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SITE PREPARATION & CLEARANCE

HABITAT MANAGEMENT & ENHANCEMENT

Report	Dormouse Mitigation Strategy
Site Name	Land East of Posbrook Lane, Titchfield (57 units scheme)
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Client	Foreman Homes Ltd
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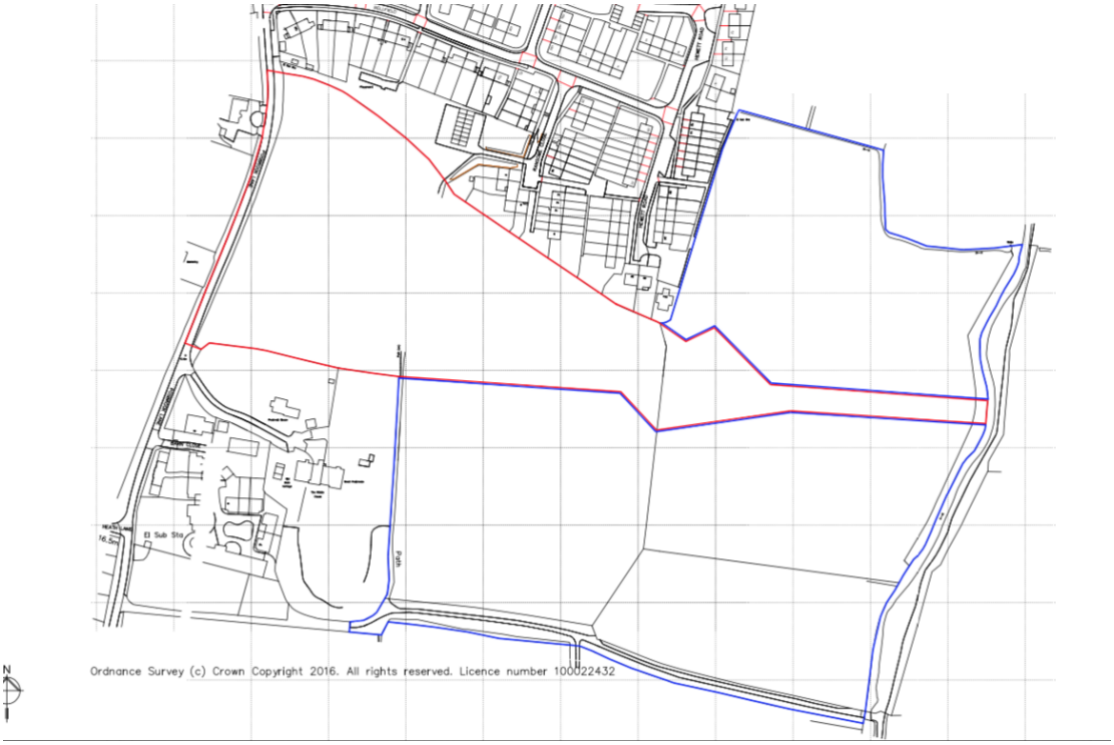
1.0 INTRODUCTION

1.1 Summary

This document outlines the proposed strategy for the mitigation of the likely impacts to Dormice (*Muscardinus avellanarius*) as a result of the development of the land to the east of Posbrook Lane (**Fig 1**). The probable presence of Dormice was confirmed during survey work undertaken by Ecosupport Ltd in 2017. Owing to the proposed layout of the site a section of hedgerow will need to be removed necessitating the requirement for a Natural England European Protected Species (EPS) development licence. This document will outline how the three tests will be satisfied under the Conservation of Species and Habitats Regulations (2010).

Figure 1. Redline location plan of the site.



1.2 Aims of the Mitigation Strategy

This Dormouse mitigation strategy details the measures, which will be implemented in order to ensure that the proposed development would fully comply with legislation and planning policy relevant to the protection of Dormice and form the basis of the European Protected Species (EPS) licence application. The two primary aims of the Dormouse mitigation strategy are:

1) To prevent the killing or injury of Dormice as a result of works
2) To ensure any adverse impacts from the development are adequately mitigated and compensated for to protect the Favourable Conservation Status (FCS) of the species.

