



Village Hall, Arminghall, Norfolk

**Preliminary Ecological Appraisal
Report**

On Behalf of

**Caister St Edmund & Bexley Parish
Council**

Version 1 | October 2021



The existing village hall and trees onsite

Document Control

Version	Date	Produced by	Reviewed by	Notes
Version 1	13 th October 2021	Alex Jessop MSc Ecologist	Cyris Weaire BSc (Hons) MCIEEM Principal Ecologist & Director	
Version 2	19 th October 2021	Alex Jessop MSc Ecologist	-	Inclusion of ladder inspection to overcome limitation

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This report does not purport to provide legal advice. This report provides baseline ecological conditions for the aforementioned site and is considered relevant for a period of no more than 12 months from the date of the Site Visit.

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Ecological Risk Assessment

The following Ecological Risk Assessment provides an infographic summary of the Preliminary Ecological Appraisal Arminghall Village Hall, Arminghall, Norfolk. This includes the requirements, including further surveys or mitigation, necessary to comply with relevant legislation and policy. Enhancement measures are also provided in line with the National Planning Policy Framework¹. An assessment of potential impacts has been made based on the proposals for the Site, which include demolition of the existing hall and clearance of the Site prior to the development of a single residential property. **PEA Version 1 is based on a description of the proposed development and should be updated with a proposal plan when available.**

This Eco RA is not intended as a substitute for reading the full report as set out in the preceding pages.

Risk Code Key		
	High Risk	Ecological issue(s) requiring further survey work and/or mitigation prior to planning application
	Moderate Risk	Ecological issue(s) requiring mitigation without requiring further survey
	Low Risk	No significant ecological issues identified. No further action required.

Risk Code	Factor	Comments and Actions Required	Timings
	Habitats	<p>The Site habitats include modified grass, predominantly mown but with an area of tall herb and scattered scrub, buildings, line of trees, and a small area of sealed surface. No priority habitats lie on or adjacent to the Site.</p> <p>It is considered likely that the Site will be cleared in its entirety to facilitate development.</p> <p>Requirements: Retain mature trees if possible, if not then compensate with native/ species rich hedgerow planting of at least 20m in length.</p> <p>Protect all retained trees and hedgerows with root protection measures in line with BS 5837:2012; &</p> <p>Enhancements: Incorporate espalier fruit trees and consider incorporating a green roof</p>	<p>Design Stage</p> <p>Pre- and during construction</p> <p>Design Stage</p>
	Birds	<p>Trees and scrub onsite have suitability for nesting birds. Clearance of these could impact active nests as well as see a loss in nesting habitat.</p> <p>Requirements: Clearance of sections of the scrub to be undertaken outside of the nesting bird season to avoid impacts to active nests; or, during the nesting season to be undertaken at most 48 hours after a nesting bird check performed by an ecologist; &</p> <p>Compensate for the loss of habitat by including two integrated nest boxes within the design of the new building.</p> <p>Enhancements: Include a house sparrow terrace within the design of the new building.</p>	<p>Pre-construction, Sept – Feb; or Mar – Aug</p> <p>Design Stage</p> <p>Design Stage</p>

Risk Code	Factor	Comments and Actions Required	Timings
	Priority Species (Fauna and Flora)	<p>Hedgehogs may utilise the site for foraging and commuting.</p> <p>Requirements: Any small mammal disturbed during construction should be allowed to flee of their own volition to the Site boundary; &</p> <p>The development should seek to minimise the use of impermeable boundary fencing. This can be negated by ensuring that all boundaries are marked with hedgerows or permeable fencing; failing this, any impermeable fencing installed should have 13x13cm holes in the base to provide access.</p> <p>Enhancements: Include a hedgehog box within proposals.</p>	Pre-construction Design Stage Design Stage
	Bats	<p>No potential roosting features were identified from the ground level inspection, although a close inspection at roof level on gable ends was not possible.</p> <p>No other potential roosting habitat was noted. The Site has moderate value for foraging and commuting bats but is not of importance within the landscape.</p> <p>Requirements: A bat friendly lighting scheme should be included ensuring that any bat boxes or boundary vegetation are unlit.</p> <p>Enhancements: Include three integrated bat boxes within the design of new building.</p>	Design Stage Design Stage
	Statutory and Non-Statutory Designated Sites Great Crested Newts	Discussed but no further action required.	
	Badger Hazel Dormice Invasive Species Otter Reptiles Water Vole W-C Crayfish	<p>Considered but screened out due to a lack of suitable, connecting, or linked habitat combined with a lack of evidence onsite.</p> <p>No action required</p>	

1 Introduction

1.1 Background

Practical Ecology Ltd were commissioned by Caister St Edmund & Bexley Parish Council to undertake a Preliminary Ecological Appraisal (PEA) of Arminghall Village Hall, herein referred to as “the Site”.

This report presents ecological information gathered during a desk study and an ecological walkover survey of the Site undertaken on 14th September 2021 and an additional inspection of the building from a ladder on 18th October 2021.

The purpose of this report is to provide baseline ecological information pertaining to the Site, alongside the rationale for required further surveys and mitigation as deemed appropriate to ensure compliance with legislation and policy, and recommend enhancement measures to achieve biodiversity net-gain.

