fure, 2006) can reduce the spill of light into unwanted areas;
- Avoid using reflective surfaces under lights or light reflecting off windows (e.g. on to trees);
- Only the minimum amount of light needed for safety and access should be used and or turned off when the site is not in use;
- Artificial lighting proposals should not directly illuminate boundary habitats, which may be of value to foraging or commuting bats and birds (e.g. green corridors);
- Lighting that is required for security reasons should use a lamp of no greater than 2000 lumens (150 Watts) and be PIR sensor activated, to ensure that the lights are not on only when required (Jones, 2000; Collins, 2016);

Tree Works

- All middle aged and mature trees where possible to be retained and protected in line with British Standard: 5837:2012 “Trees in Relation to Design, Demolition and Construction”
- If tree removal is scheduled between the months of 1st March and 15th September then a breeding/nesting bird survey should be first undertaken by the SQE.
- A search of any tree holes, cavities, flaking bark and dense creeping ivy will be undertaken to confirm the absence of any roosting bats, this is particularly important during the summer months when such features are used more frequently.
- In the event that any active nests are identified, no operational activity will be permitted within the stand-off zones until the breeding attempt had concluded.

Pollution Control

Standard pollution prevention measures will be put in place including measures such as preventing dust by damping down bare ground and ensuring fuel is stored in bunded tanks. The Environment Agency PPG1 and PPG6 guidance on *General Guide to the Prevention of Pollution and Working at Construction and Demolition Sites* will be adhered to throughout the construction of the Proposed Development.

Liquid-

Many of the materials used in construction operations, such as oil, chemicals, cement, lime, cleaning materials and paint have the potential to cause serious pollution. All fuel, oil and chemical storage must be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of an adequate capacity.

Leaking or empty oil drums must be removed from the site immediately and disposed of via a licensed waste disposal contractor. The contents of any tank are to be clearly marked on the tank, and a notice displayed requiring that valves and trigger guns be locked when not in use. Concrete is highly alkaline and corrosive and can have a serious impact on groundwater, soil and watercourses. It is essential to take particular care with all works involving concrete and cement. Suitable provision is to be made for the washing out of concrete mixing plant or ready-mix concrete lorries so that washings do not flow into any drains or watercourse or seep underground.

Air, Noise and Vibration-

Contractors will be expected to take measures to minimize the presence of air borne dust during clearance and construction. If possible, any activities producing in excess of 70db should be avoided during the bird nesting season.

⁵ BSI (2013). The British Standard BS 42020:2013 Biodiversity a Code of practice for planning and development

⁶ National Planning Policy Framework (NPPF) March 2012



7 ENHANCEMENT

The proposed development has several opportunities to enhance the site for wildlife. To increase nesting opportunities generally, nest/ roosting boxes should be installed. The box types will be designed for longevity and 'Eco-Roost' boxes are recommended for most of them, in varying styles for differing species, which will be affixed to the mature scattered and boundary trees away from areas likely to be disturbed by people.

The site will benefit from planting a species rich hedgerow, planted in double rows, surrounding the new curtilage of the building and garden.

If wooden fences are erected on site, they should be permeable for species such as hedgehog. Allowing gaps /holes at ground level sporadically throughout the fence line. Post and rail are preferred.

Grassland enhancement has been mentioned previously, a buffer strip surrounding the boundaries with a species rich wildflower mix should increase biodiversity and nectar/structure sources for wildlife.

A biodiversity enhancement plans that include planting schedules, grass mixes and replacement habitats/roosting sites, will be supplied in a CEMP.



8 RECOMMENDATIONS

a. Habitats

No further survey work is required.

b. Protected Species

The P2- pond has been deemed to be of average suitability for Great crested newts (GCN) because of calculated value of 0.67 on the HSI calculator. Therefore, the pond has potential to support great crested newts. Furthermore, GCN have been recorded within the vicinity of the site. The site also has habitats suitable for amphibians such as scrub, rough grassland and hedgerows. A great crested newt eDNA test of pond P2 was undertaken on the 30th April 2021 and was received by Surescreen Scientifics on the 7th May 2021 and a positive result for great crested newt was reported on the 24th May 2021. Despite the positive test result it is understood that works will be restricted to the footprint of the existing building and areas of bare ground and hard standing and so the impacts on any valuable terrestrial habitats or aquatic habitats will be negligible. In this case we recommend a condition is attached that a non-licensed mitigation method statement for great crested newts is produced prior to works commencing. This will likely include some form of fenced compound of the working areas and storage of building materials.

