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# Biodiversity Enhancement Strategy

**PROPOSED CLASS Q BARN CONVERSION**  
**Ivy Tree Farm Barn, Shelley, Ipswich, Suffolk**

January 2022



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## Contents Amendment Record

**REPORT NUMBER: IVYTREEFARMSHELLEY/2021/BES/001**

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Initial draft	21/12/21	J. Brendish
1	1	Final draft	22/12/21	C. Whiting
1	2	Amended version following client comment	05/01/22	C. Whiting
2	0	Updated version	19/01/22	C. Whiting

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## 1 INTRODUCTION

This document relates to the Class Q conversion of a barn to a dwelling at Ivy Tree Farm, Shelley, Suffolk (TM 01197 38988, Figure 1). Works will comprise conversion of the existing open-fronted barn, vegetation clearance, access creation and the installation of services including electricity, water, and sewerage.

Planning approval (Ref: DC/21/03237) was granted by Babergh District Council on the 3 August 2021. Four conditions relate to ecology. Condition 9 states: “*Prior to the occupation of the dwelling hereby approved a Biodiversity Enhancement Strategy shall be submitted to and approved in writing by the local planning authority following the recommendations made within Ecology Report (MHE Consulting Ltd, February 2021).*”

*The content of the Biodiversity Enhancement Strategy shall include the following:*

- a) Purpose and conservation objectives for the proposed enhancement measures;*
- b) Detailed designs to achieve stated objectives;*
- c) Locations of proposed enhancement measures by appropriate maps and plans;*
- d) Persons responsible for implementing the enhancement measures;*
- e) Details of initial aftercare and long-term maintenance.*

*The works shall be implemented in accordance with the approved details and shall be retained in that manner thereafter.*

*Reason: To enhance Protected and Priority Species/habitats and allow the LPA to discharge its duties under the s40 of the NERC Act 2006 (Priority habitats & species).*

This document has therefore been prepared to enable the discharge of Condition 9.

## 2 SCOPE

This document outlines the details and locations of biodiversity enhancements to be delivered as part of the proposed development, based on the baseline ecological assessment for the scheme<sup>1</sup>.

## 3 DETAILED DESIGN – ENHANCEMENTS

The following biodiversity enhancements (Figure 1) are proposed:

### 3.1 Bats

A Vincent Pro bat box (Appendix A1) will be mounted on the south side of a mature oak to the south-west of the proposed barn conversion (Figure 1). An eco-Kent bat box, and a woodstone or woodcrete bat box (Appendix A1) will be mounted on suitable trees (Figure 2) on the south-east and south-west sides. All of the boxes must be erected so they receive direct sunlight for the majority of the day and so that no branches would grow over the boxes over time.

A sensitive lighting strategy must be employed to avoid lighting impacts on any bat boxes erected and minimise impacts upon foraging and commuting across the farm.

### 3.2 Bird boxes

As compensation for the loss of a kestrel (*Falco tinnunculus*) roost, a kestrel box (Figure 1, Appendix A2) will be mounted on a suitable mature oak tree to the east of the barn. The box will be erected on the north-east side to avoid the prevailing winds.

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<sup>1</sup> MHE Consulting Ltd (2021) Ecology Report: Proposed Class Q Barn Conversion. Ivy Tree Farm Barn, Shelley, Ipswich, Suffolk. February 2021.

Two sparrow terraces (Figure 1, Appendix A2) will be erected on the vertical larch cladding on the north elevation of the new barn.

A barn owl box (Figure 2, Appendix A2) will be erected on a mature oak tree on the north-east side overlooking a grass margin on the applicant's land holding.

### 3.3 *Amphibians and reptiles*

A grass snake (*Natrix helvetica*) egg laying heap (Figure 2, Appendix A3) will be created using arisings resulting from limbing/thinning works for the millennium woodland along with the provision of animal manure. This is also likely to provide a benefit for a variety of invertebrates and a potential refuge and foraging habitat for hedgehog (*Erinaceus europaeus*).

## 4 INITIAL AFTERCARE AND LONG-TERM MAINTENANCE

### 4.1 *Bat boxes*

#### a) Initial aftercare

The bat box entrances when erected must be clear of obstructions including vegetation as this would discourage bats from roosting as they prefer an uncluttered flight path to the box. Bat boxes should be erected in a clear and sunny location (6-8 hours of direct sunlight, or in a location where it receives the morning sun if this is not possible) on the main trunk or a bough with no visible growth below which could then grow over the entrance.

To increase the longevity of the wooden boxes, some organic stain or linseed oil could be applied to areas of bare wood.

To reduce the likelihood of the bat boxes falling to the ground aluminium nails at least 2x 8.5cm long nails or should be used with a minimum of 2 fixing points.

