



# ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



## PRELIMINARY ECOLOGICAL APPRAISAL

## LAPWORTH GRANGE

**Project name:** Lapworth Grange, Lapworth, Warwickshire, B94  
5NT

**Grid Reference:** SP15917086

**Date:** 28/06/2022

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**Reviewed by:** William Prestwood BSc Director

**Requested by:** The Rural Planning Co.

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# 1 INTRODUCTION

## 1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the development of a range of outbuildings associated with the residential property Lapworth Grange.

Arbor Vitae were commissioned by The Rural Planning Co. to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

## 1.2 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

## 1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

**Avoidance** - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

**Mitigation** - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

**Compensation** - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

**Enhancements** - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

## 2 SITE DESCRIPTION

### 2.1 LOCATION, LANDSCAPE, AND BACKGROUND

Lapworth Grange lies just north of the M40's junction 16 in Warwickshire (Figure 1). The land surrounding the house is a mixture of open parkland with mature trees, large detached residential properties and working farms with agricultural pasture fields (Figure 2).

The proposals will include the conversion of a number of buildings on site and likely removal of some. Bat activity survey work was carried out on the site in 2016 by EcoLine and found the presence of a small roost of brown long-eared and common pipistrelle bats within the buildings.

## 3 SURVEY METHODOLOGY

### 3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap and NBN Atlas.

### 3.2 SITE SURVEY

A site visit was made on 13/06/2022. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Bats
- Breeding birds
- Great Crested Newt

The survey methodology was tailored to evaluate the area for these species in the following ways:

#### **Bats**

The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings, sometimes in concentrations below roost sites
- Feeding signs such as butterfly and moth wings

- Staining of timber, brickwork around access points

The general structure of the building was assessed for its potential to provide bats with roosting opportunities. The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

### **Breeding birds**

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

### **Great crested newt**

A desk study and a ground search were conducted to search for any areas of open water within 250 metres. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

## **3.3 PERSONNEL**

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist.

Natural England bat licence number: 2021-52205-CLS-CLS and GCN licence number: 2019-42631-CLS-CLS.

## **3.4 CONSTRAINTS**

There were no constraints to the survey being carried out successfully.

# **4 SURVEY RESULTS**

## **4.1 DESK STUDY**

The desk study found that within 1km of the site there were the following designations:

<b>Name</b>	<b>Designation</b>	<b>Distance from site</b>
Pools Wood	Ancient and semi-natural woodland	0.7km
The search included Ramsar, SSSI, SAC, SPA, LWS, NNR and LNR. <sup>1</sup>		

<sup>1</sup> SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, SPA: Special Protection Area, LWS: Local Wildlife Site NNR: National Nature Reserve, LNR: Local Nature Reserve.

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected species have been recorded:

Species	Distance	Protection
Otter	0.6km	European Protected Species, Wildlife and Countryside Act 1981.
Brown long-eared Common pipistrelle Soprano pipistrelle	0km	European Protected Species, Wildlife and Countryside Act 1981.
Kingfisher	0.9km	Wildlife and Countryside Act 1981.

#### 4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

##### *Buildings*

Reference	Description
<b>B1</b>	Original Coach House for Lapworth Grange dating to the 19 <sup>th</sup> Century. One and two storey sections, open access into both areas through uncovered apertures. Brick construction with a clay tiled roof and newly lined throughout. Some of the roof timbers have been replaced with new materials and the whole roof has been upgraded. There is a lean-to brick extension at the north gable and ventilation slits in the brickwork.
<b>B2</b>	A one and two storey garage/workshop with a part hipped clay roof and a boarded/plastered room above. Timber soffits are fixed around the edge of the building and some windows are broken/missing.
<b>B3</b>	L-shaped barn which has partly fallen down. The east wing remains but with the roof in serious decline and entirely open to the elements.
<b>B4</b>	Brick under clay garage with a hipped roof and enclosed loft above. The roof is lined and there are several broken windows providing access points into the structure.
<b>B5</b>	A steel frame Dutch barn with a small brick wall base and a tin roof covering.
<b>B6</b>	A single storey stable block of brick under clay construction. The roof is now overgrown with vegetation and shaded by overhanging branches of nearby trees. The verges of the roof are cemented at the gable ends.
<b>B7</b>	Similar construction to B4- hipped clay roof over a brick base with an enclosed loft above which is felt lined.