Ecological baseline information for the Site is crucial to ensure potential effects of the development upon flora and fauna can be suitably managed. Furthermore, any constraints upon the proposed development of the Site, imposed by site ecology, can be assessed. Enhancement measures are presented which allow site biodiversity to be improved, whilst considering the legal requirements and best practice regarding protected species and/or habitats.

1.2 The Site

The Site is approximately 175m² (0.02ha) (central OS grid reference TG 25246 04230), postcode NR14 8SF and is located in Arminghall, Norfolk, c.2km south of Norwich. The Site is comprised of modified grassland, a building and shed, and several trees. Surrounding the Site are residential properties and gardens. A Site boundary (red line) is provided in Figure 1 below.

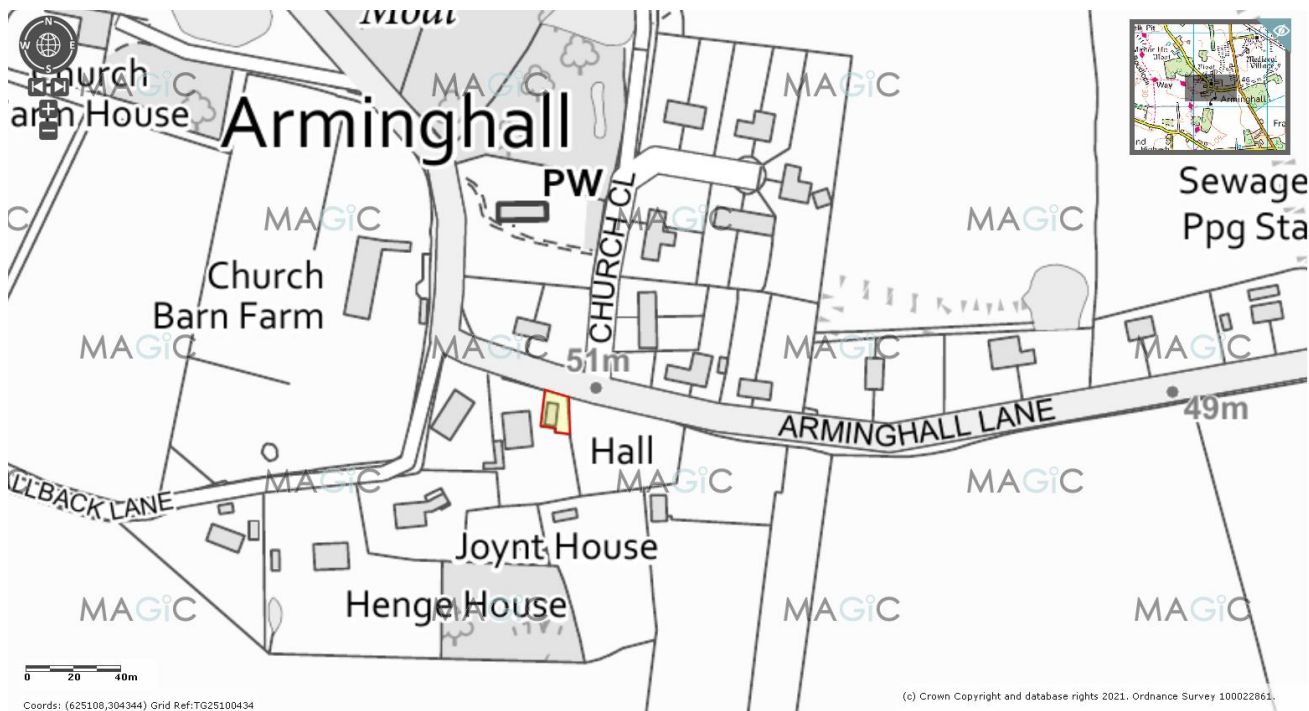


Figure 1: Site Boundary

1.3 Proposed Development

The proposals include clearance of the Site in its entirety to allow change of use to demolish the disused village hall and replace it with a residential chalet bungalow with integral garage and access. Currently, no proposal plans are available.

2 Methods of Assessment

2.1 Desk Study

A search for Statutory Sites of Nature Conservation Importance and Priority Habitats² within 1km of the Site was undertaken using the Multi Agency Geographical Information for the Countryside (MAGIC)³.

Ordnance Survey maps and aerial photographs from online sources were consulted to identify the presence of any water bodies within 500m of the Site.

Records of protected species, notable species, invasive species, and non-statutory sites from within 1km of the Site were procured from Norfolk Biological Information Service⁴ as part of this desk-based study and are presented in this report. Records provided by the record centre that are more than ten years old are only reported on if they are deemed to still be relevant.

The relevant Local Biodiversity Action Plan, Norfolk Local BAP⁵, was consulted to determine whether species and habitats identified (by both the desk study and the field survey) on and around the Site are subject to specific action plans. The list of UK Biodiversity Action Plan (UK BAP) species⁶ was also consulted as this remains an important reference source, despite being succeeded by the UK Post-2010 Biodiversity Framework⁷.

2.2 Preliminary Ecological Appraisal Site Survey

A Preliminary Ecological Appraisal survey of the Site was undertaken on 14th September 2021 by Alex Jessop MSc, an Ecologist with over three and a half years' experience in undertaking preliminary ecological appraisals. A second survey to assess the wall plate at the gable ends from a ladder was undertaken on 18th October 2021, by Alex Jessop, who was assisted by Field Assistant Jonas Dieter BSc (Hons).

