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## **Preliminary Bat Roost & Pond Assessment (including Amphibian Method Statement and Biodiversity Enhancement Strategy)**

of

**Wolfe Hall Outbuilding, Barrow Hill,  
Barrow, Suffolk, IP29 5EZ**

<b>Survey Commissioned by:</b>	Mark Howard
<b>Project Number:</b>	REP23047
<b>Report issued:</b>	10 <sup>th</sup> February 2024
<b>Date of survey:</b>	21 <sup>st</sup> December 2023
<b>Ecologist:</b>	Odette Robson BSc (Hons) PhD MCIEEM <i>Botanical Society of Britain and Ireland (BSBI) Field Identification Skills Certificate (FISC) Level 4 botanist; licensed by Natural England (NE) to survey for great crested newts (WML-CL09; Level 2), bats (WML-CL 18; Level 2) and dormice (WML-CL10A); Natural England Registered Consultant, accredited under the low impact Bat Mitigation Class Licence (BMCL), Bats in Churches Class Licence (BiCCL), and Bat Earned Recognition Class Licence (BERCL) - accreditation Level 2.</i>

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REP23047	Preliminary Bat Roost & Pond Assessment (including Amphibian Method Statement and Biodiversity Enhancement Strategy) of Wolfe Hall, Barrow Hill, Barrow, Suffolk, IP29 5EZ	Final	10 <sup>th</sup> February 2024

**Disclaimer**

*The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.*

*This report was instructed by Mark Howard and following the brief agreed. Robson Ecology Ltd has made every effort to meet the client's brief.*

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## Summary

<b>Site:</b>	Wolfe Hall, Barrow Hill, Barrow, Suffolk, IP29 5EZ
Grid Reference:	TL 77134 62223
Report Commissioned by:	Mark Howard
Date of Survey:	21 <sup>st</sup> December 2023

Site lies within the zone of influence of <b>European Designated sites</b>	No direct or indirect impacts	No direct impacts to the European designated sites from the development are predicted: The site is small in extent, separated from the European site by infrastructure and agricultural land, and lacks similar habitat which could be used to support species for which the European sites are designated. No additional residential units are proposed and there will be no indirect impact from increased visitor pressure. A financial contribution to fund mitigation measures (Recreational disturbance Avoidance and Mitigation Strategy - RAMS) will not be required.
<b>Bats</b>	Construction Phase Impact (roosting bats).	<b>Further surveys are necessary to establish roosting status of the outbuilding and inform any mitigation or licensing requirements.</b> No evidence of bats having used the loft void internally. However, crevices beneath the external timber cladding and the inner wall-lining provides potential crevice-roosting opportunities. Two dusk/emergence surveys following best practice guidelines (Collins 2023) are required for 'moderate' roosting potential in the first instance, with an additional survey if roosting bats are recorded. Surveys must be carried out between May and August/September with at least three weeks between the surveys.
	Operational Phase Impact (commuting and foraging bats).	Negligible impact to commuting or foraging bats: No foraging habitat will be lost, or flight lines interrupted, through proposals. <u>Sensitive external lighting on the new building to retain dark corridors around the garden/site.</u>
<b>Great Crested Newts</b> <i>Triturus cristatus</i> .	Construction Phase Impact (terrestrial habitat)	No water bodies will be impacted by works. The large garden pond adjacent to the outbuilding was stocked with fish and had low potential to support breeding great crested newts. There are no other known ponds within 250m of the site. Habitat within the zone of impact had negligible/low potential to be used by great crested newts in their terrestrial phase (short-mown lawn, building, and garden). Due to the small scale and low impact of the proposals, and lack of suitable habitat within the ground-working zone, works are highly unlikely to impact great crested newts during the construction or operational phase. Further surveys or a protected species licence are not required: The proposed works will not impact on individual great crested newts, or the local conservation status of great crested newts if the <b>Precautionary Method Statement</b> (detailed in this report) is implemented during the construction phase.
<b>Birds</b>	Nesting bird potential	Removal of climbing vegetation and demolition of outbuilding should be conducted outside the nesting bird season (March to August inclusive) or following a survey for nesting birds carried out immediately before the works start. If active nests are recorded, there will be a delay in that part of the site (including an exclusion zone surrounding the nest) until all young birds have fledged and left the area.
<b>Pond Protection</b>	During construction	An exclusion fence (Heras or similar) will be set up to prevent incidental access to the pond by construction personnel or vehicles.
<b>Additional enhancement</b>	The property can be enhanced for bats and birds by installing habitat boxes on the new outbuilding and garden trees, and a hibernaculum by the pond.	

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# 1 Introduction

## 1.1 Background

Robson Ecology Ltd was commissioned to undertake a Bat Roost and Pond Assessment of an outbuilding at Wolfe Hall to inform a Listed Building Consent/planning application and legal obligations for removal and replacement of the existing outbuilding.

## 1.2 Legislation

Bats are strictly protected under European and UK legislation (Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and the Wildlife and Countryside Act, 1981). Four UK species are also listed under Annex II of the Habitats Directive.

Seven species are *Species of Principal Importance in England* (SPIE) - formerly UK Biodiversity Action Plan Priority (BAP): 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*.

Great crested newts are strictly protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, 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 (MHCLG, 2021), 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 (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended) under which it is 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 survey was therefore required to:

- Identify the presence, or potential presence, of any bats, birds or great crested newts;
- assess the potential impact of the proposals on protected species 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, birds, 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); a Botanical Society of Britain and Ireland (BSBI) Field Identification Skills Certificate (FISC) Level 4 botanist; licensed by Natural England (NE) to survey for great crested newts (WML-CL09; Level 2), bats (WML-CL18; Level 2) and dormice (WML-CL10A); a NE Registered Consultant under the *Bat Mitigation Class Licence*, the *Bats in Churches Class Licence*, and *Bat Earned Recognition Class Licence*.