### *Individual trees*

There are a number of individual mature trees scattered around the periphery of the site to include: ash and sweet chestnut to the north east of the site, overgrown hazel coppice at the north boundary, a section of ash and elder through the middle of the site and a row of ash and *Leylandii* along the south boundary of the site next to the Coach House.

### *Scrub*

Bramble scrub has colonised the areas around the edges of buildings and also a small patch land to the west of B7 at the north-west corner of the site. Tall herbaceous plants are growing within the bramble to include: common nettle, rosebay willow herb, hogweed, cow parsley and groundsel.

### *Neutral grassland*

Small areas of neutral grassland exists in patches around the site, growing near to buildings and in open areas. Species recorded include: cock's foot, Yorkshire fog, creeping bent, creeping buttercup, dandelion, mouse eared chickweed, white clover and ribwort plantain.

## **4.3 PROTECTED SPECIES**

### *Bats*

<b>Reference</b>	<b>Description</b>
<b>B1</b>	Small number of brown long-eared bats found roosting in 2016. Conditions similar, building provides suitable shelter for bats.
<b>B2</b>	A small number of potential roosting features identified e.g. slipped tile and areas beneath timber soffits. No bat evidence, low potential.
<b>B3</b>	Most of the roof is missing and the structure is entirely open to the elements. Very limited suitable roosting opportunities and negligible potential as a roost.
<b>B4</b>	Roof in good condition but some potential roosting features in slipped tiles. Low potential.
<b>B5</b>	Seemingly very little potential for bats but a single common pipistrelle was found to be using the barn as a day time roost in 2016.
<b>B6</b>	Roof almost entirely obstructed by vegetation growth. No evidence of bats and low potential as a roost.
<b>B7</b>	Roof in good condition but partly obstructed by vegetation growth. Low potential.



### Breeding birds

A pair of swallows are suspected to be nesting in B1 Coach House. No other nesting was observed on site within the buildings at the time of the survey.

### Great Crested Newt

A total of five waterbodies are mapped within 250m of the site. Two ponds to the west lie within private grounds and were not accessible for survey, the closest sitting at 135m. Both ponds appear to sit within a wooded area.

One waterbody is mapped 75m north of the site but was found to be an agricultural lagoon with vertical sides and concrete surroundings, providing no suitable aquatic habitat for GCN.

Pond 1 is a large fishing lake at 120m distance. The lake is surrounded by shortly mown amenity grassland with mature willow and alder around the margins. Emergent vegetation is limited to reedmace and yellow iris.

Pond 2 lies 95m north of the site and appears to have good water quality and favourable terrestrial habitat surrounding to include rough grassland and trees.

There are no records of GCN within 1km of the site according to the data search.

<b>GCN HSI Calculator</b>			
	Pond Name	POND 2	Pond 1
	Position	SP16007096	SP16077082
SI No	SI Description		
1	Geographic location	1	1
2	Pond area	0.9	0.9
3	Pond permanence	0.9	0.33
4	Water quality	0.67	0.3
5	Shade	0.4	0.33
6	Water fowl effect	0.67	0.01
7	Fish presence	0.33	0.8
8	Pond Density	0.8	0.33
9	Terrestrial habitat	1	0.3
10	Macrophyte cover	0.3	
<b>HSI Score</b>		<b>0.64</b>	<b>0.34</b>
Pond suitability (see below)		<i>Average</i>	<i>Poor</i>

## 5 POTENTIAL ECOLOGICAL IMPACT

### 5.1 HABITAT ASSESSMENT

The proposals will result in the conversion of several redundant and derelict buildings and the loss of small areas of bramble scrub and young ash trees.

The development will have no impact upon priority or protected habitats and an associated landscaping scheme will ensure that sufficient 'green space' is incorporated into designs for the site.