1.3 Relevant Nature Conservation Legislation and Policy

1.3.1 Legislation

Dormice are fully protected under the Wildlife and Countryside Act (1981 as amended) and the Conservation of Habitats Regulations (2010). Under these two pieces of legislation acting in parallel it is an offence to:

- Deliberately or intentionally kill, capture, injure or take a Dormouse;
- Deliberately disturb a Dormouse;
- Damage or destroy a breeding site or resting place of a Dormouse;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a Dormouse &
- Keep, transport, sell or exchange, or offer for sale or exchange a live or dead Dormouse or any part of a Dormouse.

1.4 Sources of Guidance and Best Practice

The Dormouse Conservation Handbook 2nd Edition (Bright et al., 2006) outlines the best practice guidelines for surveying and mitigating for any potential adverse impacts to Dormice resulting from development. Information from this book as well as knowledge gained from training delivered by Ian White MCIEEM from the Peoples Trust for Endangered Species (PTES) has informed this mitigation and compensation strategy.

1.5 Survey Methods

The Phase I survey (Ecosupport Ltd Rev May 2017) identified suitable habitat for Dormice (*Muscardinus avellanarius*) in the form of mature hedgerows along with local records of Dormice presence (as indicated by HBIC records). Methodological guidance for Dormouse surveys is provided in the *Dormouse conservation handbook* (Bright *et al* 2006) where it is recommended that 50 nesting tubes be erected within all suitable habitats on site at approximately 20 m intervals. These tubes were placed out in April 2017 and checked until September (when a suitable survey effort score will have been achieved) or until evidence of Dormice is recorded.

2.0 BASELINE DATA AND LIKELY IMPACTS OF THE PROPOSALS

2.1 Suitable Habitat Description

Ideal Dormouse habitat consists of species such as Hazel (*Corylus avellana*), Hawthorn (*Crataegus mongyna*), Oak (*Quercus robur*), Bramble (*Rubus fruticosus*) and Honeysuckle (*Lonicera* spp.), as these species are all valuable food sources and provide connectivity between the canopy (Bright et al., 2006). The hedgerow running parallel to the Meon is considered to be of good quality and therefore high suitability for Dormouse.

2.2 Status of Dormice

Over the last 100 years the Dormouse has suffered sharp declines in both numbers and distribution (Bright et al., 2006). Although still widespread in southern counties they remain patchily distributed and are all but absent from northern counties. Dormice will typically live at population densities of less than 10 adults per hectare, even in good habitat (Ewald, 2004).

Populations are adversely affected by weather and climates changes, habitat deterioration, fragmentation and isolation and inappropriate habitat management (Bright et al., 2006). In particular, the fragmentation of woodland and connecting hedgerows is one of the principal factors in declining numbers through leaving isolated non-viable populations. The cumulative effect of these impacts is a 52% decline in numbers over the last 25 years (JNCC, 2010)

2.3 Nearby Records

The data search obtained from Hampshire Biodiversity Information Centre identified a number of records of Dormice with a 2km radius (**Fig 2**).

Figure 2. Existing Dormouse records in relation to the site location (GridReferenceFinder).

2.4 The Status of Dormice on the Site

2.4.1 Survey Results

During a check carried out in May 2017, Adam Jessop BSc (Hons) MSc (working under the license of Sophie Hughes Natural England License holder for Dormice) identified a nest indicative of a Dormouse within one of the tubes located along the eastern edge of the wider site (**Fig 3**).

Figure 3. Approximate location of the nest tube with a probable Dormouse nest in.

The approximate total length of the hedgerow within which the nest was found measures 539.26m. Given the area of habitat available on site and the typically low population densities of Dormice (average of 2.2 / ha Bright et al., 2006), the site is not considered likely to support a large population.