This survey assessed the value of onsite and adjacent habitats and their potential to support protected or notable species and habitats following the Guidelines for Preliminary Ecological Appraisal⁸ published by the Chartered Institute for Ecological and Environmental Management (CIEEM).

Habitats

Habitats were classified as per the criteria set out in the Handbook for The UK Habitat Classification⁹ with the prescribed habitat primary and relevant secondary habitat codes included. Habitats were checked against the definitions for Priority Habitats. Priority Habitats are those which are identified as a Habitat of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006².

European Protected Species

Following the UK exit from the European Union (EU), species formerly protected under the Habitat Regulations are now considered to be protected under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹⁰ and will continue to be referred to as European Protected Species (EPS). Further legislative details regarding protected species are included in Appendix 33.

Great Crested Newt (Triturus cristatus)

Great crested newts use both terrestrial and aquatic habitat within their lifecycle, with all habitat used legally protected. The terrestrial and, if present, aquatic habitats onsite were assessed for their value and suitability for great crested newts. The proximity of ponds within 500m and any habitat linking such ponds to the Site was also assessed as an important factor determining the likelihood of the species being present onsite. Any ponds present onsite or accessible during the survey were assessed using the Habitat Suitability Index (HSI) Assessment¹¹ where appropriate.

Bats

Any trees or buildings present onsite were assessed for their suitability for roosting bats using the protocol set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed)¹². Where necessary this included the use of binoculars to allow for a ground level assessment to search for signs such as staining and/or droppings sometimes found around roost entrances. Internal inspections of buildings or loft voids was undertaken where possible, using ladders and crawling boards if appropriate. It is noted that a lack of evidence of roosting bats, such as presence of bats, droppings, or staining, does not correlate to a lack or presence or a lack of suitability.

Habitats were assessed for their suitability for foraging and commuting bats, as set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed)¹².

Hazel Dormice (Muscardinus avellanarius)

The Dormouse Conservation Handbook (2nd Ed.)¹³ provides a level of guidance on assessing a site where the status of hazel dormice is unknown. This assessment is made based upon historical records as well as the habitat and plant species present on and adjacent to the Site. As hazel dormice have a large range, a lack of evidence does not correlate to a lack of presence.

Otter (Lutra lutra) | White Clawed Crayfish (Austropotamobius pallipes)

Suitable waterbodies (if present) on or adjacent to the Site were assessed for their suitability to support these species, where access was possible. Any incidental evidence of the presence of these species on site (e.g. holts, spraints, foraging signs) was also recorded.

Other Species

Protected under the Wildlife and Countryside Act 1981¹⁴ or further specific legislation, further detailed within Appendix 3.

Birds

Habitats on site were assessed for their potential to support nesting birds as well as important numbers of breeding and wintering birds.

Reptiles

Terrestrial habitats on site were assessed for their potential to support common reptile species, based on factors including vegetation structure and composition, and the availability of shelter and foraging resources. All UK reptiles are protected, with rare species (smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) also given EPS status.

Water Vole (Arviculus amphibius)

Suitable waterbodies (if present) on or adjacent to the Site were assessed for their suitability to support these species, where access was possible. Any incidental evidence of the presence of these species on site (e.g. burrows, latrines, foraging signs) was also recorded.

Badger (Meles meles)

Habitats on site were assessed for their suitability for badger foraging and sett building. Any incidental evidence of the presence of badgers on site (e.g. setts, paths, prints, foraging signs, and latrines) was also recorded.

Priority Species

Habitats on site were assessed for their suitability for Priority Species. Priority Species are those listed as of Principal Importance in England under Section 41 of the NERC Act 2006¹⁵, those listed as Local Priority Species, or those that feature on the relevant Local Biodiversity Action Plan. Any incidental evidence of the presence of these species on site was also recorded. The presence of rare or notable plant species, such as red data list species¹⁶, was also noted.

Invasive Species

A search was made for evidence of the presence of invasive plant species listed in Schedule 9 of the Wildlife and Countryside Act 1981 as they are subject to strict legal control.

2.3 Enhancements for Biodiversity Net Gain

In accordance with policy set out in the National Planning Policy Framework (NPPF)¹ all new developments are required to deliver a net gain in biodiversity. Specifically, NPPF notes an environmental objective to protect and enhance the natural environment and to improve biodiversity (S2. p. 8c) and that all development should be ‘...providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures’ (S15. p.174d).

This report therefore seeks to provide suitable Site-specific habitat and species enhancements which will provide the biodiversity net gain required as part of the NPPF.

2.4 Limitations to Survey

Due to the seasonal behaviour of animals and the seasonal growth patterns of plants, ecological surveys may be limited by the time of year in which they are undertaken. Many animals in the UK have variable detectability throughout the year due to seasonal behaviour, including hibernation and migration. Therefore, this survey may not provide a complete list of the plants and animals present, or which may utilise the Site throughout the year.

As part of standard practice, a data search has been undertaken from the local biological record centre. This is not considered to be a complete list of species present and is better considered to be a list of species recorded, with many species known to be under recorded.