During the survey, on 21<sup>st</sup> December 2023, the temperature was 9-10°C; the wind at Beaufort Scale 4-5, 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, 2023). All parts of the site and immediate surroundings were assessed externally and internally for potential bat roosting features using binoculars, high-powered torch and a borescope inspection camera (Ridgid CA300).

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

#### 2.1.2 Great Crested Newts

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

#### 2.1.3 Desk Study

A 2km radius search for statutory designated sites was conducted using “MAGIC”, the Multi-Agency Geographic Information system for the Countryside. The search radius was extended to the Zone of Influence (Zoi) for European designated sites: Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, where the potential risk of impact to the qualifying features (species or habitats) of these sites may extend over a wider area. A datasearch was requested from Suffolk Biodiversity Information Service (SBIS). Records of all bat species within a 2km radius of the site were provided on 18th December 2023.



## 2.2 Site Context and Proposals

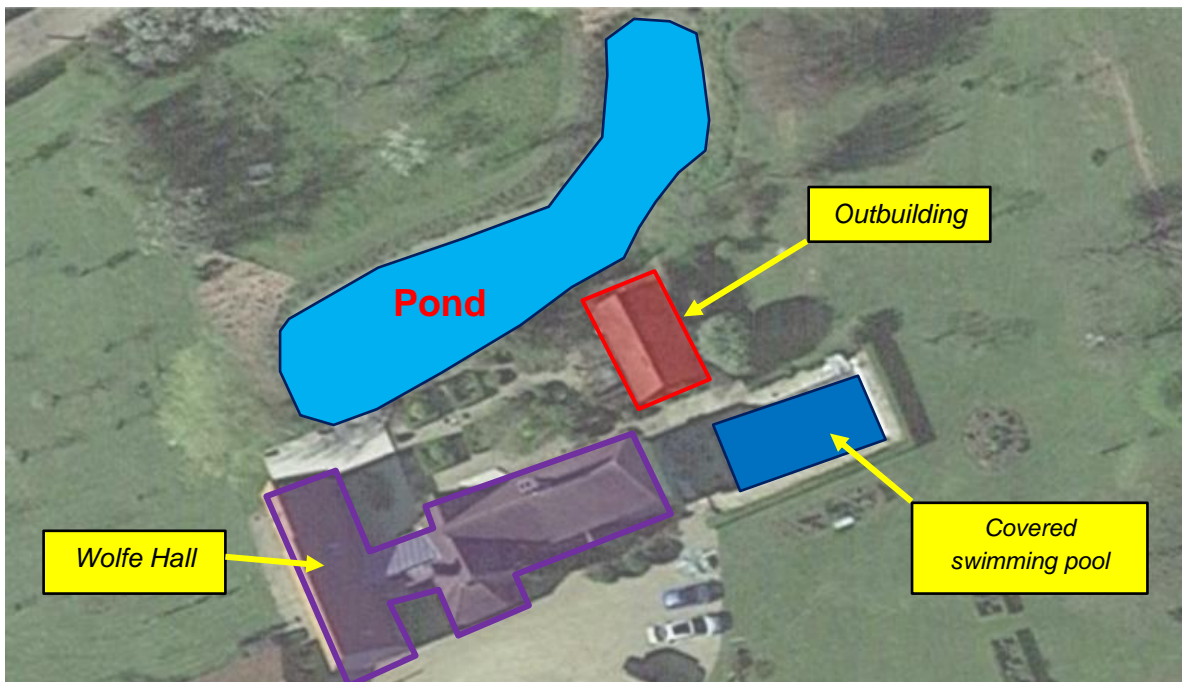
Wolfe Hall lies approximately 1km to the south of the village of Barrow and approximately 6km to the west of the outskirts of Bury St Edmunds.

The outbuilding lies to the north-east of Wolfe Hall. Well-managed gardens surround the property, including mature trees, extensive lawns, and a large pond (recently restored/regraded and marked on older maps as two separate ponds). A small, covered swimming pool to the south-east of the outbuilding and the pond to the north will not be impacted by proposed works, and the gardens will remain unchanged. The proposals involve removal of the existing outbuilding and construction of a replacement outbuilding with minor reorientation over a small area of currently short-mown lawn.

Beyond the boundary of the dwelling/curtilage are further residential dwellings to the north; arable land to the south, and beyond Barrow Road to the west; and agricultural land and a woodland beyond the garden to the east.

The wider landscape is predominantly agricultural - mainly arable land with pockets of woodland and hedged field boundaries. The nearest woodland is Barnfield Hill Wood, approximately 200m to the north-east. The nearest large water body is the pond within the grounds of Wolfe Hall (Figure 2.1), which is less than 5m from the proposed replacement outbuilding. There are no other known ponds or significant water bodies within 250m of the site.

**Figure 2.1:** Site context and pond location



### 3 Results

#### 3.1 Desk Study

MAGIC, was accessed (07/02/24), to identify the presence of statutory designated sites and habitats. The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) for addressing likely impacts on statutory designated sites. Given the scope and scale of the proposals, it is highly unlikely that consultation with Natural England will be required for a replacement outbuilding project of the type proposed.

No national statutory designated wildlife sites lie within 2km of the site.

