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# Reptile Survey Report

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**Bridge Barn, Badley**

**for**

**Sarah Drummound**

**4 May 2022**

**Client**

Sarah Drummound


**Planning authority**

Mid Suffolk District Council

***Time limit of reliance***

*Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.*

*Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).*

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<b><i>Signed disclosure</i></b>	
<i>The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.</i>	
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## SUMMARY

- Greenlight Environmental Consultancy Ltd. has been commissioned to carry out protected species surveys for reptiles, relating to a proposed development at Bridge Barn, Stowmarket Road, Badley, Ipswich, Suffolk, IP6 8RJ (grid reference: TM 08097 55903).
- This report provides the results of the reptile survey and any potential effects of the proposed development on such species.
- The ecology report is required in support of a planning application for the construction of a stable block and menage.
- The survey and assessment were completed by independent qualified and experienced ecologists with Natural England survey licences for the relevant protected species, and in accordance with the latest survey guidelines.
- The findings of the assessment are that there are no significant ecological constraints that would prevent the proposed works.
- If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Reptiles	Suitable habitats on site. Presence/absence surveys recorded a <b>low population</b> of slow-worms (peak count: three individuals, but only one adult) on site.	Harm to reptiles present on site during works. Loss of reptile habitat. As only a small number of slow-worms were identified on site, temporary exclusion fencing and translocation considered disproportionate to potential risk and impacts.	<u>Mitigation</u> Creation of receptor area on the site to include rough grassland and two south facing hibernacula). Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of works, working from the centre of the site outwards in a spiral motion. Removal of refugia by hand. In the event reptiles are found, work will cease immediately, and an ecologist contacted. Construction materials will be stored off the ground on pallets and waste materials in skips. Rough sawn planks placed inside any open excavations. Soft landscaping scheme to include the planting of new native species-rich hedgerows and trees along the northern and western boundary of the ownership site.

## 1. METHODOLOGY

- 1.1. Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.
- 1.2. Reptile presence/absence surveys were conducted in accordance with the latest available guidelines, which includes HGBI Advisory Notes for Amphibian and Reptile Groups (HGBI, 1998) and Survey Protocols for the British Herpetofauna (Sewell *et al.*, 2013).
- 1.3. The surveys included:
  - Searching for basking animals in suitable locations, such as on banks, patches of bare ground and piles of wood.
  - Laying out artificial refugia such as corrugated iron sheets and bitumen roofing felt. Thirty-five refugia, at a density of  $\approx 23$  per hectare, were placed within suitable reptile habitat within the site ownership on the 7<sup>th</sup> March 2022, and left in situ for two weeks prior to monitoring commencing (Figure 1). This provided sufficient coverage for an assessment of the habitats most likely to contain reptiles, being the site periphery and some areas between the buildings. Best practice guidelines state a minimum of 30 refugia, and at a density of 10 per hectare, should be used for presence/likely absence surveys (HGBI, 1998; Sewell *et al.*, 2013).
- 1.4. A total of seven reptile survey visits were conducted in suitable weather conditions (Table 1) to determine a population count and density (Sewell *et al.*, 2013).

## 2. SITE CONTEXT

### Location

- 2.1. The site is situated within the village of Badley, with the A14 located approximately 1.1km northeast. The town of Needham Market is approximately 250m west, and the town of Stowmarket is located approximately 3km northwest of the site.
- 2.2. The site is enclosed by the Norwich/London railway line to the north, the River Gipping to the east, Stowmarket Road (B1113) to the south and a residential dwelling to the west. The wider surroundings are comprised of a mixture of residential dwellings, blocks of woodland and arable fields lined with mature trees and hedgerows.