### 5.2 PROTECTED SPECIES ASSESSMENT

#### *Bats*

B1 was known to support a small roost of brown long eared bats in 2016 and a single common pipistrelle was roosting in B5 during the daytime. Further survey work is required on site to update the existing data for the site.

#### *Breeding birds*

At least one pair of swallows are using B1 for nesting. The conversion work will result in a loss of nesting sites for this species and replacement nest sites will be required.

#### *Great crested newt*

Pond 2 provides 'average' suitability as a breeding site for GCN and Pond 1 provides 'poor' suitability.

Studies have demonstrated that 95% of all summer refuges of GCN fall within 63m of their summer breeding pond (Jehle, 2000). Subsequent studies also found that capture rates of GCN were at their highest within 50m of a breeding site with a significant reduction in capture rates beyond 100m (Cresswell and Whitworth, 2004).

The habitats on site offer some potential terrestrial opportunities but do not present typically optimal conditions for the species. Given that Pond 2 is surrounded by good quality terrestrial habitat, if it does support GCN, it is likely that they would remain within the vicinity of the waterbody.

A set of Reasonable Avoidance Measures will be adopted during all work on site to remove any residual risk to GCN and any other amphibians/small animals which may be found on site.

## 6 AVOIDANCE, MITIGATION AND ENHANCEMENT

### 6.1 HABITAT MITIGATION

Mitigation will not be required in terms of habitat loss on site.

### 6.2 PROTECTED SPECIES MITIGATION

#### *Bats*

Mitigation for bat species will need to be informed by further activity surveys.

#### *Breeding birds*

Replacement nesting opportunities for swallow will need to be incorporated into designs for the site. The final plan will be advised once further activity surveys have been carried out.

#### *Great crested newt*

The following measures will be implemented to decrease the likelihood of killing/injuring small animals such as amphibians and hedgehogs:

- If piles of rubble, logs, bricks, other loose materials or other potential refuges are to be disturbed, this should be done by hand and carried out during the active season (March to October) when the weather is warm to allow animals to disperse naturally.
- The grassland areas will be kept short prior to and during construction to avoid creating attractive habitats for wildlife.
- All building materials, rubble, bricks and soil must be stored on raised platform (e.g. wooden pallets) to prevent their use as refuges by wildlife.
- Where possible, trenches will be opened and closed in the same day to prevent any wildlife becoming trapped. If it is necessary to leave a trench open overnight then it should be provided with a means of escape in the form of a shallow ramp.
- Any open pipework will be capped overnight. All open trenches and pipework should be inspected at the start of each working day to ensure no animal is trapped.
- Any common reptiles or amphibians discovered will be allowed to naturally disperse. Advice should be sought from an appropriately qualified and experienced ecologist if large numbers of common reptiles or amphibians are present.

- If a great crested newt is discovered at any stage then all work must immediately halt and an appropriately qualified and experienced ecologist will be contacted for advice.

### **6.3 ECOLOGICAL ENHANCEMENT**

A landscaping scheme will be adopted for the site and will include the creation of at least 100m of native species hedgerow on and around the site. Scheme to include a mixture of at least 7 native species of local provenance.

The scheme will also include the planting of at least 10 small/medium trees such as: rowan, wild cherry, field maple and hazel.

A nest box scheme will be implemented in order to provide opportunities for protected and priority species on site, irrespective of any mitigation requirements. The following is recommended:

- Two Woodcrete multi-chamber bat box. To be installed together into a mature tree at least 3m from the ground.
- Two Woodcrete bird box. To be installed into mature trees at least 2.5m from the ground.
- Two Woodcrete sparrow terrace to be installed beneath the eaves of a building on site.

## **7 SUMMARY**

Planning permission will be sought for the development of a range of outbuildings associated with the residential property Lapworth Grange.

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A nest box scheme will be implemented in order to provide opportunities for protected and priority species on site, irrespective of any mitigation requirements.