Wolfe Hall lies within the Zone of Influence (Zol) of a site of European importance. However, there will be no net increase in residential units therefore, a contribution to the Recreational disturbance Avoidance and Mitigation Strategy (RAMS) will not be required.

**Table 3.1:** European designated wildlife site (MAGIC, 07/02/24)

Site Name	Designation	Distance from Site (approx.)	Description
Breckland	SPA / SAC	4km N (Zol = 8km)	<i>Breckland is one of the most extensive areas of lowland heath remaining in Britain (one of Europe's rarest and most threatened habitats): Therefore, Breckland heaths are of international importance. The Breckland heaths include a mixture of dry dwarf-shrub heath dominated by heather and lichen heath, and both acidic and calcareous heath grassland. On well-grazed areas, characteristic rare lichens, bryophytes and plants occur including Spanish catchfly, bur medick and Breckland thyme. Qualifying features include Burhinus oediconemus; Stone-curlew (Breeding); Caprimulgus europaeus; European nightjar (Breeding); and Lullula arborea; Woodlark (Breeding).</i>

##### 3.1.1 European Protected Species Licences

The nearest EPS licence granted for great crested newts is 12.3km to the north-west (EPSM2011-3417), for destruction of a resting place. Great crested newts have been recorded 8.5km to the east from Great Crested Newt Class Survey Licence Return data held on the MAGIC database (accessed February 2023).

The nearest European Protected Species (EPS) licence granted for bats is 1.9km to the north-east (2018-36728-EPS-MIT), for damage to a common pipistrelle and brown long-eared bat resting place (MAGIC, 07/02/24).

##### 3.1.2 Data-search (Suffolk Biodiversity Information Service)

Suffolk Biodiversity Information Service (SBIS, 2023) provided 14 records of bats within 2km of the site, as follows:

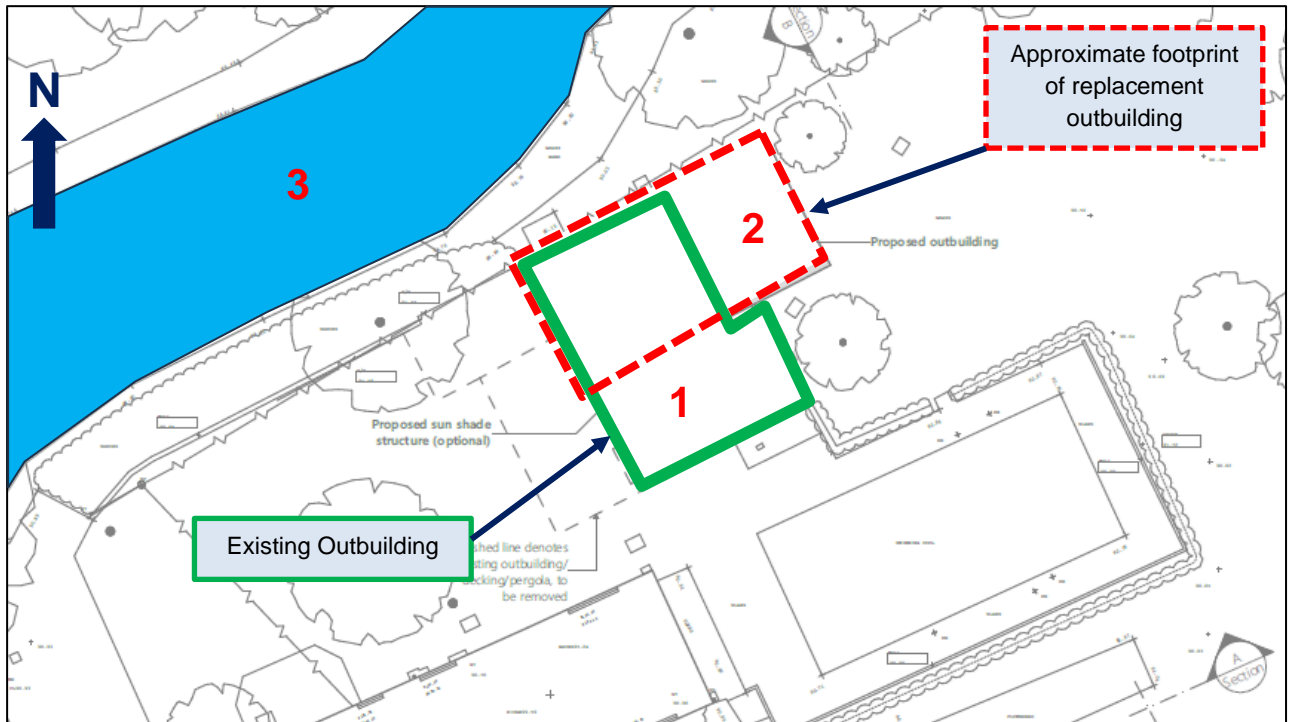
- Five common pipistrelle bat records (2012-2022) – nearest approximately 1.5km to the south-west of the site.
- Four brown long-eared bat records (2016 – 2022) – nearest approximately 1.5km south-west of the site.
- Two soprano pipistrelle records (2012) from approximately 1.5km to the south-west.
- One Barbastelle records from approximately 1.5km to the south-west in 2012 (bat detector, non-roosting record).
- Two bat records of unknown species (2005 and 2016) – 1.3km to the north-west.