However, these limitations are not considered to have affected the accuracy of the assessment or the recommendations provided in this report and, where considered necessary, recommendations for further survey have been made to overcome these limitations.

This report presents conditions and recommendations for the Site based on the state of the Site during the survey visit. Any changes to the Site prior to development, including changes in the management of the Site habitats will therefore potentially invalidate this report and its recommendations.

3 Existing Conditions and Assessment of Effects

3.1 Summary

The following sites, species or ecological features have the potential to be affected by the development, or their presence has been detected during the desk study or data search. As such, they are discussed further in this report and action points, mitigation and compensation measures are recommended as necessary:

- Habitats
- Statutory and Non-Statutory Sites of Nature Conservation
- Great Crested Newts
- Bats
- Birds
- Reptiles
- Priority & Notable Species (Fauna and Flora)

The following species are very unlikely to occur on the Site, in adjacent habitats either due to a lack of suitable habitat or as they have localised distributions in the UK. As such, the proposed development does not pose a threat to the following species and they are not discussed further as no further survey or mitigation is considered necessary:

- Badger
- Hazel Dormice
- Invasive Species
- Otter
- White-Clawed Crayfish
- Water Vole

Site photos are included in Appendix 2. Refer to Appendix 3 for details of the legislation and guidance relevant to each protected species.

3.2 Site Description and Habitats

3.2.1 Desk Study

The desk study returned the following records of parcels of notable habitats within 1km of the Site:

Table 1: Notable and Priority Habitats within 1km of the Site

Habitat	Areas	Parcels	Closest to Site
Deciduous Woodland (Priority Habitat Inventory)	13	14	90m
Traditional Orchards (Priority Habitat Inventory)	3	3	55m

3.2.2 Field Survey

Habitats noted on the Site were assessed using the Handbook for The UK Habitat Classification¹⁷ and included modified grassland, buildings, sealed surface, and a line of trees. Primary and secondary habitat codes are included for ease of reference.

Onsite Habitats

Modified Grassland; scattered scrub, mown (g4; 10, 64)

The majority of the Site, including the surroundings of the buildings, is comprised of frequently mown modified grassland. This is dominated by perennial ryegrass (*Lolium perenne*), red fescue (*Festuca rubra*), and creeping bent (*Agrostis stolonifera*). Forb species noted included dandelion (*Taxacum agg.*), ribwort plantain (*Plantago lanceolata*), creeping buttercup (*Ranunculus repens*), dove’s-foot cranesbill (*Geranium molle*), common ragwort (*Jacobaea vulgaris*), daisy (*Bellis perennis*), and self-heal (*Prunella vulgaris*). A butter-fly bush (*Buddleia davidii*) is present in the northeast of the Site. This habitat is common and ubiquitous and has very low ecological value.

Modified Grassland; scattered scrub, scattered trees, tall herb (g4; 10, 11, 16)

A small area of unmown modified grass in the southeast of the Site was dominated by scrub and tall herb. Species present included common nettle (*Urtica dioica*), ground ivy (*Glechoma hederacea*), bramble (*Rubus fruticosus*), *Hypericum hidcote*, and hawthorn (*Crataegus monogyna*). Scattered young and semi-mature trees included rowan (*Sorbus aucuparia*) and holly (*Ilex aquafolium*). This habitat has low ecological value, with the scattered trees having moderate ecological value.

Line of Trees; neglected (w1g6; 77)

The eastern boundary forms part of a longer and now defunct hedgerow. Species noted included mature ash (*Fraxinus excelsior*), and holly. Ivy (*Hedera helix*) was noted on several of the trees. The trees have high ecological value in their own right.

Buildings (u1b5)

Two buildings are present onsite. Building 1 is a disused village hall, comprised of a small single room building with a porch. The building has a wooden frame and is clad in painted corrugated metal with a pitched gable roof covered in roofing felt. The second building is a small derelict shed (Building 2) which sits in the southwest portion of the Site. Neither building has ecological value as a habitat in its own right.

Other Developed Land (u1b6)

A small area of concrete at the south of the Site, covered in ivy. This has no ecological value.

Surrounding Habitats

Surrounding the Site are:

- *Hedgerow (h2b)* to the west. A well-managed ornamental privet (*Ligustrum ovalifolium*) hedge on the west boundary
- *Neutral grassland (g3)* to the east
- *Built-up areas and gardens (u1)* dominate the surrounding area, the rural village of Arminghall with the wider landscape including *Grassland (g)* and *Arable (c1)* fields.

3.2.3 Assessment of Effects

It is considered that the Site will need to be cleared in its entirety to facilitate development. The majority of the habitats to be removed are common and ubiquitous, or have no ecological value in their own right, with the exception of the ash and holly trees. Without compensation the development will see a loss of biodiversity value onsite.

3.2.4 Requirements

The following will seek to minimise the loss of biodiversity onsite:

Design Stage

- Retain mature holly and ash trees on eastern boundary if possible or if not, then this loss should be compensated for through provision of a species-rich native hedgerow along the eastern and part of the northern boundary, at least 20m in length.

Pre-Construction/ Construction Stage

- Root and tree/hedgerow protection measures (in line with the British Standard for trees in relation to construction BS 5837:2012) must be installed in the pre-construction phase and maintained throughout the construction phase.

