



## Robson Ecology

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# Preliminary Bat Roost and Pond Assessment.

of

**Lincolns, Strethall, Saffron Walden,  
Essex, CB11 4XJ.**

<b>Survey Commissioned by:</b>	Mr and Mrs Pope
<b>Project Number:</b>	REP21015
<b>Report issued:</b>	18 <sup>th</sup> April 2021
<b>Date of survey:</b>	17 <sup>th</sup> March 2021
<b>Surveyor:</b>	Dr Odette Robson BSc (Hons) PhD MCIEEM

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REP21015	Preliminary Bat Roost and Pond Assessment at Lincolns, Strethall, Saffron Walden, Essex, CB11 4XJ.	Final	18 <sup>th</sup> April 2021

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## Summary

Site:	Lincolns, Strethall, Saffron Walden, Essex, CB11 4XJ.
Grid Reference (taken from centre of site):	TL 48592 39488
Report Commissioned by:	Mr and Mrs Pope
Date of Survey:	17 <sup>th</sup> March 2021

	Impacts	Recommendations
<b>Proposals</b>	Planning Application	A planning application will be submitted to Uttlesford District Council to extend the living accommodation to the east of the original thatched part of the property (demolition of existing extension and re-build largely within the existing footprint).
<b>Results</b>	Roosting Bats	Roosting bats were recorded by the homeowner, for a short period in September 2020. Assessment of the roost size, location and evidence from droppings, suggest that it is highly likely to be a Natterer's bat transitional roost (low numbers of bats). Droppings and the size of the crevice do not suggest the presence of higher conservation status roosts (such as a maternity roost).
	Great Crested Newts <i>Triturus cristatus</i> .	The network of ponds within 500m of the site have potential to support great crested newts; the pond within Lincolns garden has above average potential to support great crested newts. The raised Carp pond closer to the House has negligible potential to support great crested newts.  Due to the small scale and low impact of the proposals, works are highly unlikely to result in an offence under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended) and therefore a Protected Species licence is not required. It is also considered unlikely that works will result in disturbing a great crested newt in its place of shelter or obstructing access to such a place; proposals are therefore reasonably unlikely to result in an offence under the Wildlife & Countryside Act 1981 (as amended).
<b>Further Surveys</b>	Bats	Further surveys during the bat active season (May to Sept) will be needed to confirm roost character, species and number of bats, to inform a licence application.
<b>Mitigation</b>	Bats	<b>A licence will need to be achieved prior to any works impacting the weather-boarding on the southern elevation (exterior) of the existing extension. It is likely that the Natterer's roost is a transitional roost and can be registered under the low impact licence scheme (BMCL).</b> A licence application method statement would include sensitive construction/renovation works, timing constraints, replacement of roosting opportunities on completion, mitigation bat boxes and a sensitive lighting strategy.  Timing restrictions will apply for implementing the licence, to avoid times when bats are in torpor or using the roost. Summer is recommended for start of works where a transitional roost is present.  Replacement roost features (such as bat-boxes) will be included within the new extension, as compensation for loss of the

		weather-board roost. Breathable roofing membranes must NOT be used in any areas accessible to bats.
<b>Impact avoidance and precautions.</b>	Great Crested Newts	<p>The residual very low risk of impact can be reduced to negligible if the demolition/construction phase is carried out under reasonable avoidance and precautionary working methods.</p> <p>To facilitate this, a <i>Non-licensed Method Statement</i> should be followed during the construction phase.</p> <p>No impact to great crested newts is anticipated during the operational phase.</p>
<b>Additional enhancement</b>	<p>Consider additional enhancement of the property by locating bat boxes in retained trees. Woodcrete boxes, such as Schwegler 2F, 2FN; or wooden boxes, such as the Kent bat box (Cederwood) would be appropriate.</p> <p>Construction of log piles or a hibernacula next to the pond would provide additional hibernation and refuge opportunities for newts and other amphibians.</p>	

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# 1 Introduction

## 1.1 Background

Robson Ecology Ltd was commissioned by Mr and Mrs Pope, to undertake a Bat Roost and Pond Assessment of 'Lincolns', to inform the planning application and legal obligations in relation to extending the property to create additional living space. Proposals include demolition of the extension and re-building largely within the footprint of the existing extension.