### 3.2 Survey Results from 21<sup>st</sup> December 2023

The outbuilding was in good repair and used mainly for storage. Target Notes described in Table 3.2 refer to numbers/locations shown in Figure 3.1 below

**Figure 3.1** – Target Note locations (red numbers)



**Table 3.2:** Building and pond assessment carried out on 21<sup>st</sup> December 2023.

Building and Pond Descriptions	
<p><b>1) Outbuilding</b></p> <p>Timber weatherboarded gable end to the southern elevation and on the lean to at the northern gable: Well-sealed, intact weatherboards with no warping or gaps between boards. All other walls had rustic board cladding which was uneven and lifting in places, particularly on the western elevation. No bat droppings adhered to external boards or ledges, though some crevices were clear of cobwebs and could be used by crevice-roosting bats.</p> <p>Shallow-pitched roof with well-sealed and intact shingle-tiles and no notable gaps or damage.</p> <p>Moderate bat roosting potential.</p>	  

### 1) Internal (loft-void)

Internally, the loft-void was lined with bitumen-felt lining. Simple modern roof trusses with no crevices/mortise joints. Lagging insulation (old).

No bat droppings or other evidence of bats using the loft-void.



### 2) Location of Replacement Building

The footprint of the replacement outbuilding lies largely within the existing footprint and partly over short-mown, species-poor amenity/lawn improved grass.

No shrub or tree removal is required though the northern end of the outbuilding had sparse Ivy cover and climbing vegetation.



### 3) Pond

**Distance from site:** <5m to north of outbuilding – separated by a bank of ruderal vegetation.

**Area of pond:** 430m<sup>2</sup> (approx.)

The large pond in the Hall gardens, was stocked with fish (Carp/Tench) with poor water quality (cloudy/disturbed) and minimal aquatic or emergent vegetation (sparse Reedmace *Typha latifolia* at margins). Surrounded by mown lawns and well-managed garden. Shallow banks were sparsely vegetated with rough grasses and ruderals with no significant tree or scrub cover, though shrubs establishing at the eastern end.



### 3.3 Suitability of Building for Roosting Bats

An assessment was made under the criteria detailed in current Best Practice Guidelines (Collins, 2023). The outbuilding had moderate potential to support roosting bats due to roosting features/crevices externally on the building and high-quality foraging habitat in the local landscape.

**Table 3.3:** Summary of bat roosting potential and survey requirements.

Structure	Roosting habitat suitability	Further survey requirements to ascertain roosting status
Outbuilding	Moderate roosting potential	Two dusk emergence surveys*: Carried out between May and August (inclusive) with at least three weeks between the surveys.
*Note - if roosting bats are confirmed during the surveys, the roost/building will need an additional survey to characterize the roost for the planning application and for a protected species licence-application.		

Lighting precautions should be implemented (Section 4.2.4) to maintain dark corridors around the site boundaries and ensure bat activity in the local area is not impacted.

### 3.4 Foraging and Commuting Bats.

Due to good quality foraging habitat in the wider garden and local landscape (pond, mature trees/hedges, gardens, and woodland approximately 200m to the north-east), there is potential for foraging and commuting bats to move through the area, or around the site. However, the outbuilding does not lie on any obvious commuting corridors, with no adjoining hedges or other linear features impacted. The proposed replacement outbuilding would not result in a loss of foraging habitat however, foraging bats are likely to use the large pond. There would be no impact to commuting bats if any new external lighting is sensitive to wildlife (Section 4.2.4).

### 3.5 Pond Assessment for Great Crested Newts

Distance from a potentially suitable water body/terrestrial connectivity is a major factor in determining the potential suitability of a site to be used by great crested newts during their terrestrial phase. Small numbers of great crested newts have been known to range significant distances (1km) to colonise new ponds. However, research undertaken by English Nature (2006) has shown that it is most common to encounter them within 50m of a breeding pond, with few moving further than 100m unless significant linear features or suitable terrestrial habitat is involved, when great crested newts can be encountered at distances of between 150m-200m. At distances, greater than 200-250m great crested newts are hardly ever encountered.

The pond has below average potential to support great crested newts due to a combination of factors, including presence of fish and wildfowl – as confirmed by the *Habitat Suitability Index* score (Table 3.4).



**Table 3.4:** Habitat Suitability Index (HSI) of P1; the only known pond within 250m of the site.

Suitability Index (SI)	P1
SI1 – Location	1
SI2 - Pond area	0.85
SI3 - Pond drying	0.9
SI4 - Water quality	0.33
SI4 – Shade	1
SI6 – Fowl	0.5
SI7 – Fish	0.1
SI8 – Ponds	0.8
SI9 - Terrestrial habitat	0.67
SI10 – Macrophytes	0.5
<b>HSI score</b>	0.57
Potential for GCN to use the pond for breeding:	<b><i>Below average</i></b>

The HSI is *0.57* for the pond, indicating '*below average*' suitability of the pond to support breeding great crested newts. 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 lack of suitable habitat within the construction zone, and good quality of the habitat surrounding the pond to the north and east significantly reduces the probability that great crested newts would cross the site or use the site itself at any stage of the life-cycle.

The pond within the grounds of Wolfe Hall and adjacent to the outbuilding will not be impacted by the proposed demolition and construction of the replacement outbuilding. The site access is well used and working areas used during construction would be limited to the hardstanding parking area or short-mown lawn/turf immediately adjacent to the existing outbuilding. This includes construction vehicles, storage of materials, deliveries, and contractor parking.

No high-quality terrestrial habitat for great crested newts lies within the clearance zone (footprint of existing or replacement outbuilding and working area). Vegetation removal would be limited to a section of short-mown lawn within the re-aligned outbuilding footprint. There were no refuge or hibernation opportunities within the zone of impact - the walls of the outbuilding which will be impacted were intact to ground level. There were no log/rubble piles, loose paving stones/slabs, hedgerow bases, rough grassland or other foraging habitat within the area that will be impacted by the proposed works.