### 3. DESCRIPTION OF THE DEVELOPMENT

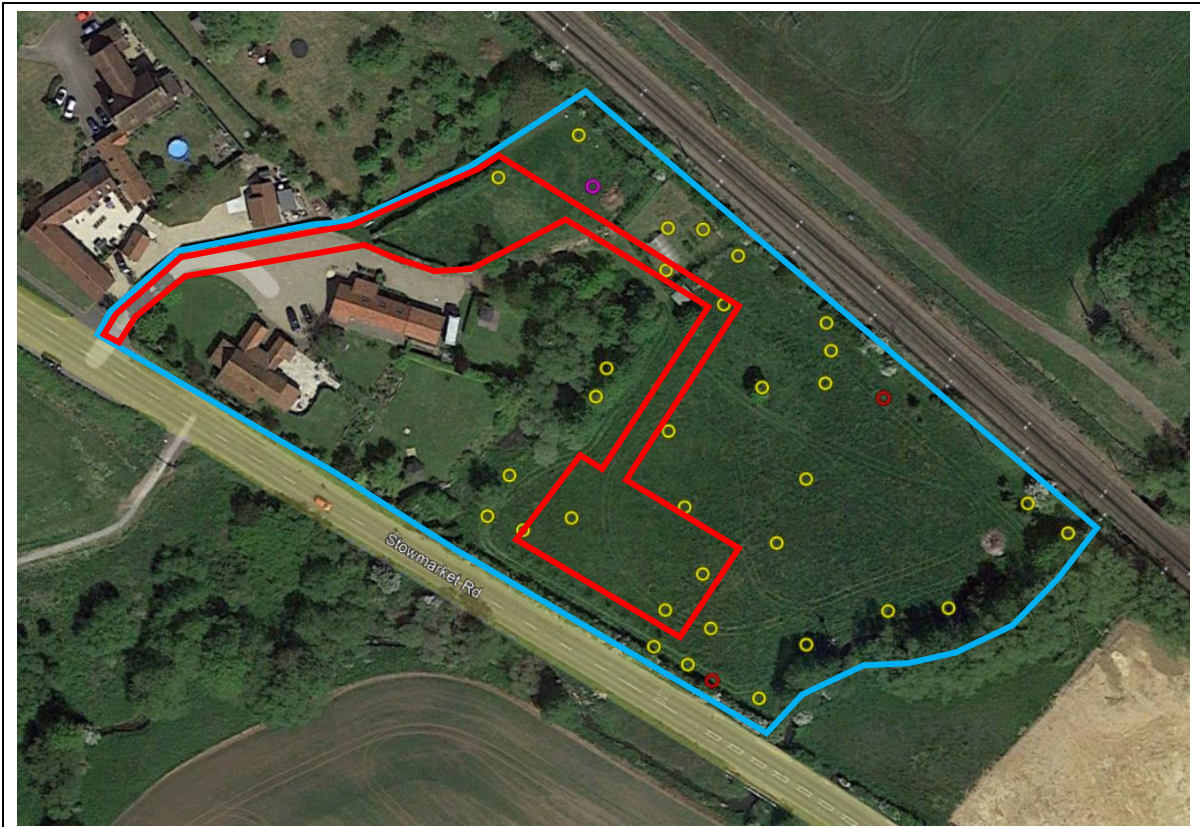
- 3.1. The proposals are for the construction of a stable block and menage. Please refer to Appendix D for the proposed plans.

### 4. FIELD STUDY

- 4.1. The presence/likely absence survey recorded one species of reptile (slow-worm *Anguis fragilis*) within the survey area (Table 1).
- 4.2. Slow-worms – peak count of three individuals (one adult) and at a density of <1 individual per hectare considering refugia density (Table 1, Figure 2). The site population is assessed as **low** (<50 individuals / ha – HGBI, 1998).
- 4.3. No other reptiles were recorded on site during any of the seven visits, although a mixture of common shrews *Sorex araneus*, short-tailed field voles *Microtus agrestis* and wood mice *Apodemus sylvaticus* were recorded on several occasions.