#### b) Long-term maintenance

The bat boxes should be inspected for any sign of damage on an annual basis. The Eco Kent bat box and Vincent Pro boxes have small vertical slots which are less likely to be used by small passerines such as wren (*Troglodytes troglodytes*), but as the woodcrete or woodstone boxes can have holes on their fronts they can be used by small birds and should be cleared of any bird nests on annual basis (e.g. during October to February).

The best time to clean the majority of bat boxes (those suitable for summer roosts) is during the autumn or winter. The Eco Kent bat box and the Vincent Pro bat box can be inspected from the ground to see if any bats are present. Occupied bat boxes should be left as licensed bat ecologists can only disturb bat roosts.

The bat box can be cleaned when it is not occupied. Whilst cleaning the bat box it should be checked for any damage, as this may mean they are unlikely to be used. The most likely damage will be broken seams around the roof because of the constant heating and cooling during the day can warp the wood slightly. To repair this, a silicone waterproof sealant should be used.

Any bat boxes that fall to the ground and are too damaged to allow re-erection they should be replaced.

### 4.2 *Sparrow terraces*

#### a) Initial aftercare

The boxes are to be erected on the north side of the proposed barn conversion and should be positioned as high as possible under the eaves to minimise risk of predation by cats.

To increase the longevity of the wooden boxes, some organic stain or linseed oil could be applied if wooden boxes were used.

b) Long-term maintenance

The bird boxes should be inspected for any sign of damage and cleaned out on an annual basis during October to February inclusive. Whilst cleaning the sparrow terraces they should be checked for any damage, as this may mean they are unlikely to be used. The most likely damage will be broken seams around the roof which allows water ingress. To repair this, a silicone waterproof sealant should be used.

Any boxes that fall to the ground or are damaged by grey squirrel (*Sciurus carolinensis*) or greater-spotted woodpecker (*Dendrocopos major*) should be replaced.

**4.3 Barn owl and kestrel boxes**

a) Initial aftercare

The boxes are to be erected on the north or east sides of trees (to avoid the prevailing wind entering the box entrances) a minimum of 5m high and with a clear flight path into the box.

To increase the longevity of the wooden boxes, some organic stain or linseed oil could be applied if wooden boxes were used.

b) Long-term maintenance

The boxes should be inspected for any sign of damage and cleaned out on an annual basis during October to January inclusive as barn owl can be sitting on eggs as early as February. Whilst cleaning out the boxes they should be checked for any damage, as this may mean they are unlikely to be used. The most likely damage will be broken seams around the roof which allows water ingress. To repair this, a silicone waterproof sealant should be used.

**4.4 Grass snake egg-laying heap**

a) Initial aftercare

Once constructed the egg laying heap will require minimal initial aftercare in the first year.

b) Long-term maintenance

Additional animal manure must be added to the heap on an annual basis (see Appendix A3) in the winter when it is unlikely to be occupied. Additional brush and logs added to provide structure.

Tree growth can cause shading of the heap in the longer term and some pruning or thinning out may be required. Any arisings can be added to the egg-laying heap.

**5 TIMETABLE FOR IMPLEMENTATION**

All proposed enhancements must be implemented in full prior to occupation of the converted barn.