## 8 REFERENCES

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FIGURE 1 LOCATION. 1:50,000



FIGURE 2 AERIAL PHOTOGRAPH



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FIGURE 3 BUILDING LAYOUT

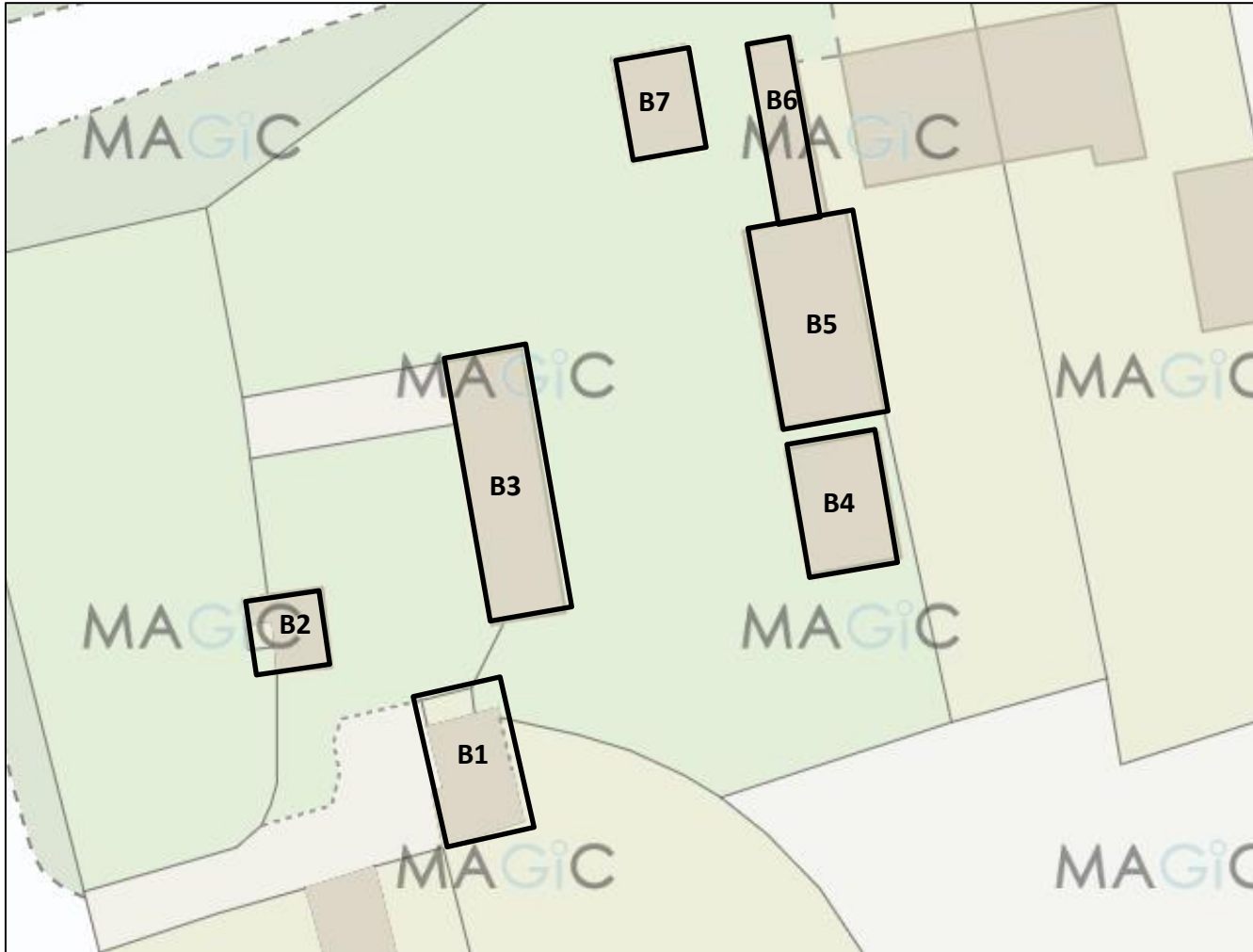
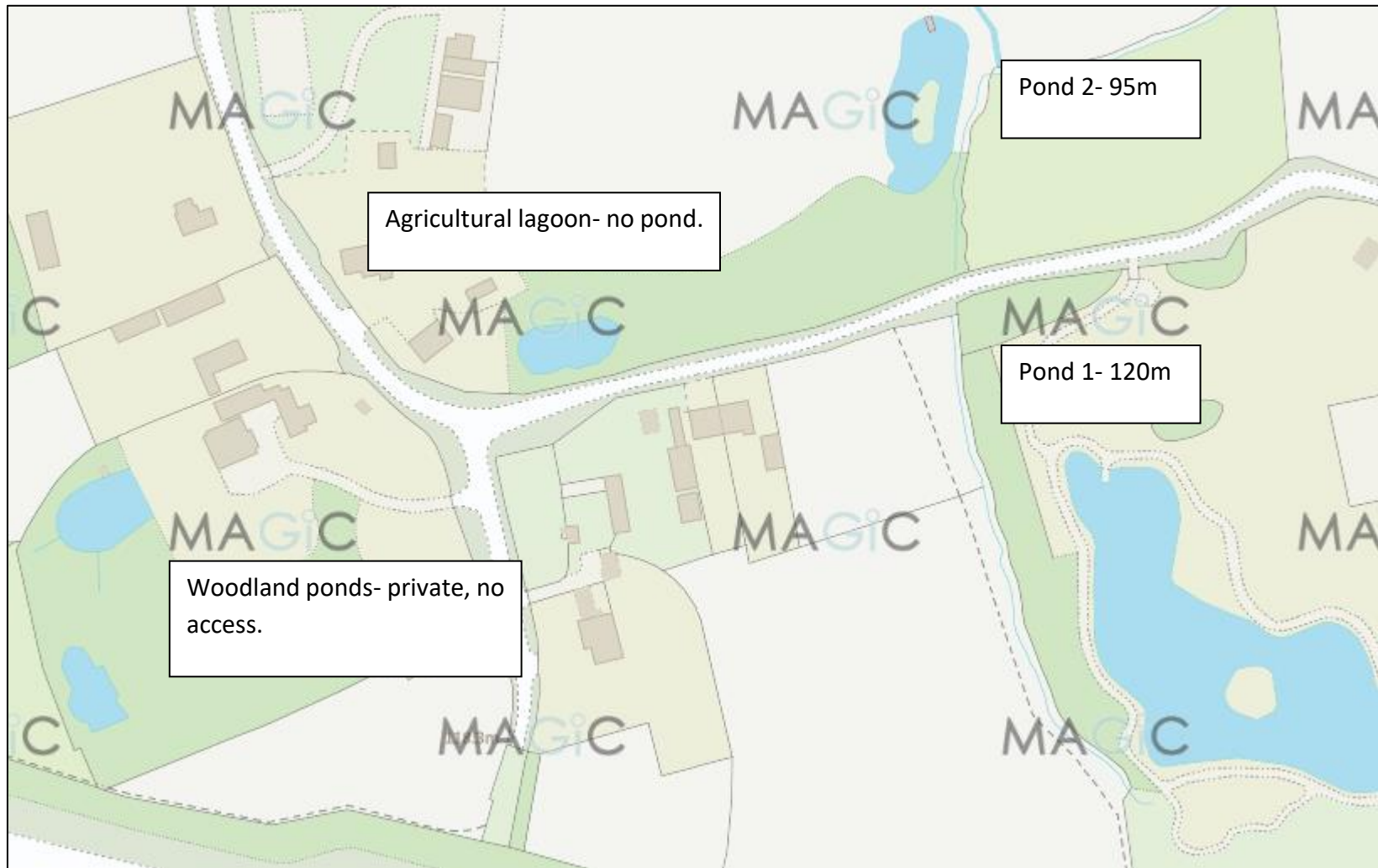




FIGURE 4 PONDS WITHIN 250M



APPENDIX 1 PHOTOGRAPHS



B1



B1



B2



B3



B3



B4





B5



B6



B7



Bramble scrub