## 1.2 Legislation

Bats are strictly protected under European and UK legislation (Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act, 1981). Four UK species are also listed under Annex II of the Habitats Directive.

Seven species; barbastelle *Barbastella barbastellus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros* and Bechstein's bat *Myotis bechsteinii* are all Species of Principal Importance in England (SPIE) - formerly UK Biodiversity Action Plan Priority (BAP).

Great crested newts are strictly protected under the Conservation of Habitats and Species Regulations (2017, as amended) and the Wildlife & Countryside Act 1981 (as amended). Therefore, presence/absence needs to be established in order to meet the specific requirements of the legislation, to inform design, mitigation and, if appropriate, a European Protected Species Licence (EPSL) application. Great crested newts are a priority species under Section 41 of the NERC Act (2000) which is a consideration under the National Planning Policy Framework (NPPF) 2019, placing responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments.

## 1.3 Aims and Objectives

All UK species of bats and great crested newts are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to deliberately or recklessly capture, injure, disturb or kill a great crested newt or bat; damage or destroy a breeding site or resting place used by a great crested newt or bat; or obstruct access to any structure or place used for shelter or protection.

The surveys were therefore required to:

- Identify the presence, or potential presence, of any bats or great crested newts;
- assess the potential impact of the proposals on bats or great crested newts within the zone of impact;
- make recommendations for further surveys to inform the planning application and/or a protected species licence application (if required);
- detail any precautions required to protect bats and great crested newts from impact, and/or mitigation or compensation, where necessary.

## 2 Survey Methodology

### 2.1 Site Survey

The site survey was undertaken by Odette Robson BSc (Hons) PhD MCIEEM, a full member of the Chartered Institute of Ecology & Environmental Management (MCIEEM), subject to the CIEEM Professional Code of Conduct and licensed by Natural England to survey for bats (WML-CL18; Level 2), and great crested newts (2015-16945-CLS-CLS – Class licence Level 2).

During the survey, on 17<sup>th</sup> March 2021, the temperature was 6-8°C; the wind at Beaufort scale 3-4, 100% cloud cover and very good visibility.

#### 2.1.1 Bats

The survey was undertaken in accordance with *Bat Surveys for Professional Ecologists: Best Practice Guidelines* (Collins, 2016). The main thatched part of Lincolns would not be impacted, other than to externally attach the new extension to the eastern gable end. The existing single storey extension would be demolished to facilitate a new extension over two floors. All areas of impact were assessed externally for potential bat roosting features using binoculars, high-powered torch, ladder and a borescope inspection camera (Ridgid CA300).

Aerial photographs, available maps and survey of the area outside the immediate zone of impact (where access was available) was used to identify any bat habitat in the wider landscape which could be impacted by proposals. The likely impact of the extensions (operational phase) to bats using the surrounding area (foraging and/or commuting) was also assessed.

#### 2.1.2 Ponds

Ponds and waterbodies within 250m of the site were identified from available maps, and site survey. Those within impact distance of the site works and ecologically connected were surveyed (where access was available) for potential to support great crested newts using the Habitat Suitability Index (HSI; Oldham *et al.*, 2000). The HSI is a numerical index which uses specific habitat factors to assess whether the water body would be likely to support great crested newts, based on preferences for breeding ponds (see Table 2.1).

**Table 2.1:** Habitat Suitability Index (HSI) indicating suitability of ponds for breeding great crested newt.

HSI Score	Pond Suitability
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

## 2.2 Site Context and Proposals

Lincolns lies on the south-western edge of the hamlet and parish of Strethall, approximately 5km to the north-west of Saffron Walden and 12km to the east of Royston.

The former Granary is of timber-frame and brick construction under a thatched roof and was converted to a detached dwelling many years ago. An extension (double-pitched, tiled roof and weather-boarded walls) has been added to the eastern gable end.