Due to the very low risk of impact, further great crested newt surveys are not recommended. A European Protected Species Licence will not be required to carry out the proposals due to the low/negligible risk of impact to newts, and no loss of potential amphibian habitat. However, precautionary working methods should be implemented to reduce the residual low risk of impact to newts to negligible. A *Non-Licensed Method Statement* is provided in Section 4.2.1 which should be a condition of the planning consent and includes precautionary working methods, and the procedure to follow if protected amphibians are encountered during the ground works.

### **3.6 Nesting Birds**

Nesting birds and their eggs are protected under the Wildlife & Countryside Act 1981.

The outbuilding has low potential to be used by nesting birds; minor crevices externally, and sparse Ivy and climbing vegetation encroaching over the northern end of the building could be used by small nesting birds.

Timing of works, or a pre-start precautionary survey would ensure compliance with legal obligations with regards nesting birds: The main breeding season is between March and August inclusive. Should any works be proposed during the bird breeding season, a nesting bird survey should be undertaken to confirm presence/absence of nests immediately prior to works being undertaken. If nests are identified, there will be a delay to the start of the work until all young birds have fledged.

### **3.7 Limitations and Assumptions**

The baseline conditions reported and assessed in this document represent those identified during a single site survey, on the 21<sup>st</sup> December 2023. 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, birds, 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.

The pond assessment was undertaken outside the newt breeding season, when newts and newt-eggs would not be present in ponds. As an initial inspection to address the potential suitability of ponds to support great crested newts, the assessment and timing was adequate.

Further surveys are only recommended if there is a significant likelihood that bats/newts may be present and impacted by the proposed works, based on the suitability of the building, surrounding habitat, connectivity and any direct evidence.

All areas of the site were accessible on the day of the survey, including the building internally, and known ponds within 100m of the site.

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

## 4 Key Recommendations and Precautions

### 4.1 Further Surveys

Further surveys for bats are required to inform the planning application and ensure compliance with wildlife legislation and any licensing requirements. Good practice precautionary measures should also be implemented (Section 4.2) during the construction phase.

#### 4.1.1 Phase 2 Surveys for Bats

The outbuilding is situated within an area of high-quality bat foraging habitat, and there is potential for bats to use crevices in the external structure of the building. Due to the moderate risk of roosting bat presence, two nocturnal emergence surveys are recommended (Table 3.3) in the first instance, to inform any additional survey requirements. If bats are not recorded roosting the proposed works can proceed under precautionary working methods; if bats are recorded roosting, a further survey should be carried out to inform mitigation design, and a licence application to Natural England which would be needed to proceed with any works that would directly, or indirectly, impact or disturb a roost.

### 4.2 Precautionary Measures

To ensure compliance with wildlife legislation, avoidance measures and precautionary working methods should be implemented, as detailed below, to enable the demolition and replacement outbuilding construction works to proceed without impacting protected species or habitats.

#### 4.2.1 Great Crested Newts

There is a low risk that great crested newts could be present in the pond adjacent to the outbuilding. However, it is highly unlikely that any great crested newts, or other protected amphibians, would use the site clearance/working zone, or be impacted by the demolition/re-construction works, given the low quality of the habitat within the impact area (predominantly existing outbuilding, decking, and short-mown lawn) for amphibian foraging or hibernation/refuge habitat.

Due to the low/negligible potential for newts to be impacted or harmed during the construction or operational phase, a protected species licence is not required: The proposed works would not impact on individual great crested newts, or the local conservation status of great crested newts if the precautionary *Non-Licensed Method Statement* detailed below is implemented prior to any works starting on the site, and during the construction phase.



### Non-Licensed Method Statement (Amphibians)

- A single access route to the outbuilding through the garden will be used for contractor vehicles from the hardstanding driveway to the working zone. Small mini-digger/machinery only will access the rear of the building through the garden.
- All Contractors will be briefed prior to works starting on the protected species issues at the site, including the potential presence of great crested newts close to the working area. The site induction/briefing will include information on working methods to ensure that the risk of harming protected amphibians is minimized.
- All site-workers will sign an attendance sheet confirming that they have been briefed on protected species issues and understand the legal obligations with regards great crested newts. The signed attendance sheet, along with a copy of this report, must be present on the site at all times during the construction phase.
- If the plans or specification of work changes at any stage of the project, the Project Ecologist must be consulted to ensure that newts (or other protected species) will not be impacted.
- Any tall vegetation (over 20cm sward height) within the working area (grass or ruderals) must be strimmed prior to start of works, to encourage any animals to leave the area which will be cleared. Once strimmed to a height of 5-10cm, this must be left for 24 hours before work starts to enable any animals present to leave the clearance areas and access safe, adjacent habitat. Arisings must be raked off the ground clearance zone. This should be programmed outside the sensitive hibernation period (which is usually November to February inclusive – depending on weather and temperatures), and during daylight hours only. The optimal time for works to proceed is between mid-March to mid-June, when most great crested newts will be in ponds.
- Temporary pools of water (such as service trenches or footings) must not be allowed to form: All holes/pits will be filled the same day and not left open overnight where possible. Any deep pits left uncovered overnight must have a secured plank to provide an escape route for any animals that may become trapped.
- Storage of materials (such as piles of building materials, skips, or wood): These must be raised above the ground on pallets or similar. No rubble piles or loose spoil will be left on the site: This must be removed directly to a skip to cart away or stored in areas raised from the ground.
- Any caustic materials (e.g., cement or lime plaster) that are mixed by hand must be prepared on a tarpaulin that can be folded securely overnight; a board that is removed overnight; or the floor of a sealed building which amphibians cannot access.
- An exclusion fence at the northern boundary of the site works will prevent access to the pond by vehicles/personnel, or storage of materials adjacent to the pond.
- **If great crested newts are discovered at any stage, work must stop immediately while advice is sought from the Project Ecologist or Natural England on how to proceed.**
- **Project Ecologist:** Odette Robson (Robson Ecology Ltd) - 07443 620934