Visit	Date	Time	Conditions		Results
1	21/03/22	16:30	Temp Cloud cover Wind Precipitation	13°C 10% 9 mph None	No reptiles
2	24/03/22	16:00	Temp Cloud cover Wind Precipitation	15°C 10% 5 mph None	No reptiles
3	05/04/22	16:00	Temp Cloud cover Wind Precipitation	13°C 75% 18 mph None	No reptiles
4	13/04/22	09:00	Temp Cloud cover Wind Precipitation	11°C 75% 8 mph None	No reptiles
5	16/04/22	09:20	Temp Cloud cover Wind Precipitation	10°C 10% 8 mph None	2 x slow-worm (juveniles) 1 x slow-worm (adult)
6	19/04/22	16:15	Temp Cloud cover Wind Precipitation	15°C 75% 15 mph None	3 x slow-worm (juveniles)
7	21/04/22	09:30	Temp Cloud cover Wind Precipitation	11°C 10% 10 mph None	1 x slow-worm (adult)

**Table 1**, survey conditions and results of reptile surveys.



**Figure 1**

Satellite image showing the approximate location of reptile refugia highlighted in yellow. Slow-worm adults highlighted in red and slow-worm juveniles highlighted in pink.

Survey area highlighted in red, with client ownership highlighted in blue.

Image © Google, date accessed 02/05/22



**Photo 1**, slow-worm along northern boundary.

## 5. DISCUSSION AND CONCLUSIONS

- 5.1. The proposed works involve a risk of injuring or killing individual reptiles potentially present within the site, and a low scale loss of terrestrial habitats (clearance of  $\approx 0.2$ ha of improved grassland and conversion of  $\approx 0.7$ ha of improved grassland into horse pasture).
- 5.2. As only a small number of slow-worms were identified on site, with the two adults potentially being the same individual, temporary exclusion fencing and translocation is considered disproportionate to the potential risks and impacts. Therefore, taking the results of the above presence/likely absence survey, impacts and risks into account, the following method statement will be implemented to avoid and minimise potential impacts on reptiles from the proposed works:
  - i. Creation of a reptile receptor area ('wildlife area') along the periphery of the site measuring at least 3m wide, totalling  $\approx 0.12$ ha of high-quality habitat (Appendix D). Terrestrial habitats will consist of rough grassland and the creation of two south facing bunds/hibernacula (Appendix C for examples and Appendix D for location), which are covered in low-nutrient soils. These bunds will create variation in site topography and provide varying microclimates for reptiles.
  - ii. Vegetation on site will be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas, working from the centre of the site outwards in a spiral motion.
  - iii. If required, a hand destructive search of any suitable reptile refugia (i.e. compost heaps, vegetable plots, log piles, etc.) and with an awareness that reptile may be present. In the event that any reptiles are found, work will cease immediately and a licenced ecologist contacted to remove any reptiles to safety and advice on how to proceed.
  - iv. Construction materials will be stored off the ground on pallets and waste materials in skips, to prevent providing shelter for animals and subsequent harm when materials are moved.
  - v. Any excavations will have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations will be checked each morning works are scheduled for, to remove any animals trapped.
  - vi. A soft landscaping scheme to include the planting of new native species-rich ( $\geq 5$  species), hedgerows and trees along the northern and western boundary of the ownership site (see Appendix B for suggested species).



- 5.3. Mitigation measures following the works will include the long-term management of the receptor area to maintain a species-rich tussocky grassland and limit scrub encroachment:
- i. Once established, an alternating strip method will be used, where one third of the receptor area grassland is cut every three years between November and February. Cut alternating strips 1-2m wide across the grassland to a height of 10cm. The following year, cut an adjacent strip in the same way, so that each strip is cut every three years (Edgar *et al.*, 2010).
  - ii. Clearing scrub and removing trees which may provide too much shade to the receptor area, particularly on the southern aspect.
  - iii. Preserving the suitability of the hibernacula created for reptiles.
- 5.4. Subject to the above mitigation measures, the proposed development will be able to progress with no significant impacts on local reptile populations.