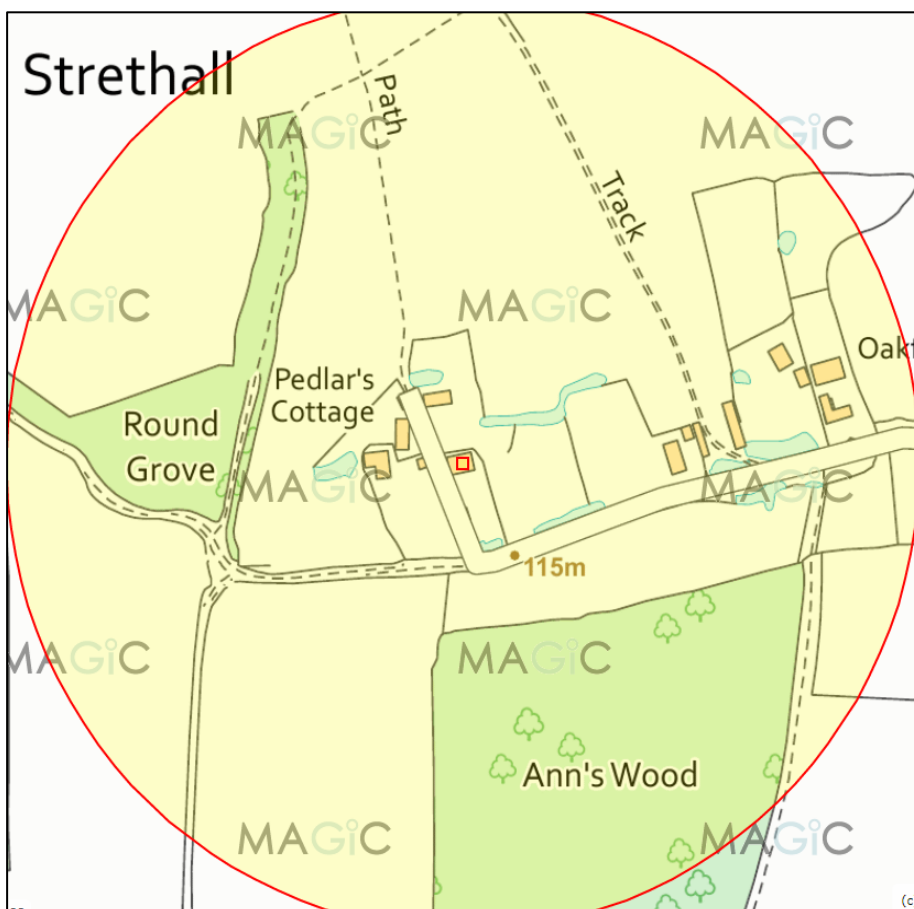
Mature and well-managed gardens extend southwards, with flower-beds, lawns and two ponds (a wildlife pond at the southern end of the garden and ornamental, raised carp pond closer to the house).

Immediately surrounding the property are detached houses with large mature gardens and trees, and a small woodland (Ann's Wood) approximately 40m to the south of the garden boundary.

The existing access to the property would be used during both the construction and operational stages, and no tree, vegetation, or pond removal is proposed.