#### 4.2.2 Pond Protection (Pollution Prevention)

Pollution prevention measures and controls must be implemented, to ensure that there are no pollution incidents and/or damage/access to the pond during demolition/construction works.

An exclusion fence (Heras or similar) must be set up at the top of the bank to prevent incidental access close to the pond by construction personnel.

Caustic material must not be allowed to form run-off that could contaminate the adjacent ground or allowed to enter the pond or ditches.

Standard good-practice precautions for construction works adjacent to water-courses should be implemented. All works should follow the Environment Agency's **Pollution Prevention Guidelines** (PPG)\* documents available at:

<http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx>. Particularly the following:

- *PPG01 Understanding Your Environmental Responsibilities – Good Environmental Practices.*
- *PPG05 Works and maintenance in or near water.*
- *PPG06 Working on construction and demolition sites.*

(\*These documents have been archived but still provide useful guidance in the absence of new published guidance).

#### 4.2.3 Breathable roofing/wall membranes

Breathable roofing and wall membranes should only be used in areas which are fully sealed so that bats cannot gain access. Breathable membranes must not be used on any part of the new outbuilding which bats could access (bats can access gaps of 1cm or more). Where bats can access, then a bat-safe membrane should be used: This should be bitumen 1F felt that has a non-woven, short fibre construction, or a breathable, non-bitumen coated roofing membrane which has passed a *snagging propensity test* to ensure that the material can stand the repeated snagging actions of roosting bats. Such materials should be approved by Natural England. Further clarification on this is detailed on the Bat Conservation Trust website <https://www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-coated-roofing-membranes>

#### **4.2.4 Sensitive Lighting**

Due to records of bats in the local area and good quality foraging habitat, lighting should be minimized to encourage bats to use the property, both during the building works and on completion. Guidance from the Institute of Lighting Professionals and the Bat Conservation Trust (IPL 2023, 2018; ILE 2012, BCT 2009) has been used to inform the following considerations:

- No lighting should be directed towards mature trees, the pond, or the garden boundaries, which should be maintained as dark corridors.
- LED luminaires should be used where possible (No UV elements: Metal halide, fluorescent sources should not be used).
- A warm white spectrum (ideally <2700Kelvin) should be used to reduce the blue light component.
- Peak wavelengths higher than 550nm should be used to avoid the component of light most disturbing to bats (Stone, 2012).
- Only luminaires with an upward light ratio of 0% and with good optical control should be used (See ILP 2011).
- Any external security lighting should be set on motion-sensors sensitive to large moving objects only, and short (<1 minute) timers.
- All external lighting should be kept to the minimal feasible level and be directed downward: Baffles, hoods or louvres can be used to reduce light spill and direct it only to where needed.
- Lighting should be appropriately directed to avoid illuminating any mature trees, hedges/shrubs, the pond, and any mitigation/enhancement habitat boxes.
- Building works should only be undertaken during daylight hours and task lighting should not be used during the construction or operational phases of the development.

#### **4.2.5 Nesting Birds**

A nesting bird survey of the building should be carried out immediately prior to start of works, if this is within the breeding season, to check for active bird nests, and avoid infringing legislation which protects all nesting birds (WCA 1981). If nesting birds are identified, then works to that part of the building (including an exclusion zone – the extent of which would be advised by the project ecologist), must cease until all young birds had fledged and left the nesting area.

If works start outside the main nesting period (end of August to end of February), then a survey is not necessary, if contractors adopt a precautionary approach.

## 5 Biodiversity Enhancement Strategy

These additional recommendations would enhance the value of the site for wildlife, as encouraged through the NPPF (MHCLG, 2021), and to help achieve a net gain for biodiversity. These may be subject to revision on completion of the further surveys for bats.

### 5.1.1 Bat Boxes

Bat boxes/features will be installed as shown in Figure 5.2.

- **Weatherboard crevice**: A lifted section of weather-board 20cm to 30cm long, propped to form an entrance gap exactly 15-20mm wide. This will enable crevice-roosting bats to use the crevice formed between the lower weatherboard and upper weatherboard. The lining beneath the crevice MUST be F1-Type bitumen/hessian-backed felt or rough-sawn timber (untreated). Alternatively, a breathable bat-safe membrane which has passed a snagging propensity test and can be licensed for use in roosts. Photographs of the materials beneath the lifted weatherboards must be provided to Project Ecologist to confirm compliance.
- **Integrated Bat Box**: Bespoke roost crevice (Table 5.1) created beneath the weather-board cladding as high as possible on the gable ends, but without glazing below, as shown in Figure 5.2. The lining beneath the crevice MUST be F1-Type bitumen/hessian-backed felt or rough-sawn, untreated timber.
- **Tree-box**: A Schwegler 2F bat box (Table 5.1) can be installed on a mature tree adjacent to the pond (Figure 5.2), facing south-east or south-west to receive sun for part of the day, at least 4m above ground level, and be sited out of reach of cats. Woodcrete boxes are more durable and longer-lasting than wooden alternatives. There should be unobstructed flight access enabling entry/exit for bats, but with suitable flight-lines in close proximity. The access hole is at the base so that the boxes are self-cleaning and do not require any maintenance. Bat boxes should be left in perpetuity and must only be checked or moved by individuals licenced by Natural England to survey and handle bats.