3.2.1 Enhancements for Biodiversity Net Gain

Design Stage

- Incorporate espalier fruit trees along boundaries
- Consider incorporating a green roof with plants beneficial to pollinators or, if not included as compensation, a new species rich native hedgerow as noted above.

3.3 Statutory and Non-Statutory Sites of Nature Conservation Value

3.3.1 Desk Study

The desk study returned records for Statutory and Non-Statutory Sites within 1km of the Site. The Site lies in an Impact Risk Zone (IRZ), which are used by local authorities to assess whether developments are likely to impact Statutory Sites, including internationally designated sites¹⁸ as well as Sites of Special Scientific Interest (SSSIs). Information regarding the relevant Statutory Sites is noted in Table 2.

Table 2: Statutory and Non-Statutory Site Descriptions

Name	Designation	Distance	Direction	Notable Features
Statutory Sites				
Caister St. Edmunds Chalk Pit	SSSI	970m	NE	This site consists of an extensive dune system supporting acidic plant communities. It contains well-developed areas of dune heath, slacks and dune grassland merging into grazing marsh and woodland.
Non-statutory Sites				
Caister Wood	County Wildlife Site (CWS)	250m	S	An area of ancient woodland consisting of standards over coppice.
Arminghall Wood	CWS	350m	NW	An area of ancient re-planted woodland crossed by an ancient boundary bank. The majority of the site has a canopy dominated by oak (<i>Quercus robur</i>)
Cantley Hill & Broken Back	CWS	900m	W	A mixture of plantation and semi-natural woodland on sloping ground.
IRZ – Statutory Sites				
Shotesham Common	SSSI	4.2km	S	A species rich grazing meadow along a spring fed beck.
Eaton Chalk Pit	SSSI	4.8km	NW	This site consists of a series of abandoned chalk mines. The undisturbed tunnels are now used by various species of bat which hibernate underground during the winter months.
Broadland or The Broads	Special Protection Area (SPA)	5.7km	NE	A wetland site of national and international importance comprising a mixture of notable wetland habitats including reedbed, open water, fen, wet woodland and marsh land supporting specialist species of plants, birds, mammals, and invertebrates.
	Special Area of Conservation (SAC)			
	Ramsar			
	SSSI			

3.3.2 Assessment of Effects

The Site does not meet the IRZ criteria for impacts on any statutory site or suggest that the development will require consultation with Natural England.

The Site supports a low number of mature trees and species present within nearby CWSs may also be present onsite, the clearance will not impact the conservation status of any of the species and the presence of significantly more trees in the surroundings of the Site will not impact species mobility within the wider landscape between CWSs or statutory sites.

3.3.3 Requirements

No further consideration.

3.4 Great Crested Newts

3.4.1 Desk Study

The desk study returned no records of great crested newts within 1km of the Site. A pond 770m to the south was surveyed as part of “Great Crested Newt Pond Surveys 2017 – 2019”³ with the species noted as absent.

A total of 13 ponds were identified within 500m of the proposed development. Figure 2 shows the pond locations in relation to the Site, with the 500m search area highlighted and the ponds numbered by distance from the Site. Details of each pond are provided in Table 3, overleaf.