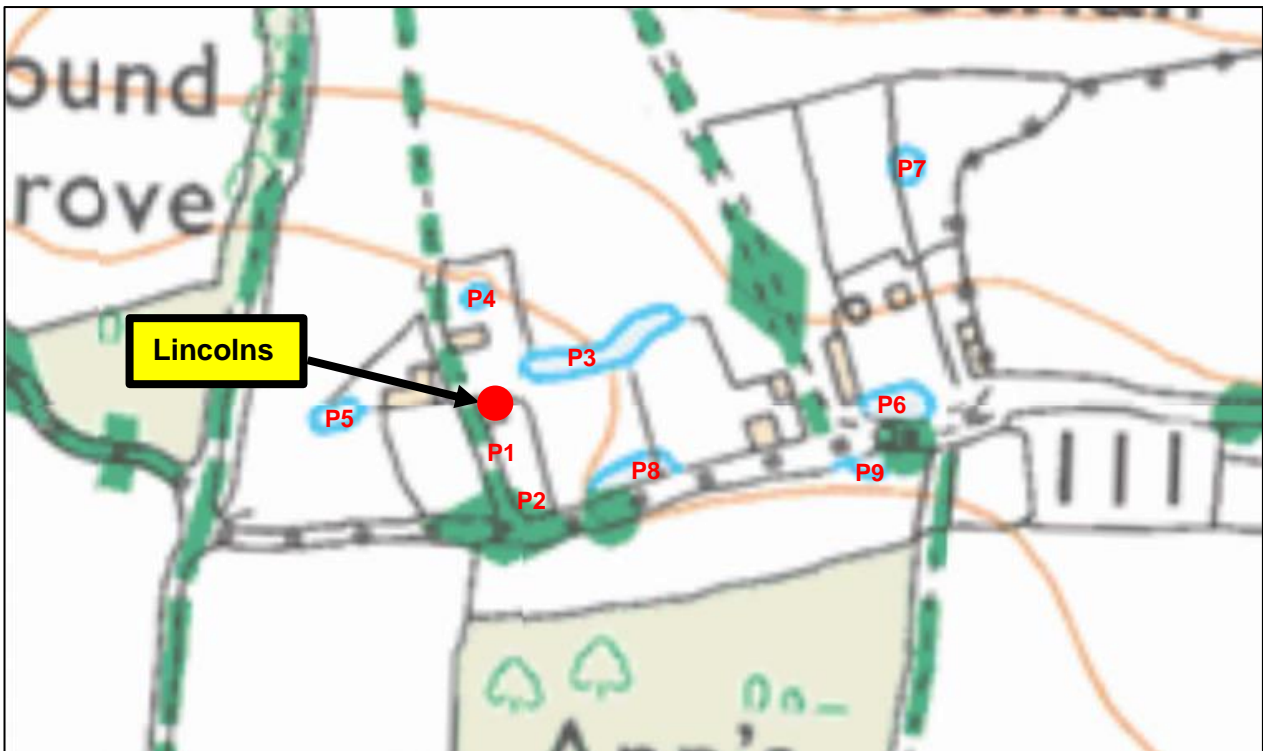
The wider landscape is predominantly arable land with pockets of woodland and scattered villages. A large number of ponds and water bodies are present within the local landscape; pond numbers used in this report are shown in Figure 2.2.

**Figure 2.1** Ponds within 250m of the proposed extension works.





**Figure 2.2** Pond numbering



### 3 Results

#### 3.1 Data-search

Essex mammal recorder (John Dobson) provided records of bats within a 2km radius of the site on 4<sup>th</sup> March 2021. Sixteen records (three species) were provided, of which 11 were roosts and five foraging records. The nearest was a pipistrelle roost in the Church, approximately 350m to the north. There were also roosts of brown long-eared and pipistrelle in the village – approximately 620m to the east.

#### 3.2 Survey Results from 17<sup>th</sup> March 2021

Pond descriptions in Table 3.1 refer to the numbering shown in Figure 2.2.

**Table 3.1:** Cottage and pond assessment carried out on 17<sup>th</sup> March 2021.

<b>Building and Pond Descriptions</b>
<b>Lincolns (Southern elevation).</b>

<p><i>External walls:</i> Brick (southern elevation of thatched part) and oak weather-board (northern elevation and extension) walls. Well-sealed boards with no lifting, warping or damage over the majority of the property, with the exception of a small number of boards on the southern elevation (see Figure 3.1).</p> <p>Western gable-end was brick to eaves level and weather-boarded above – this will not be impacted by proposals.</p> <p>The thatch was long-straw and fully wired to exclude vermin. Two ‘eyebrow’ dormer windows in the thatch. No loft voids.</p> <p>The extension roof was tiled with a roof-light (no loft void). Tiles were very well sealed, and no roosting opportunities were recorded.</p> <p>Three boards to the east of the extension doors on the southern elevation had crevice-roosting opportunities under lifted weather-boards. Beneath, breathable membrane was visible, and the crevice was very narrow so unlikely to support more than four bats. A small number of droppings were present to the edge of the crevice – these were relatively fresh (from the last survey season) and indicative of Natterers/Myotis.</p> <p><b>Overall risk of presence of roosting bats was High (confirmed).</b></p>