## 6. BIBLIOGRAPHY

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Griffiths, R.A., Raper, S.J., Brady, L.D. (1996). *Evaluation of a standard method for surveying common frogs (*Rana temporaria*) and newts (*Triturus cristatus*, *T. helveticus*, and *T. vulgaris*)*. Joint Nature Conservation Committee Report No. 259.

Sewell, D., Griffiths, R.A., Beebee, T.J.C., Foster, J., Wilkinson, J.W. (2013). *Survey protocols for the British herpetofauna*. ARC, DICE University of Kent and University of Sussex.

# Appendix A Legislation

## European Protected Species

### National Planning Policy - National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework 2021 (NPPF): Conserving and enhancing the natural environment states that ‘planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.’

Office of The Deputy Prime Minister (“ODPM”) Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that ‘the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat’.

### Implications of legislation and policies

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

### Reptiles

The habitats on the site and within the proposed area of works were assessed for suitability for reptiles.

Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.

Reptiles typically favour a habitat mosaic with a diverse vegetation structure, which could include grassland, scrub and woodland.

## Appendix B

### Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus spp.</i> (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus spp.</i>
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

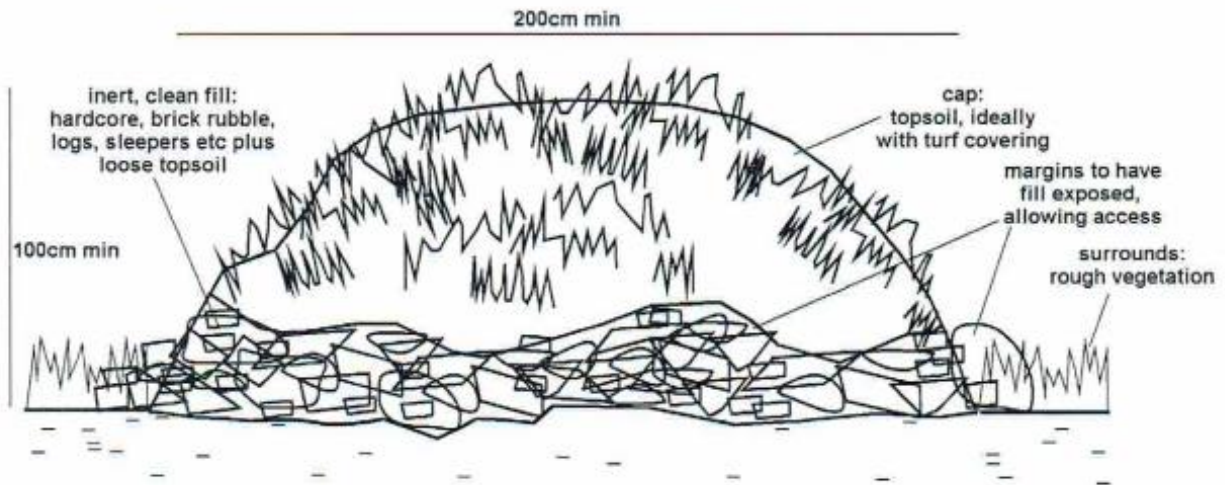
Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>

## Appendix C

### Newt and reptile artificial hibernaculum design



**Figure 3: Suggested hibernaculum design**

This design mimics artificial and natural conditions in which great crested newts have frequently been found overwintering. Dimensions should not be below 2m length x 1m width x 1m height. The illustrated design would be suitable for locating on an impermeable substrate. On free-draining substrates, the design is largely similar but the bulk of the fill is sited in an excavated depression in the ground. Hibernacula should ideally be positioned across a site, both close to and distant from breeding ponds, always in suitable terrestrial habitat and above the flood-line.



Source: English Nature (2001) *Great Crested Newt Mitigation Guidelines*, Peterborough.

## Appendix D Proposed plan

-  Receptor area
-  Hibernacula