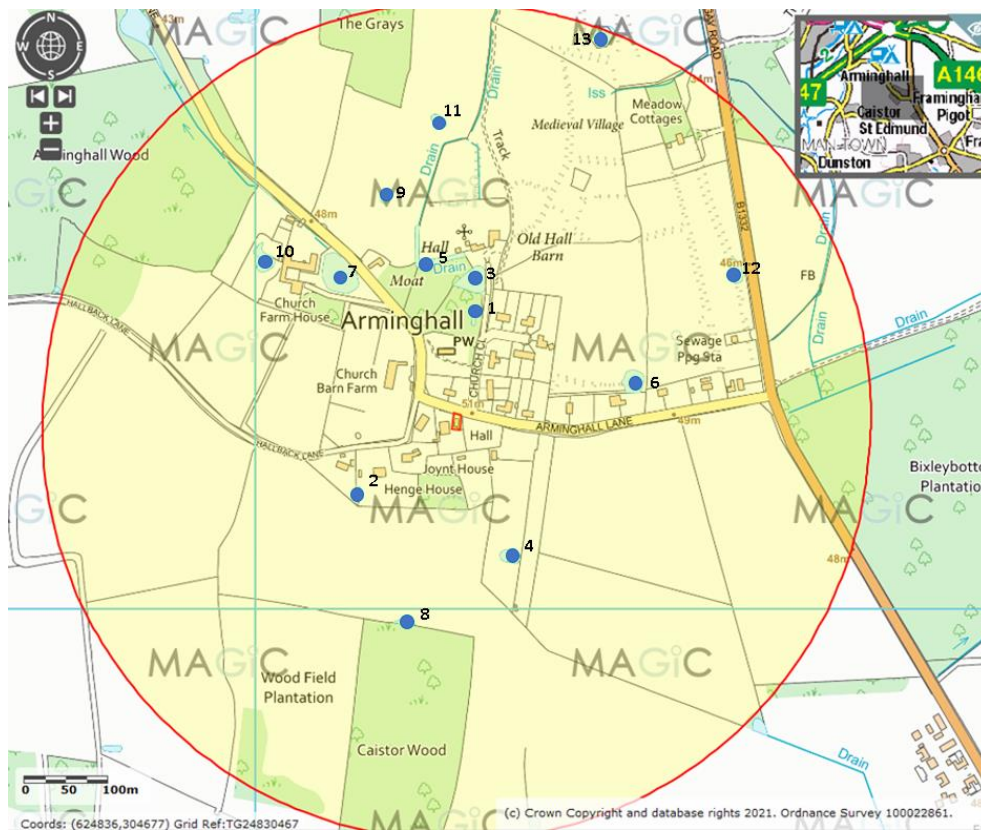


Figure 2: Ponds within 500m of the Proposed Development

Table 3: Pond Details

Pond #	Distance	Direction	Visited	Dispersal Barriers to the Site
1	110m	N	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
2	135m	SW	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
3	150m	N	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
4	160m	SE	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
5	185m	N	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
6	200m	NW	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
7	200m	E	No	Minimal barriers to dispersal but higher suitability habitat nearer to pond
8	240m	S	No	Arable land and distance are partial barriers
9	270m	N	No	Distance is a partial barrier, with higher suitability habitat nearer pond
10	286m	NW	No	Distance is a partial barrier, with higher suitability habitat nearer pond
11	350m	N	No	Arable land and distance are partial barriers
12	375m	NE	No	Arable land and distance are partial barriers
13	490m	N	No	Arable land and distance are partial barriers

3.4.2 Field Survey

The majority of the Site comprises either modified grassland, buildings (with intact foundations), or intact sealed surfaces. These habitats are of negligible value for great crested newts, although the grassland could be used for dispersal. The unmown area of the Site with tall herb and scrub, and the line of trees provide approximately 30m² of suitable foraging and commuting habitat with potential refugia around the base of scrub or trees.

3.4.3 Assessment of Effects

Research from English Nature (now Natural England) has shown great crested newts primarily remain within 100m of breeding ponds where suitable habitats exist within this zone and are rarely present outside 250m from a breeding pond without suitable connecting habitat and reduced habitat within 250m of a pond¹⁹. While there is suitable connecting habitat between some of the ponds and Site, in the form of gardens and grassland, each pond is surrounded by higher suitability habitat than that found onsite.

To further assess the potential impact to great crested newts Natural England’s Rapid Risk Assessment Tool²⁰ has been used; this suggests that an offence is highly unlikely. Even if great crested newts were present in the ponds closest to site it is considered reasonably unlikely that they would be present on Site or will be impacted upon as a result of the proposed development.

3.4.4 Requirements

No further recommendations or mitigation is required.

3.5 Bats

3.5.1 Desk Study

The following records of bats were returned by the desk study within 2km of the Site and occur within the last 10 years:

Table 4: Records of Bat Records and Roost Details

Scientific Name	Common Name	Roost-Note	Locality	Records	Year/s
<i>Barbastella barbastellus</i>	Barbastelle	No	From 1km ²	2	2012, 2013
<i>Eptesicus serotinus</i>	Serotine	No	From 1km ²	1	2013
<i>Myotis daubentonii</i>	Daubenton's bat	No	From 1km ²	2	2013
<i>Myotis nattereri</i>	Natterer's bat	No	From 1km ²	2	2013
<i>Nyctalus noctule</i>	Noctule	No	From 1km ²	4	2012, 2013
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	No	From 1km ²	4	2012, 2013
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	No	From 1km ²	1	2012
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	No	From 1km ²	6	2012,2013
<i>Plecotus auritus</i>	Brown long-eared	No	From 1km ²	4	2012,2013

3.5.2 Field Survey

Roosting Habitat

Building 1 – Negligible Suitability¹²

The existing village hall is a wooden framed structure clad with corrugated metal. No external potential roost features (PRFs) were noted from ground level or after a detailed inspection undertaken from a ladder at the wall plate, including any potential access to the inside of the building or void in the roof. The roof was of pitched gable covered in felt.

Internally the building was well sealed and not suitable for roosting bats, with no features or access.

Building 2 – Negligible Suitability¹²

A wooden shed. The building was in a confined space, reducing its suitability for access. The external and internal condition did not allow for any PRFs to be present.

Trees

No trees on the Site were noted to have any potential roost features (PRFs) and, consequently, all trees were assessed as having *negligible suitability¹²* for roosting bats.

Foraging and Commuting

The Site does not provide enough habitat to provide an important site for foraging or commuting bats. However, in its own right the Site meets the criteria for *Moderate Suitability¹²* for foraging and commuting bats.

3.5.3 Assessment of Effects

A thorough ground-level examination of any possible external access points into the sealed roof void did not yield results. However, a precautionary approach should be followed with mitigation in place detailed below to ensure that no bats are present.

The clearance of the Site will also reduce the foraging value onsite, however this will not have any impact on the resources of bats in the local area.