### Pond 1: Lincolns Ornamental Pond



Ornamental garden pond with raised brick edges. No apparent aquatic, marginal, or emergent vegetation. Un-shaded by trees. Formerly stocked with carp. The pond was immediately surrounded paved patio and well-managed, mature gardens including lawns, planted beds and paving.

Distance from House: 12m.  
Area of pond < 5m<sup>2</sup>

### Pond 2: Lincolns Wildlife Pond.



Garden wildlife pond at the end of the garden, approximately 38m to the south of the house. Holding water close to capacity at the time of the survey. Drainage pipes discharge into the pond from access track. Surrounded by short vegetation and hedges with mature trees and maintained garden to the north.

Sparsely vegetated banks and minimal shading.

Aquatic vegetation was present with opportunities for amphibian

egg-laying. Algal growth and partly cloudy with moderate water quality.

Surrounded (to west and south), by a track beyond the garden boundary hedge and adjacent mature gardens.

Distance from Lincolns house: 38m.

Area of pond (approx.): 50m<sup>2</sup>

**Pond 3: Garden Pond/Swale**



Large pond/swale in the neighbouring garden 14m north-east of Lincolns and separated by a close-board fence. Not holding water, and homeowner advised that this is permanently dry. Shaded by mature trees. Surrounded by good quality terrestrial habitat: Mature, managed, parkland gardens.

Distance from Lincolns house: 14m.  
Area approximately 450m<sup>2</sup> (approx. - as shown on available maps).

**Pond 4: Garden Pond.**



Garden pond 40m to the north of Lincolns in the garden of the neighbouring property (surveyed from adjacent track only – no close access). Shaded at one corner by a mature Willow tree. Holding water close to capacity at the time of the survey.

Distance from Lincolns: 40m.  
Area of pond approximately 125m<sup>2</sup>.

### 3.3 Suitability of House for Roosting Bats

An assessment was made under the criteria detailed in current Best Practice Guidelines (Collins, 2016). There was evidence (droppings) of bats having used the weatherboard crevice, on the southern elevation of Lincolns extension, for roosting. The droppings were of relatively recent origin, likely from the last active bat season, which corresponds with the homeowners recording of chittering bats in September 2020.

The proposed new side extension would sit largely in the footprint of the existing extension, extending slightly to the east and south over existing hardstanding footpath/patio. The existing weather-boarding was in very good condition over the majority of the extension, however, on the southern aspect which received most sun, the oak boards had warped/lifting slightly to form a crevice beneath. The wall beneath the weatherboarding was lined with breathable membrane (which is not safe for bats due to entanglement risk).