2.4.2 Interpretation / Evaluation of Results

It is considered that there are insufficient resources on site to support a breeding population of Dormice, however given the linear nature of the corridor running parallel to the River Meon it is considered highly likely that Dormice are using the site transiently. Using the valuation criteria outlined within CIEEMs *Guidelines of Ecological Impact Assessment in the United Kingdom* (2018) the site can be considered to be of at least ***District Value*** for Dormice.

3.0 IMPACT ASSESSMENT IN ABSENCE OF MITIGATION

If the proposed development was to proceed without suitable mitigation and compensation, it would likely result in an offence being committed under the Wildlife and Countryside Act (1981 as amended) and the Conservation of Habitats Regulations (2010) through potentially killing, injuring and disturbing Dormice and damaging a place of rest.

Further indirect impacts may occur through the isolation of species, which may be left within part of the retained hedgerow. In conjunction these impacts, if left unmitigated, may adversely affect the local conservation status of Dormice populations and affect the long-term sustainability of the population.

3.1 Short-term Impacts: Disturbance

Subject to a successful EPS licence application the works will involve the removal of a short stretch of hedgerow along Posbrook Lane. Further short-term disturbance impacts on the local Dormouse population are likely to occur during the construction works related to the development. There is anticipated to be an increased level of disturbance (noise, vibration and visual) to any Dormice present within the hedgerows and woodland from the movement of any heavy machinery and the presence of construction workers. Furthermore, it is likely there will be an increase in dust deposition on vegetation and an increase in localised light pollution form the construction area.

3.2 Long-term Impacts

3.2.1 Habitat Loss or Modification

Removal of vegetation is required to facilitate access on site. The area has been specifically chosen to reduce the level of impact towards Dormice and to minimise the extent of hedgerow loss in general.

Any reduction in the total area of habitat available to the Dormice population could be considered as having a deleterious impact and may result in the loss of conservation status without adequate mitigation.

3.2.2 Fragmentation & Isolation

As the proposals will require the removal of a section of the hedgerow, Dormice may not be able to reach the other section of hedgerow and may be left isolated without mitigation (although this stretch of hedgerow along Posbrook Lane is already somewhat isolated from surrounding hedgerows).

3.2.3 Disturbance

In the long term there may be operational impacts from noise associated with the new housing development. However, as dormice are nocturnal it is anticipated that this will be most likely to occur for a short period in early evening when residents return home or during good weather in the summer months (when residents are more likely to use their gardens). There may also be additional impacts from an increase in external, lighting associated with the development.

4.0 MITIGATION & COMPENSATION

The development of the site is likely to result in adverse impacts to Dormice. Therefore, in order to fully comply with relevant legislation, it is necessary to implement a full mitigation strategy.

4.1 Works to be Carried Out by a Suitably Qualified Ecologist (SQE)

Clearance and cutting of the hedgerow will be carried out sensitively and under the supervision of a licensed Dormouse ecologist. All site personnel involved in the vegetation removal will be briefed on the nature of the works they are undertaking with a brief note about Dormice and their conservation status.

4.1.1 Stage 1

Prior to the removal of the hedgerow a total of 5 nest boxes will be erected within the retained hedgerow on site. These will act as receptors for any Dormice found during the sensitive clearance works by an SQE.

4.1.2 Stage 2

The licensee will search for nests by hand and capture dormice (if necessary) before and during clearance works. If any Dormice are discovered during the works then these animals will be captured and placed within previously erected nest boxes. During this investigation a thorough search for nesting birds will also take place. If any active bird nests are found then a five meter buffer will be left and must be deemed inactive by the ecologist prior to the recommencement of coppicing and/or removal.

4.1.3 Stage 3

The stretch of hedgerow to be impacted will be reduced to half its height. All arisings will also be removed from site each day following a hand search by the licensed ecologist.