3.5.4 Requirements

Design Stage

Any lighting schemes to be installed during and post-construction must be designed to prevent unnecessary light spill. The following guidance²¹²² must be followed:

- Minimise light spill by eliminating any bare bulbs and upward pointing light fixtures. The spread of light must 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.
- Luminaires must feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats²³.
- A warm white spectrum (ideally <2700Kelvin) must be adopted to reduce blue light component.
- All luminaires must lack UV elements when manufactured. Metal halide, fluorescent sources must not be used.
- Limiting the height of lighting columns to eight metres and increase the spacing of lighting columns²⁴ will reduce the spill of light into unwanted areas such as the aforementioned habitats.
- Artificial lighting proposals must not directly illuminate boundary habitats, trees, or bat box locations.

With these lighting measures implemented, it is considered that any potential adverse effects from lighting upon bats will be minimised.

3.5.5 Enhancements for Biodiversity Net Gain

Three integrated bat boxes, installed between 3 and 4m above ground level facing east, south, or west. These should be installed away from windows, doors, and external lighting.

3.6 Birds

3.6.1 Desk Study

Records of species returned by the data search included a range of species typical of the landscape surrounding the Site and included notable²⁵ species listed in Table 3, below.

Table 5: Notable Birds within Data Search

Species		Protection			
Scientific Name	Common Name	Schedule 1 WCA	BoCC Status	National Priority	Local Priority
<i>Accipiter nisus</i>	sparrowhawk		Green		
<i>Columba oenas</i>	stock dove		Amber		
<i>Delichon urbicum</i>	house martin		Amber		
<i>Passer domesticus</i>	house sparrow		Red	✓	
<i>Prunella modularis</i>	dunnock		Amber	✓	
<i>Pyrrhula pyrrhula</i>	bullfinch		Amber	✓	
<i>Turdus philomelos</i>	song thrush		Red	✓	✓
<i>Turdus viscivorus</i>	mistle thrush		Red		
<i>Tyto alba</i>	barn owl	✓	Green		✓

3.6.2 Field Survey

The field survey did not note any species or evidence of nesting onsite.

The scrub onsite is not considered to provide significant density for nesting birds, however trees onsite provide suitable nesting habitat for pigeons and corvids.

3.6.3 Assessment of Effects

The development will result in the loss of a small amount of nesting bird habitat and could see the damage or destruction of active nests if clearance is undertaken during the nesting season (March-September, inclusive).

3.6.4 Requirements

Clearance of the trees should be undertaken outside of the nesting bird season (the nesting bird season is considered to run from March to September, inclusive, but does vary depending on weather). If this is not possible and clearance is undertaken during the nesting season, then it should only be undertaken within 24-48 hours of a nesting bird check undertaken by a suitably experienced ecologist. Should nests be encountered then clearance around the nest will be paused and a reasonable buffer installed until young have fledged the nest.

The loss of nesting habitat should be compensated for by including two integrated nest boxes in the new building, mounted 2-4m above ground facing north or east and with 28-32mm holes for access.

3.6.5 Enhancements for Biodiversity Net Gain

One house sparrow terrace, wall mounted or integrated into the new building. This should be 2-4m above ground level, away from doors and windows, with a free line of flight.

3.7 Priority & Notable Species

3.7.1 Desk Study

The desk study returned two records for hedgehog (*Erinaceus europaeus*) within 1km of the Site.

3.7.2 Field Survey

The Site provides some habitat for hedgehog, for use as foraging or commuting. The scrub and shed could provide shelter and refuge.

3.7.3 Assessment of Effects

The development has potential to cause injury or death to small mammals, including hedgehog, disturbed during Site clearance. However, the development is unlikely to cause any impacts to the population of any notable or priority species.

3.7.4 Requirements

Clearance of the Site should be in conjunction with any other recommendations.

Any small mammals disturbed during construction should be allowed to flee of their own volition or relocated to the Site boundary.

The development should seek to minimise the use of impermeable boundary fencing. This can be negated by ensuring that all boundaries are marked with hedgerows or permeable fencing; failing this, any impermeable fencing installed should have 13x13cm holes in the base to provide access.

3.7.5 Enhancements for Biodiversity Net Gain

A hedgehog house should be installed in a quiet area of the Site, such as the eastern boundary.

4 Enhancements for Biodiversity Net Gain Summary

As per the National Planning Policy Framework¹ all new developments are required to deliver a net gain in biodiversity. In order to achieve this, the mitigation measures described in the preceding sections as well as the biodiversity enhancements should be implemented.

A brief summary of the recommended biodiversity enhancements for the Site is detailed in Table 6, below. For more detail on these enhancements, including recommended specifications, please refer to the species-specific sections of this report. It is considered that these measures, undertaken in conjunction with the Requirements detailed within this report, will ensure that the development achieves a biodiversity net gain.

Table 6: Summary of Additional Biodiversity Enhancement Measures

Group or Habitat	Enhancement
Habitats	Incorporate espalier fruit trees along boundary fences Additional hedgerow planting if possible
Bats	Include three integrated bat boxes
Birds	Include an integrated house sparrow terrace
Hedgehogs	Install a hedgehog box

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Appendix 1: Proposed Site Plan

Appendix 2: Site Photographs

Photo 1: Village hall



Photo 2: Village Hall interior



Photo 3: Modified grass, mown



Photo 4: Modified grass, unmown with tall herb / scrub



Photo 5: Small shed



Photo 6: Line of trees



Photo 7: Corrugated metal wall finishing flush with roof at gable end



Photo 8: Close up of ridgeline at gable end (North Gable example, with southern gable identical)



Appendix 3: Legislation

The following sections outline the legislation protecting each species or group of species where appropriate which have been considered as part of the preceding report.