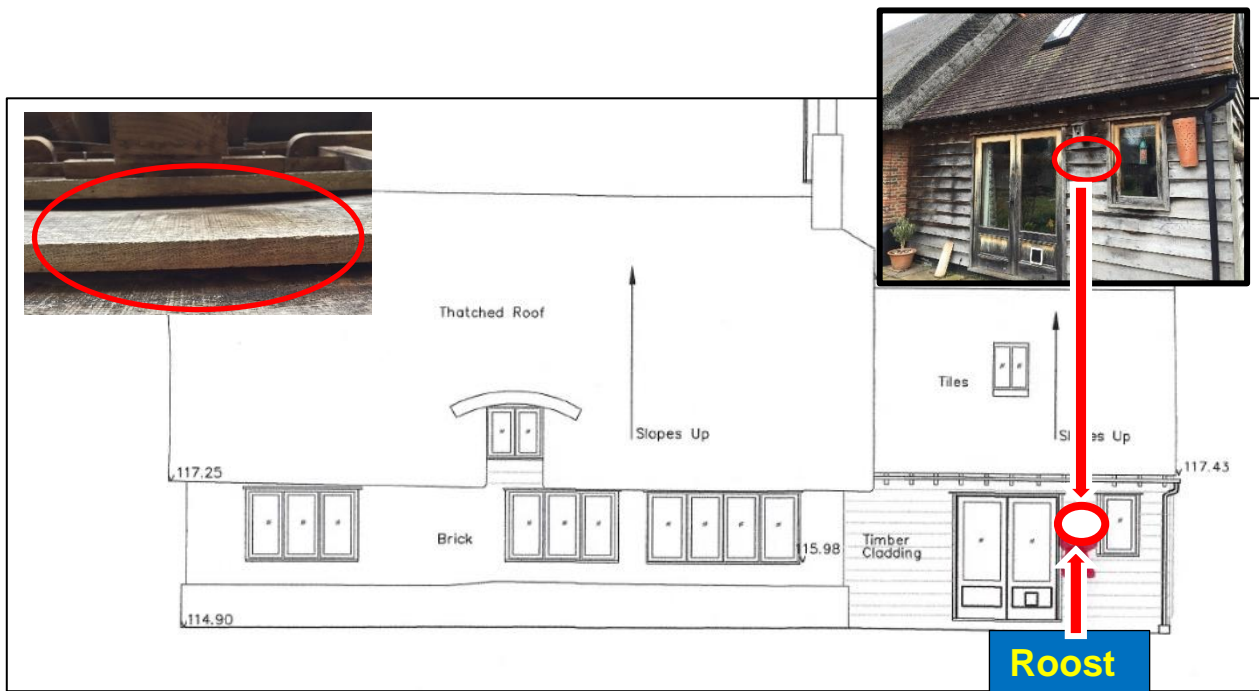
The main lifting boards are adjacent, to the east, of the double doors on the southern elevation of the extension: This is where roosting bats were heard (chittering at sunset) and seen emerging by the homeowners in September 2020. A recording of the chittering sounded like three or four individuals (similar to a recording made of four Natterers bats roosting in a barn mortice joint).

Apart from the southern elevation, there was no evidence of warping or damage over the other elevations of the extension that could form crevices and potential roost features. Also, there were no crevices or features suitable to support roosting bats on the tiled roof – which was very well-sealed. The main roof is thatched in long-straw, and consequently wired (vermin-proof) throughout and under the eaves. There is negligible potential for bats to use the old, thatched part of the cottage, and this will not be impacted by proposals, other than attachment of the extension to the eastern gable end, externally, which is already adjoined to the existing extension.

#### 3.3.1 Natterer's bats *Myotis nattereri*.

Natterer's bats are more frequently encountered in old barns and churches during the active season. Although Natterer's bats can use barns for hibernation roosting, they have a strong preference for underground sites, such as caves, where the temperatures are more stable and the humidity more appropriate for roosting. It can be assumed that the bats recorded in September in Lincolns are only using the roost during the transition period between summer and winter roosting. Natterer's bats use a number of roosts throughout the year, with some roosts being only used for a few days per year. It is highly unlikely that the weatherboard roost would be used over the hibernation period due to lack of stable temperatures and inadequate humidity.

**Figure 3.1:** Location of roost



### 3.3.2 Foraging and Commuting Bats

It is likely that foraging and commuting bats move through the garden, or around the boundaries, due to high quality foraging habitat in the garden and in the wider local landscape (high density of ponds and small woodlands locally). The proposed extension would result in no net loss of habitat. There would be no impact to commuting bats if any new external lighting is sensitive to wildlife.