### 5.1.2 House Sparrow Terrace

The *Birds of Conservation Concern* (Stanbury *et al.*, 2021) red-listed house sparrow has been recorded locally and will readily use nesting boxes. Sparrow terraces, such as the Schwegler 1SP (see Table 5.1), are suitable for buildings/structures. A house sparrow terrace should be installed at the apex of the on the north-east facing gable of the new outbuilding (Figure 5.2), as high as possible and at least 2m above the ground.

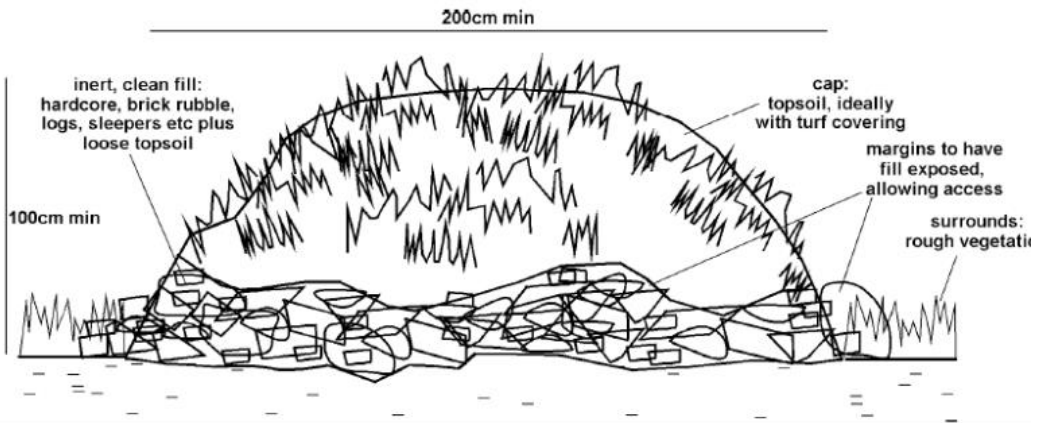
### 5.1.3 Open-Fronted Bird Box

Song thrushes and spotted flycatchers use open-fronted nest-boxes: A Schwegler 2H open-fronted nest box, or other specification to approved BTO-standards, will be installed in a retained garden tree to provide further nesting opportunities.

### 5.1.4 Hibernaculum/Log-Pile

A Hibernaculum will be created by filling a hole (0.5m x 1m in extent and up to 50cm deep) with rubble and untreated log-sections from native hardwood species to provide reptile and amphibian refuge and hibernation opportunities. This will be topped with 50cm of brash and logs. The location is shown in Figure 5.2 - on the edge of the pond; an area that will be minimally disturbed on completion of works.