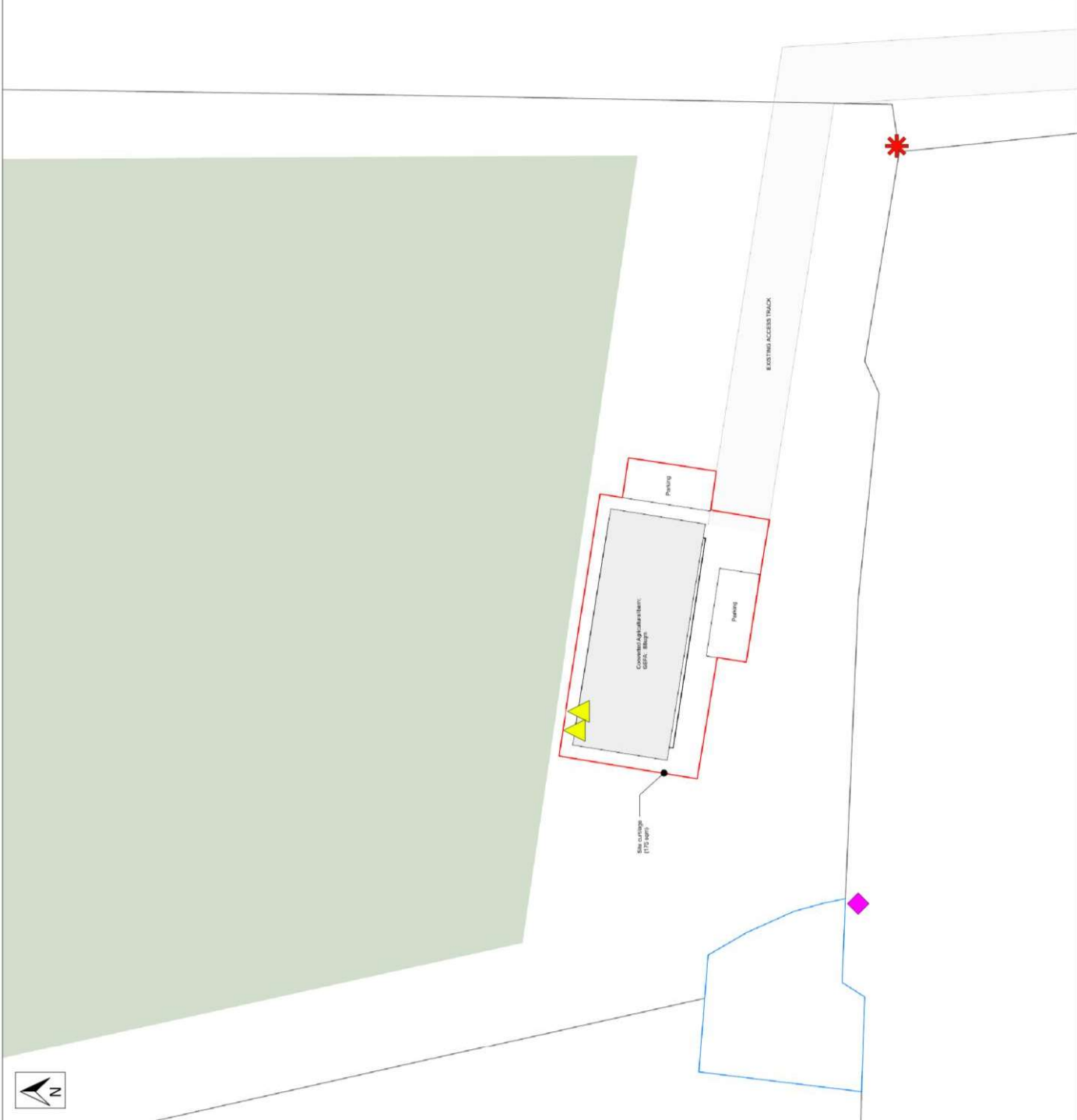
**6 RESPONSIBILITIES**

It is the responsibility of the developer and their principal contractor to ensure that the measures identified are implemented, that key information is supplied as necessary to third party contributors and sub-contractors (e.g., landscape and lighting design) for the discharge of related conditions, and that ecologist input is secured as required.

The developer is responsible for organising and covering all reasonable costs associated with measures identified in this document, including sub-contractor time and materials.

MHE Consulting Ltd (01986 788791) can provide any ecologist input required (e.g., assistance or advice regarding bat and bird box installation).

## Figures



### Legend

#### Bat boxes

 Vincent Pro bat box

#### Bird boxes

 Sparrow terrace

 Kestrel box

Client: Mr and Mrs Westbrook

Project: Ivy Tree Farm, Shelley, Suffolk

Drawn: Date: Drawing Ref:





JB 04/01/22 IVYTREEFARM/SHELLEY/BES/01

**Figure 1 Biodiversity enhancement measures (1 of 2)**





## Legend

-  Barn owl box
-  Eco Kent bat box
-  Woodcrete or woodstone bat box
-  Grass snake egg-laying heap

Client: Mr and Mrs Westwood

Project: Ivy Tree Farm, Shelley, Suffolk

Drawn:                      Date:                      Drawing Ref:

JB                              05/01/22                      IVYTREEFARM/SHELLEY/BES/02

**Figure 2 Biodiversity enhancement measures (2 of 2)**

# Appendices

## **Appendix A1 Bat boxes**



Schwegler 2F bat box



Large multi chamber woodstone bat box



Eco Kent bat box



Vincent Pro bat box

## **Appendix A2 Bird boxes**





## Kestrel nest box ♡

Product Code: R403706

£ 79.99

★★★★☆ [Read all reviews](#)

Although designed for kestrels, other species may set up home in this lovely designed home for birds of prey!

Made from FSC cedar with recycled plastic mounting plates, this nest box has an interchangeable perch.

As there are a few things to look out for when handling birds of prey, please read the information in the 'advice' section before purchasing this nestbox.