### 3.4 Pond Assessment for Great Crested Newts

**Table 3.2:** Habitat Suitability Index (HSI) of accessible ponds within 100m (SI = Suitability Index).

	Pond 1 Lincolns carp pond	Pond 2 Lincolns wildlife pond	Pond 3 Adjacent swale	Pond 4 Neighbours garden pond
SI1 - Location	1	1	1	1
SI2 - Pond area	0.01	0.1	0.9	0.2
SI3 - Pond drying	0.8	0.7	0.05	0.7
SI4 - Water quality	0.33	0.7	0.01	0.6
SI5 - Shade	1	1	0.6	1
SI6 - Fowl	0.8	0.8	0.01	0.6
SI7 - Fish	0.2	0.8	1	0.8
SI8 - Ponds	1	1	1	1
SI9 - Terrestrial habitat	0.5	0.7	0.8	0.7
SI10 - Macrophytes	0.3	0.4	0.3	0.5
<b>HSI</b>	<b>0.38</b>	<b>0.62</b>	<b>0.24</b>	<b>0.65</b>

The four nearest, accessible ponds were addressed for potential to support breeding amphibians. Table 3.2 shows the index of suitability. A HSI above 0.6 indicates 'average' and above 0.7 indicates 'good' potential for the pond to support breeding great crested newts. Lincolns wildlife pond (Pond 2) and the neighbouring garden pond (Pond 4) both had 'above average' great crested newt potential, but not 'good' potential. The dry swale and ornamental raised pond both had 'poor' potential to support great crested newts with a HSI indicating well below average for great crested newt breeding.

The HSI index is only a guide to the likely presence or absence of great crested newts and should be interpreted in conjunction with background information on habitats/connectivity in the area and knowledge of great crested newts' ecology. The results above do reflect the site survey assessment of the ponds.

### **3.5 Impacts**

The two ponds at Lincolns will be retained, and no high-quality terrestrial habitat for great crested newts lies within the clearance zone (gravel path and managed, sparsely vegetated flowerbed). There were no refuge or hibernation opportunities within the zone of impact: The walls of the property were intact to ground level and there were no log/rubble piles, loose paving slabs, sleepers, hedgerow bases or other foraging habitat (vegetated beds/shrub borders, hedgerow base and rough grassland) within the area that will be impacted by demolition of the existing extension and building of the proposed extension to the east of the thatched part of the house.

Due to the very low risk of impact, further great crested newt surveys are not recommended. However appropriate avoidance of impact and mitigation measures should be implemented, to reduce the risk to negligible by ensuring that the pond is protected during construction works and any newts using terrestrial habitat close to the pond would not be impacted/harmed.

### **3.6 Limitations and Assumptions**

The baseline conditions reported and assessed in this document represent those identified during a single site survey, on the 17<sup>th</sup> March 2021. A reasonable assessment of habitats can be made during a single survey; however, seasonal variations cannot be observed. The survey provides an overview of the likelihood of presence of roosting bats and newts, limited by the transient use of roosting opportunities by bats, and the short-lived nature of some signs (such as droppings). Where no evidence was found, this does not mean that bats do not use the buildings at some stage of the life-cycle. Further surveys are only recommended if there is a significant likelihood that bats/newts may be present and impacted by the proposed development, based on the suitability of the property, ponds, surrounding habitat, connectivity and any direct evidence.

All areas of the site were accessible on the day of the survey. Access was not available to ponds in adjacent gardens – the HSI was assessed from a distance and is only a broad indication. The pond assessment was carried out outside the newt breeding season, when no newt eggs would be evident and water levels may be atypical, but when vegetation was well established in ponds and the HSI could be carried out with confidence where access was available. As an initial inspection for suitability of ponds to support great crested newts, the assessment and timing was satisfactory and appropriate.

All constraints were within normal limits and have been taken into consideration when drawing conclusions and recommendations from the survey.

## 3.7 Key Recommendations and Precautions

### 3.7.1 Bats

#### 3.7.1.1 Further surveys

Nocturnal surveys are needed for roost characterization to inform the planning application and a licence application to facilitate demolition. Surveys should be carried out during the active season May to September inclusive. Three surveys will be needed – including a dusk emergence survey and a dawn re-entry survey. Two of the surveys should cover the maternity roosting season and one closer to transition-roosting.