Bat Roosting opportunities are limited within the building, so further surveys are not recommended but the roofing design does have some small roost potential. It would be recommended to have a pre-works check and supervised removal of sheet material by an ECoW.

The local area has had numerous water voles recorded and the site offers waterbodies that could provide potential habitat for this species. If works are encroaching on these areas, a detailed survey for this species will need to be conducted.

c. Regard to the Habitats Directive

The timing of construction works will be sensitive to nesting birds. If possible, it is proposed that operations within the working area would preferably be started outside of the bird breeding season (1st March and 15th September) to minimise the risk of disturbance to breeding birds that have already commenced nesting. Once works commence birds are unlikely to start nesting within the working area. However, in order to avoid accidental harm to nesting birds, a 15m buffer zone will be marked around any nest using high visibility fencing to ensure that the nest is not disturbed, damaged or destroyed whilst in use.

If any ground nesting birds are found to be nesting within or close to the working areas during the pre-inspection survey or clearance, a 25m standoff from the nest will be marked out and observed, within which no operational activity would be permitted until the breeding attempt had concluded.

If building demolition, vegetation clearance or other ground works are scheduled between the months of 1st March and 15th September then a breeding/nesting bird survey should be first undertaken by the SQE.

d. Ecological Conditions and Recommendations

To fully assess the site for, and the impact of the proposed development upon, protected species, detailed survey is recommended for the following species:

- No further surveys for breeding birds are required if the site is cleared outside the main bird breeding season (i.e., 1st March to 31st August). If work is proposed during the bird breeding season, the site should be checked for evidence of active nesting by a suitably qualified ecologist prior to work commencing
- The Building has **negligible** roost potential. In accordance with Bat Surveys-Good Practice Guidelines, J. Collins, 2016 and 'Bat Workers Manual, 3rd Edition, Mitchell and Jones, 2012 buildings with **negligible** roost potential require no further survey effort. However, due to the small possibility of a transient singleton bat being present during the summer months a supervised roof strip has been recommended.
- An Ecological Constraints and Opportunities Plan (ECOP) would highlight the boundary habitats as a moderate (and ultimately replaceable) constraint on development. Before the start of construction, it is recommended that in line with the British Standard 42020:2013 Biodiversity – Code of practice for planning and development - that a **Construction Environment Management Plan (CEMP) is submitted and approved**. The role of the CEMP is to ensure that the identified risks to biodiversity are assessed and that suitable methods are adopted on site to minimise the risks through the production of a method statement. The CEMP is also to ensure that biodiversity protection zones are enforced.

The suggested condition below is based on BS42020:2013 and in terms of biodiversity net gain, the enhancements proposed will contribute to this aim. Recommended condition:

PRIOR TO COMMENCEMENT: COMPLIANCE WITH ECOLOGICAL REPORT RECOMMENDATIONS

“All ecological mitigation and enhancement measures and/or works shall be carried out in accordance with the details contained within the report (Eco-Check, June 2021), as submitted with the planning application and agreed with the local planning authority prior to determination.”

Reason: To conserve and enhance Protected and Priority species and allow the LPA to discharge its duties under the UK Habitats Regulations, the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 and s17 Crime & Disorder Act 1998.

It is advised that if a period of more than 2 years passes between the date of this survey and the commencement of clearance and construction works then a further site survey should be made in addition to the pre-works checks outlined above. A check of the boundary trees for bats and nesting birds should be made prior to any tree works or hedge cutting and should be undertaken under a watching brief by the ecological clerk of works (ECoW).



9 REFERENCES

British Standards Institution (2013). BS42020 – Biodiversity – Code of practice for planning and development.

CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2015) *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

Froglife (1999) *Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10, Froglife, Halesworth

Gent T & Gibson S (2003)- *Herpetofauna Workers Manual*. JNCC, Peterborough.

Hill, D, FashaM, Tucker G, Shewry M & Shaw P (2005) *Handbook of Biodiversity Methods: Survey Evaluation and Monitoring*, Cambridge University Press, Cambridge

Collins, J (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition*, Bat Conservation Trust.

DEFRA (2005) *Fifth Quinquennial Review of Schedules 5 and 8 of The Wildlife and Countryside Act 1981*. Department for Environmental, Food and Rural Affairs, London.

JNCC, (1993). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit (2010 reprint)*. Joint Nature Conservation Committee, Peterborough.

JNCC, (2006). Handbook for using the National Vegetation Classification.

Impact of Development on County Wildlife Sites and other areas of semi-natural habitat- Norfolk Wildlife Trust (NWT), John Hiskett, August 2007

J.S.Rodwell, 2006 Joint Nature Conservation Committee.

Joint Nature Conservation Committee, 2003. *Herpetofauna Worker's Manual*. JNCC Publications, Peterborough.

Froglife (2001), *Great Crested Newt Conservation Handbook*, Froglife, Halesworth, Suffolk

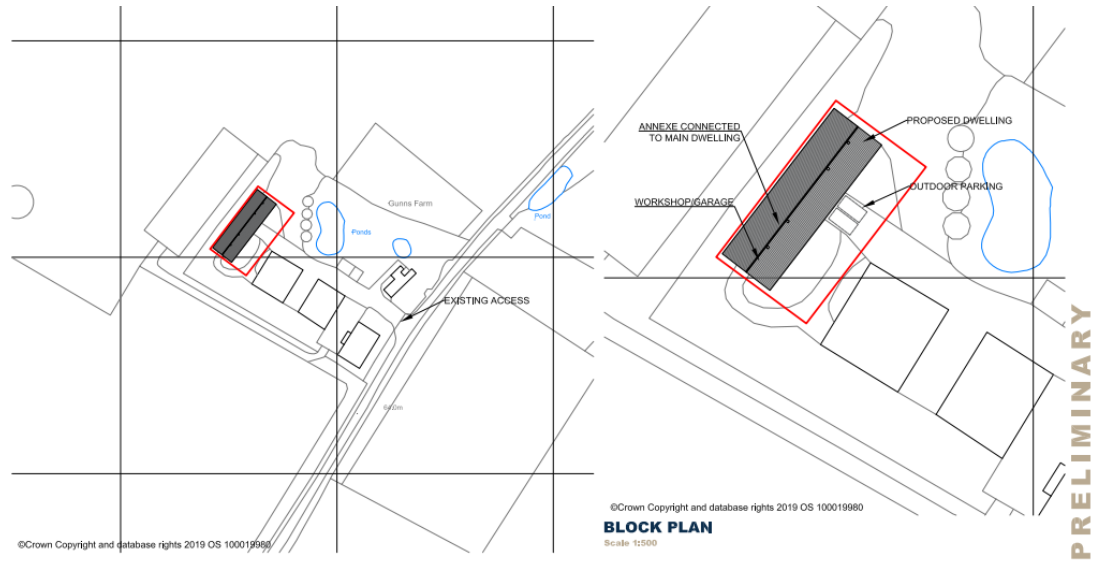
Mitchell-Jones, & McLeish, A.P. Ed.(2004),3rd Edition *Bat Workers' Manual*

[Biodiversity 2020: A strategy for England's wildlife and ecosystem services \(2011\).](#)

Natural England, MAGIC MAP Search, March 2021, www.magic.gov.uk

Appendix 1

Proposed site layout plan



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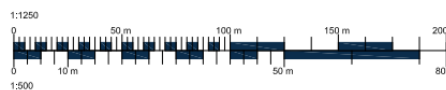
BLOCK PLAN
Scale 1:500

PRELIMINARY

LOCATION PLAN
Scale: 1:12500

NOTES:

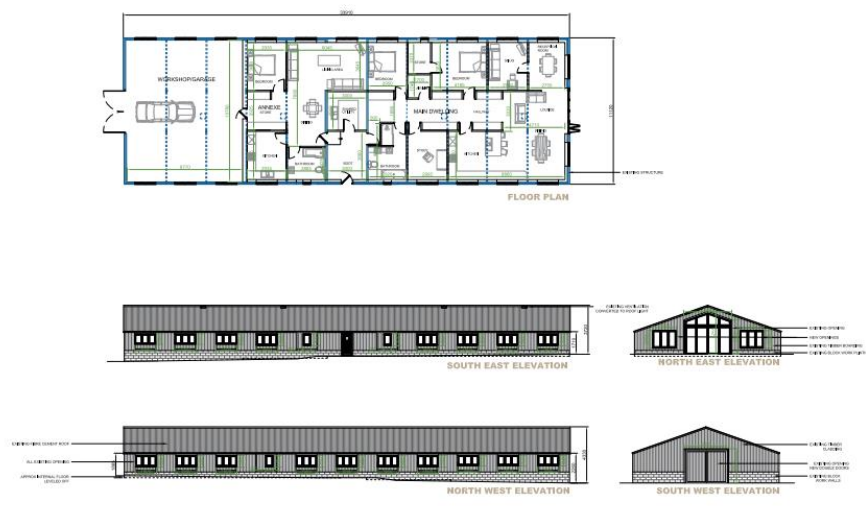
1. The office drawings are to be checked on site and any necessary changes to be made to the drawings.
2. The drawings are not to be used for any other purpose without the written consent of ACORUS.
3. The drawings are not to be used for any other purpose without the written consent of ACORUS.
4. The drawings are not to be used for any other purpose without the written consent of ACORUS.
5. ACORUS Real Property Services Ltd.



Rev	Date	Drawn By	Check	CD
<p>FRANCIS GUNNS FARM IPB 4PU</p> <p>SITE LOCATION & BLOCK PLAN PROPOSED DWELLING</p> <p>AS SHOWN: 04/3 01/21 ER HD</p> <p>PROJ: FGF/HQ21/013 100_04</p>				



Proposed development plans & elevations



PROPOSED PLAN & ELEVATIONS
Scale 1:100

NOTES:

1. The office drawings are to be checked on site and any necessary changes to be made to the drawings.
2. The drawings are not to be used for any other purpose without the written consent of ACORUS.
3. The drawings are not to be used for any other purpose without the written consent of ACORUS.
4. The drawings are not to be used for any other purpose without the written consent of ACORUS.
5. ACORUS Real Property Services Ltd.



Rev	Date	Drawn By	Check	CD
<p>FRANCIS GUNNS FARM IPB 4PU</p> <p>PROPOSED DWELLING PLAN & ELEVATIONS</p> <p>AS SHOWN: 04/3 01/21 ER HD</p> <p>PROJ: FGF/HQ21/013 100_04</p>				



PRELIMINARY

Appendix 2

Photo 1. The building onsite with open access and fire boarding roof panels



Photo 2. Asbestos corrugated roof



Photo 3. Species poor Improved grassland and areas of dense nettles onsite



Photo 4. Onsite P1 pond with overhanging shading vegetation



Photo 5. Onsite P2 pond with HSI scoring of 0.67 scoring (Average)



Photo 6. North west boundary and the defunct species poor (Hawthorn) hedgerow and rabbit activity onsite



Photo 7. Mature Oak on the south west boundary



Photo 8. Defunct species poor (Hawthorn mainly) hedgerow on the southwest boundary





Folio No: E10042
 Report No: 1
 Purchase Order: 300421
 Client: ECO-CHECK LTD
 Contact: James Hodson

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 07/05/2021
Date Reported: 24/05/2021
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
2081	Gunns Farm, Somersham	TM 066 481	Pass	Pass	Pass	Positive	12

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Chris Troth

Approved by: Chris Troth



Forensic Scientists and Consultant Engineers
 SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE
 UK Tel: +44 (0)1332 292003 Email: scientifics@surescreen.com
 Company Registration No. 08950940