[Read full information](#)

FREE UK delivery with orders over £50

[View delivery information](#)

Qty  In Stock

## RSPB Sparrow terrace nest box

Product Code: H407816

Qty

£ 29.99



[Product Information](#) [Product details](#) [Ratings & Reviews](#)

### PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
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## Eco Barn Owl Nest Box



Usually dispatched within 1-2 months

£161.99 ⓘ

#216867

Price:

£161.99

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## **Appendix A3 Grass snake egg-laying heap**

# Creating grass snake egg-laying heaps



RAVON



ARG UK



## Identification

The grass snake *Natrix helvetica* is the largest British native snake, and can grow to over 1 metre in length. Grass snakes range from grey to green or brown in colour. They have a distinctive yellow or cream collar, bordered to the rear by contrasting dark markings. There is a series of dark bars running along the flanks and some individuals have dark spots on the back as well. Often found near water, grass snakes can sometimes be spotted swimming, or hunting for favoured prey species, which are mainly amphibians. Grass snakes are non-venomous, but they can exude an unpleasant smelling musk if caught. They can live for up to 15 years in the wild.

## Introduction



## Life cycle

In common with other native reptiles, grass snakes hibernate over winter from October to March, emerging as the weather warms in early spring to replenish their energy reserves by feeding and basking. During April and May they find a mate, and in June or July females lay 10 to 40 leathery white eggs, often in warm compost, piles of leaves or manure heaps, which helps the eggs to incubate and hatch. Several females may use the same egg laying spot, so it may be possible to find large numbers of eggs in a suitable heap. After 6 to 10 weeks the pencil sized (14-22 cm long) young grass snakes emerge. Hatchlings cut their way out of the egg with an egg tooth, which they lose once they have emerged. It then takes three to four years for the young grass snakes to reach adulthood and sexual maturity.



Hatched grass snake eggs

Grass snake distribution  
in the British Isles  
(© NBN Atlas)



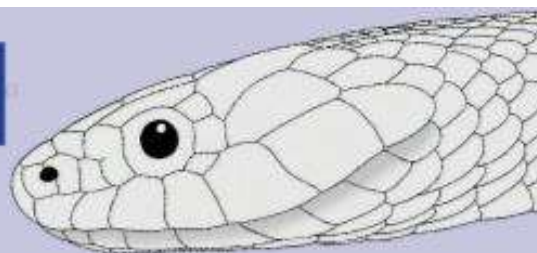
## Distribution and habitat

Grass snakes are widely distributed across much of England and Wales, though they are less commonly recorded in the North East of England, and Scotland. Generally, grass snakes prefer to live near water, where they can readily find their amphibian prey; but two other essential habitat features are egg-laying sites and places to hibernate. Natural grass snake egg-laying sites include heaps of organic material, or rotted tree stumps. Many grass snakes, however, take advantage of human activities and lay their eggs in manure or compost heaps. As a result, grass snakes are sometimes seen near riding stables and allotments during the spring and summer months. Over-wintering or hibernation occurs in dry, frost-free and relatively undisturbed locations. Hibernation sites may be located in burrows or holes, heaps of rubble or wood, or dilapidated stone walls or buildings. In some areas, a vegetated earth bank or hedge bank, sea wall or even a road or rail embankment may be used.





## Why create egg-laying heaps?



### How you can help grass snakes

Grass snakes and humans have been intricately linked through livestock husbandry for many thousands of years across large parts of Europe. Historically, grass snakes have made use of manure heaps, and latterly compost heaps, as egg-laying sites, since these structures generate the heat that the snakes need to incubate and successfully hatch their eggs. In previous times this close association led to the grass snake being regarded as a house god in some parts of Europe, the symbol of spring, wisdom and protecting livestock.

However, in common with much of our native wildlife, we are seeing declines in grass snakes as agricultural and livestock husbandry practices change. One factor is thought to be availability of egg-laying sites, since there are fewer suitable heaps of manure accessible to grass snakes in the wider countryside. One means of boosting grass snake numbers may therefore be to create egg-laying heaps. These heaps also provide shelter and overwintering sites for slow-worms, amphibians, invertebrates and small mammals such as hedgehogs, mice and voles.



### How to create a grass snake egg-laying heap



- **Where:** In a sunny spot, adjacent to tall vegetation, away from busy roads and no more than 400m from a water body. Female grass snakes become habituated to using a successful heap for several years, so when refreshing a heap, ensure you always use the same location.
- **When:** Mid-March to late April
- **Materials:**
  - One third fresh horse manure
  - One third vegetation (leaves, clippings) or compost
  - One third large sticks or branches
- **Instructions:**
  - Clear the ground where you want the heap
  - Create a base layer of leaves and clippings
  - Lay the largest sticks/branches on top of this
  - Place half of the horse manure on top of the sticks and branches.
  - Add another layer of smaller sticks.
  - Mix the remaining manure with the vegetation/compost and add this to the heap. Add some branches and smaller sticks to keep these layers well ventilated.
  - Ensure that the egg-laying heap is not too compacted, so the animals can easily get into it, and to prevent it from overheating.