#### 3.7.1.2 Mitigation and Compensation

Mitigation for loss of the transitional roost would involve re-creating the crevice-roosting opportunity on the new extension, either through a bespoke design (crevice designed into the weather-boarding or wall covering), or installation of appropriate building-mounted bat boxes for Natterers. This should be done on the south facing wall of the new extension as close to the known roost location as possible. Breathable membranes must not be used in areas accessible to bats. Bat boxes (see Section 4.2) should be installed in garden trees as additional enhancement. Sensitive lighting will be necessary to ensure that the route from the mitigation boxes/features to foraging grounds in the wider landscape is retained as a dark corridor. Detail regarding the numbers and location of bat boxes will be specified in a method statement prepared as part of the licence application and following surveys for bats in the active season (see Section 3.7.1.1).

If the surveys confirm a Myotis/Natterers transitional roost, this is deemed appropriate and proportional mitigation, providing roosting opportunities of equivalent type and value, appropriate to the species and roost types which would be impacted.

### 3.7.2 Great Crested Newts

Great crested newts could be present in the ponds within 250m of the site and, given the distance, connectivity between the local ponds and intervening habitat, could also be present in the pond within close proximity of the proposed works.

The HSI is just *above average* for two of the four closest ponds within 100m of Lincolns: These are both beyond 30m from proposed works.

A protected species licence would be required if the proposed works would impact on individual great crested newts, or the local conservation status of great crested newts. However, due to the small scale and low impact of the proposals, it is considered that works are unlikely to result in an offence under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended) and therefore an EPS licence is not required. It is also considered reasonably unlikely that works will result in disturbing a great crested newt in its place of shelter or obstructing access to such a place, and proposals are therefore reasonably unlikely to result in an offence under the Wildlife & Countryside Act 1981 (as amended). If the demolition and construction phase is carried out under a Non-licensed Precautionary Method Statement, it is highly likely that the residual very low risk of impact can be reduced to negligible.



## 4 Ecological Enhancement

These additional recommendations are not legal requirements but would enhance the value of the site for wildlife, as encouraged through the NPPF, and to help achieve Essex BAP targets.

### 4.1 Habitat Piles and Hibernacula

Log piles and/or hibernacula could be created by filling a hole (approximately 2m by 1m in extent and up to 50cm deep) with rubble and logs from native hardwood species to provide refuge and hibernation opportunities for reptiles and amphibians. These should be located at the garden boundary, close to the pond and in an area which will be minimally disturbed (southern boundary hedge).

### 4.2 Bat Boxes

Bat boxes could be installed on suitable mature retained trees: The trees adjacent to the pond on the southern boundary would be appropriate. Woodcrete boxes, such as Schwegler 2F and 2FN would be appropriate; these boxes are constructed of wood fibres, clay and cement and are more durable and long-lasting than wooden alternatives.

Natterer's bats show a preference for 2FN and 2F boxes (Dodds and Bilston, 2013), and Poulton (2006) found a higher occupancy rate in boxes sited lower ( $\leq 4\text{m}$  height).



Bat boxes should be located at least 5m above the ground and facing south-east to south-west, to receive sun for part of the day, close to boundary vegetation and with open flight access into the boxes. Schwegler 2F boxes for pipistrelle bats, and 2FN for larger bats, would be suitable for positioning in trees; the Schwegler 1FF or the Beaumaris Woodstone Bat Box would be suitable for positioning on the external walls of the Cottage. Further advice will be given following nocturnal bat surveys, when species of bats roosting at Lincolns has been confirmed.

## 5 Conclusion

Further surveys for bats are needed to confirm the status, species and character of the roost, and to inform a licence application which will be needed to demolish the extension and facilitate the proposals.

All ponds will be retained; however, potential great crested newt terrestrial and breeding habitat is present close to the construction zone. Further surveys for newts and a protected species licence are **not** required, however, precautionary working methods (as detailed in a *Non-licensed Precautionary Method Statement*) should be implemented during the construction phase.

If the bat-licence is achieved and implemented, and the precautionary measures in relation to great crested newts, then the development can proceed with negligible impact on protected species.

There is scope to enhance the site for bats and amphibians if additional ecological enhancements are included, as detailed in Section 4.

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