**Figure 5.1:** Specification of hibernacula (From Great Crested Newt Mitigation Guidelines, August 2021)



**Table 5.1:** Specification of ecological enhancements.




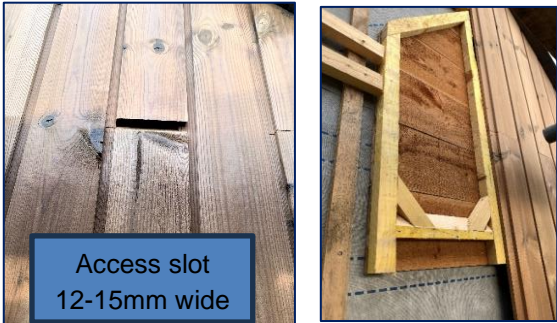
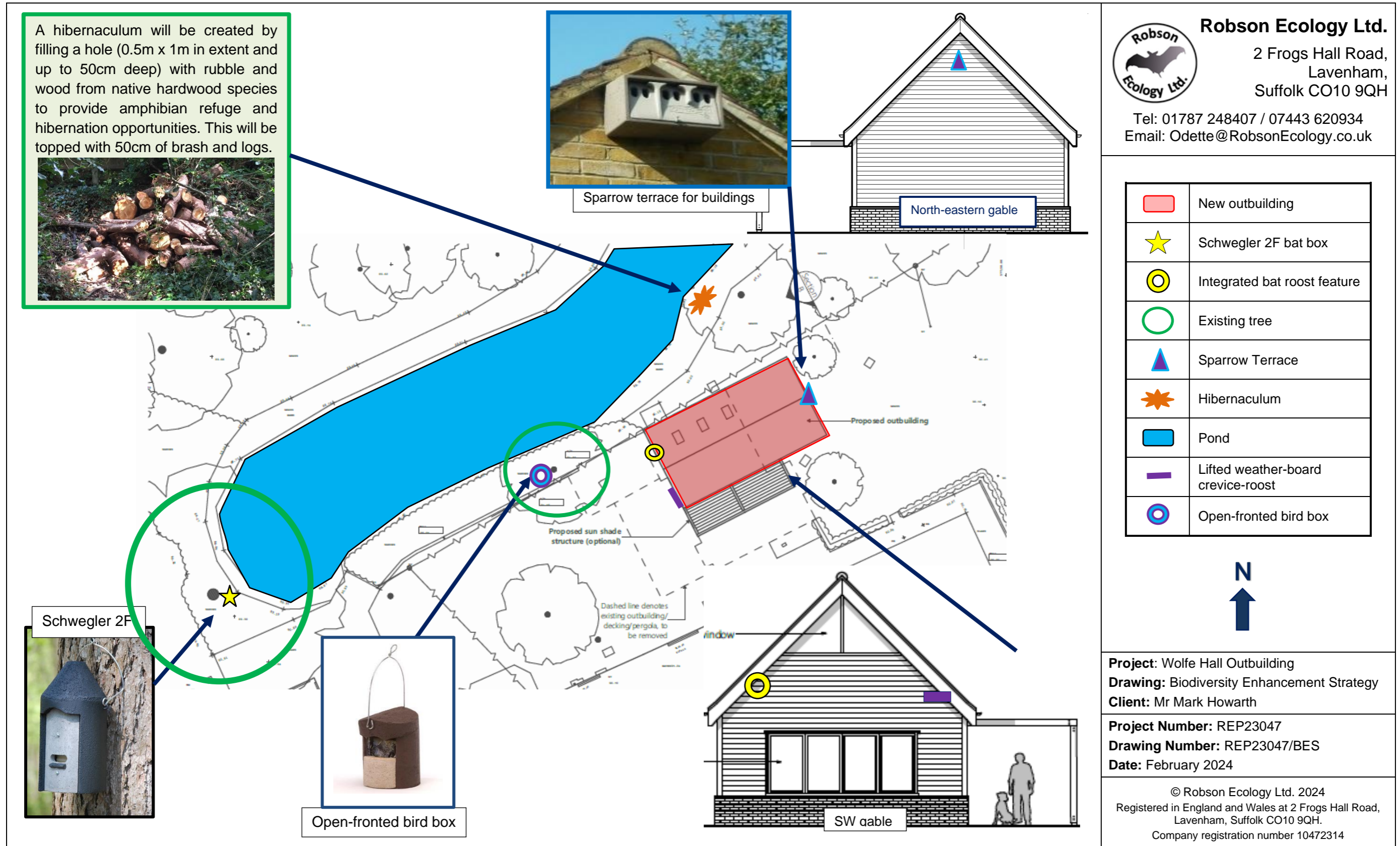
<p><b>Schwegler 2F Bat Box</b></p> <p>Multi-purpose bat box for pipistrelles – tree-mounted. Manufactured from long-lasting Woodcrete, a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years.</p>	
<p><b>Schwegler 1SP Sparrow Terrace</b></p> <p>This terrace provides nesting opportunities for three families. Made of wood-concrete mix, this terrace is durable, breathable and will last many decades. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. Place the terrace two metres or more above the ground or install directly into the wall. Cleaning is advisable but not necessary.</p>	
<p><b>Schwegler 2H Open-fronted Bird Box</b></p> <p>Should always be installed on the outside walls of houses, barns, garden sheds, etc. It is designed to be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be removed for cleaning.</p>	
<p><b>Integrated Bat Box (Bespoke)</b> (integral – behind weather-boarding)</p> <p>Built into outbuilding wall beneath weather-boarding</p>	



Figure 5.2: Location of ecological enhancement features:





## 6 Conclusion

The outbuilding has moderate potential to support roosting bats in the crevices under external timber wall-cladding. There was no evidence of bats having used the outbuilding internally, and no notable potential access points to the loft-void. High quality foraging habitat in the local area increases the potential for bats to use the outbuilding for roosting.

Further bat surveys should be undertaken to inform any licensing or mitigation requirements. If bats are recorded using the outbuilding, then a licence would be needed to proceed, which would include mitigation proportional to the species and roost conservation status. A mitigation strategy can be designed once the species, location, and status of the roost is known. This is likely to involve timings constraints for building works, and compensatory roost provision on a 'like-for-like' basis: Mitigation for crevice-roosts of this type is likely to be through provision of bat boxes, or replacing the roost-features on the replacement outbuilding.

It is likely that the project can proceed with negligible impact on bats, birds, great crested newts or other protected species, if the further surveys and precautionary working methods are implemented prior to start of siteworks and during the construction phase:

- Following the further surveys for bat, any recommendations made must be fully implemented (including precautionary working methods and achieving/implementing a licence, if necessary).
- A precautionary pre-start nesting bird survey (or works timed to avoid the nesting season) must be carried out before works start on the outbuilding or if scrub/vegetation is cleared during the nesting season.
- An exclusion fence must be installed to separate the construction activity from the edge of the pond. Pollution prevention measures and actions to protect the pond must be implemented.
- A *Non-Licensed Method Statement* must be implemented to avoid impact to protected amphibians (Section 4.2.1). This will be covered in a site induction/toolbox talk given to all contractors working on the site/project.

There is scope to further enhance the new outbuilding and surrounding garden habitat for bats, birds, and amphibians through incorporation of the habitat boxes and hibernaculum detailed in Section 5, in line with planning objectives for positive gain for biodiversity through development.

## 7 References

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# Appendix A: Record of Induction

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**Record of attendance:**

Wildlife legislation/Protected Species briefing at Wolfe Hall.

NAME:	COMPANY and POSITION:	Date:	Signed:

Ecology/Bat issues: If you find a bat during works, or have any other questions or concerns, please call Registered Consultant for advice on how to proceed:

**Odette Robson** (Licensed by Natural England to survey and handle bats under Bat Class Licence 2015-10940-CLS-CLS (WML-CL18 - Level 2); and great crested newts under Class Licence 2015-16945-CLS-CLS (WML-CL09; Level 2)

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