Important notes:

- Practical Ecology Ltd's reports do **not** purport legal advice.
- The outline of legislation provided is not comprehensive and the original texts of the relevant legislation must be referred to for a full list of offences.

European Protected Species

Overview

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979. To implement the agreement, the European Community adopted the EC Habitats Directive.

The EC Habitats Directive has been written into UK law in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). The Conservation of Habitats and Species Regulations 2017 (as amended) provides safeguards for European Protected Sites and Species (as listed in the Habitats Directive). This has recently been amended by the Conservation of Habitats and Species Regulations (amendments) (EU Exit) (2019) which continue the same provision for European protected species, licensing requirements and protected areas after the UK's exit from the European Union. In addition, the Countryside and Rights of Way Act 2000 strengthened the wildlife legislation in the UK. In relation to development, a person commits an offence regarding a species protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) if they:

- Deliberately capture, injure or kill an EPS;
- Deliberately or recklessly disturb wild animals of any such species in such a way as to be likely to significantly affect;
 - The ability of any significant group of animals to survive, breed or rear or nurture their young;
 - The local distribution or abundance of that species.
- Damages or destroys a breeding site or resting place (even if unintentional or when the animal is not present);
- Intentionally or recklessly obstructs access to a structure or place used for protection or shelter; and
- This applies regardless of the life stage (i.e. eggs, young, adult).

The following sections outline the offences that can be committed against each species or group of species which are protected by European law and tranches of UK law which strengthen that protection.

Great Crested Newts (*Triturus cristatus*)

Great crested newts and their breeding sites (ponds) or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- intentionally or recklessly kill, injure or handle a great crested newt;
- to possess a great crested newt (whether live or dead);
- disturb a great crested newt – this includes in particular:
 - Any disturbance or obstruction which is likely to impair their ability to survive, breed or reproduce, or to rear or nurture their young; or
 - Any disturbance or obstruction that impairs their ability to hibernate or affecting their local distribution and abundance;
- sell or offer a great crested newt for sale without a licence.

It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place used by great crested newts for shelter, whether they are present or not.

Bats

All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- intentionally kill, injure or handle a bat;
- to possess a bat (whether live or dead);
- disturb a roosting bat; or
- sell or offer a bat for sale without a licence.

It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.

A roost is defined as 'any structure or place which (a bat) uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of the survey.

Otter (*Lutra lutra*)

Otters and their breeding sites (holts) or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure otters;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- possess, sell, control or transport live or dead otters, or parts of otters.

Common dormouse (*Muscardinus avellanarius*)

Common dormice and their breeding sites or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 (as amended) and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure common dormice;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly disturb a common dormouse whilst in structure or place of shelter or protection;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- possess, sell, control or transport live or dead common dormice, or parts of common dormice.

Other Species

Badgers (*Meles meles*)

Badgers are fully protected in the UK by the Protection of Badgers Act, 1992 and by Schedule 6 of the Wildlife and Countryside Act 1981 as amended. The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence *inter alia* to:

- Wilfully kill, injure or take a badger, or to attempt to do so;
- Cruelly ill-treat a badger; or
- Intentionally or recklessly interfere with a badger sett by;
 - damaging a sett or any part of one;
 - destroying a sett;
 - obstructing access to or any entrance of a sett;

- causing a dog to enter a sett; or
- disturbing a badger when it is occupying a sett.

The purpose of this legislation is to ensure that badgers are humanely treated.

Water Vole (*Arvicola terrestris*)

Water vole and their breeding sites or resting places (burrows) are protected under Schedule 5 of the Wildlife and Countryside Act 1981. It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure water voles;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly disturb a water vole whilst in structure or place of shelter or protection;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- Possess, sell, control or transport live or dead water voles, or parts of water voles.

NB: In the case of water voles, a place of shelter or breeding or resting place is only likely to constitute an 'active' burrow.

Reptiles

All six of the UK's reptile species are protected under the Wildlife and Countryside Act 1981 (as amended).

Of the more common reptiles, it is illegal to intentionally kill or injure common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), an adder (*Vipera berus*) and grass snake (*Natrix helvetica*).

White-Clawed Crayfish (*Austropotomobius pallipes*)

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- Take a white-clawed crayfish from the wild;
- Sell or offer the sale of a whole or any part of a white-clawed crayfish.

This applies to all life stages.

Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built;
- intentionally take or destroy the nest or eggs of any wild bird. [Special penalties are liable for these offences involving birds listed on **Schedule 1**].

Birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) have an additional level of protection. With regards to these species, it is an offence to deliberately or recklessly:

- disturb them whilst they are nesting, building a nest, in or near a nest that contains their young;
- disturb their dependent young.

Invasive Species

Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the Wildlife & Countryside Act 1981 (as amended) prohibits the release of any animal species that are 'not ordinarily resident or is not a regular visitor to Great Britain in a wild state'. Therefore, under Section 14 it is an offence to allow the establishment of plant species listed on Schedule 9 Part 2 in the wild.

Wild Mammals

Mammal species not of primary conservation concern do receive protection from unnecessary suffering through the Wild Mammals Protection Act (1996).