4.1.4 Stage 4

For the removal of the section of hedgerow to be lost, a staggered approach will be adopted. At this stage the height would have already been reduced by half. This would have encouraged any Dormice to move into the retained hedgerow. The works will continue reducing the height of the hedgerow over a number of days until only the trunks and roots remain. Following another break of two days the trunks will be removed. This will allow sufficient time for any Dormice to vacate the extent of hedgerow. Roots will be removed using hand tools where possible or with a mini digger using a toothed bucket.

4.2 Short Term Disturbance

To mitigate for the short impacts of disturbance during the construction process, a buffer zone around the hedgerows adjacent to development will be demarcated prior to construction works commencing with a robust fence. In addition to this signage will be erected along the fencing explaining the sensitivity of the area to disturbance and a toolbox talk will be given to all contractors.

4.3 Operational impacts

To mitigate against any potential operational impacts, the immediate edge (1 – 2m) of the main hedgerow will be planted with up with Bramble. It is anticipated that as this develops it will form a

near impenetrable barrier, which will lessen the risk of cat predation and direct disturbance from residents.

To reduce potential impacts from the increase in external lighting associated with the development, wherever possible no lighting should be installed along the hedgerows. The lighting strategy on site will already be sensitive and minimise wherever possible levels of light pollution in line with the findings relating to bat usage of the site. All street lighting will be down facing and ideally hooded to minimize light pollution (BCT, 2009). Low-pressure sodium lamps should be utilised on site instead of mercury or metal halide lamps. Glass glazing is preferred due to its UV filtration characteristics. Finally, the time when lighting is utilised should be limited to provide maintain dark periods for as long as possible. Therefore, new dwellings will be fitted with sensor-controlled lighting.

4.4 Habitat Compensation / Enhancement

The loss of approximately 40m^2 of hedgerow along the western hedgerow along Posbrook Lane (to create access to the site) will be compensated for by a combination of infill planting on existing gappy hedgerows and the planting of approximately 860m^2 of new hedgerow along the southern boundary of the new housing development which extends to the north (**Fig 4**).

Figure 4. Compensatory hedgerow planting along southern extent of the site, extending to the north east (indicated with red dashed line).

This will contain a native species assemblage with a similar species composition to the existing hedgerows on site. The infill planting will increase scrub development and thus habitat availability with the amount being provide substantially higher than what is being lost (which will provide a net

gain in available hedgerow habitat for local Dormice populations). This should be managed separately to the existing hedge as two parallel features will be cut on rotation at different times thus constantly maintaining resources.

All plants used for the planting will be of a minimum size of 60 – 120 cm or larger bare root plants. The use of guards and canes will be included to protect new plantings. Planting will aim take place during the first late autumn-winter period available after the EPS licence has been granted. Wherever possible this will be planted at a density greater than single depth.

4.5 Post Development Management and Site Safeguard

The responsibility for carrying out the management works and to provide funding lies with the developer Foreman Homes. The management will be funded by Foreman Homes a period of no less than five years following the completion of the development. The responsibility will eventually be passed onto the Residents Management Company.

Management of the newly planted area(s) will incorporate the following:

- Weeds will be suppressed with the use of chippings. Some additional weed control may be required which will be achieved through strimming or spot spraying with an herbicide, specifically glyphosate.
- There will be a non-intervention of trimming or reduction during the first 5 years of growth. Spiral guards and canes can be removed in year 5.
- Thereafter coppicing and trimming techniques can be used at 3-4 yearly intervals to reduce height and width of planting areas. All trimming and coppicing should take place during the winter period (January–February) so that nesting birds are not impacted upon.

Although regular management can be detrimental to Dormice through reducing the availability of flowers and fruits, it is important to ensure it is of optimal suability. To that end the newly planted areas (once established) will have alternate small sections cut each year, with hedgerow sections only cut at intervals between 3 and 5 years (Bright et al., 2006). It is not considered necessary to cut back the existing hedge as it is noted that uncut hedgerows are more likely to be occupied by Dormice (Bright et al, 2006) and there are no issues with stock proofing relevant.

5.0 REFERENCES

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