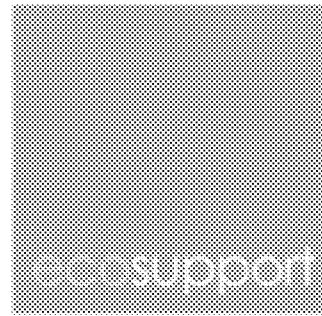


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Land to the North of Nyton Road Westergate

Dormouse Mitigation Strategy

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Date **September 2017**

For **Taylor Wimpey Southern Counties**

TABLE OF CONTENTS

1. INTRODUCTION	1
1.1 Summary	1
<i>1.1.1 Site Description</i>	<i>1</i>
1.2 Relevant Nature Conservation Legislation and Policy	2
<i>1.2.1 Legislation</i>	<i>2</i>
<i>1.2.2 Planning Policy</i>	<i>2</i>
1.3 Aims of the Mitigation Strategy	3
1.4 Sources of Guidance and Best Practice	3
1.5 Brief Description of the Proposals	3
BASELINE DATA AND LIKELY IMPACTS OF THE PROPOSALS	4
2.1 Suitable Habitat Description	4
2.2 Status of Dormice	4
<i>2.2.1 Pre-existing records</i>	<i>6</i>
2.3 The Status of Dormice on the Site	6
<i>2.3.1 Survey Methods</i>	<i>6</i>
<i>2.3.2 Survey Results</i>	<i>8</i>
<i>2.2.3 Interpretation / Evaluation of Results</i>	<i>8</i>
3.0 IMPACT ASSESSMENT IN ABSENCE OF MITIGATION	9
3.1 Short-term Impacts: Disturbance	9
3.2 Long-term Impacts	9
<i>3.2.1 Habitat Loss or Modification</i>	<i>9</i>
<i>3.2.2 Fragmentation & Isolation</i>	<i>9</i>
<i>3.2.3 Disturbance</i>	<i>9</i>
4.0 Mitigation & Compensation	10
4.1 Works to be Carried Out by a Suitably Licenced Ecologist (SLE)	10
<i>4.1.1 Timing, Methods & Capture</i>	<i>10</i>
4.2 Short Term Disturbance	11
<i>4.2.1 Operational Impacts</i>	<i>11</i>
4.3 Habitat Compensation	11
<i>4.3.1 Loss of Habitat</i>	<i>11</i>
4.4 Post Development Management and Site Safeguard	13
4.5 Proposed Time Table	14
5.0 REFERENCES	15

1. INTRODUCTION

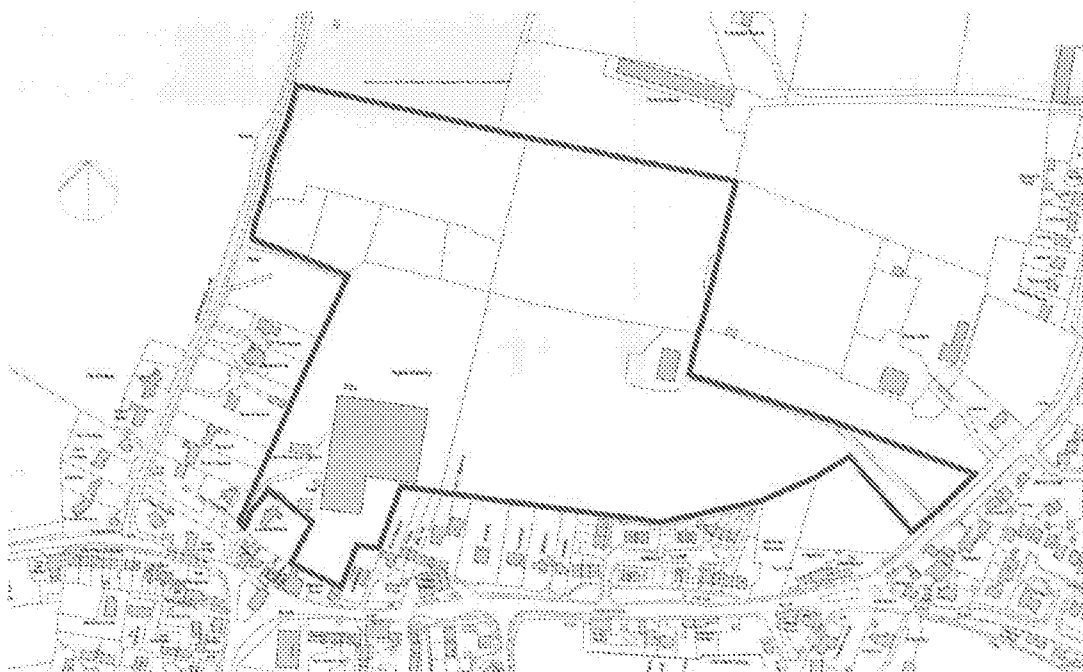
1.1 Summary

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 north of Nyton Road Westergate. The presence of Dormice within the habitats adjacent to the site has been established after nest tube surveys carried out by Ecosupport staff over 2017. With areas of scrub and shrubs requiring removal to facilitate the development process, a Natural England European Protected Species (EPS) development licence will be required. This document therefore outlines the appropriate mitigation and compensation strategy detailing how the three tests will be satisfied under the Conservation of Species and Habitats Regulations (2010).

1.1.1 Site Description

The site comprises a series of fields (some of which were previously used for pasture though now all managed improved) tree lines, greenhouses a work unit and a residential bungalow located north of Nyton Road, PO20 3UH (centred on OS grid reference SU 941 058) on the outskirts of Westergate (**Fig 1**). The south of the site is bounded by residential houses (with Nyton Road just beyond these), the east by a scrapyard and Fontwell Avenue, the north by arable / pasture fields and the east by residential houses and Northfields Lane.

Figure 1. Redline boundary of the development site.



1.2 Relevant Nature Conservation Legislation and Policy

1.2.1 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.

1.2.2 Planning Policy

The development would seek to comply with relevant Planning Policy, at a local, regional and national level. Specific policies pertaining to the protection of biodiversity and nature conservation within the Borough of East Hants are summarised below, for full details refer to the original documents.

National government guidance is provided by National Planning Policy Framework (NPPF), which places an onus on development to conserve and enhance biodiversity with a requirement for positive biodiversity outcomes wherever possible from the overall development process. The NPPF provides guidance to Local Authorities in how to conserve and enhance biodiversity through local Planning Policies and when assessing planning applications.

Local planning policy pertaining to biodiversity is outlined within the *Arun Local Plan 2011 – 2031 Publication Version* (2014). Within this document Policy ENV DM5 (Development and Biodiversity) states:

‘Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces, which serve to reconnect isolated sites and facilitate species movement.

Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall

be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person.

All developments shall have regard to Natural England's standing advice for protected species.

Developments shall also be consistent with all other Local Plan policies.'

1.3 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.

1.4 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.

1.5 Brief Description of the Proposals

The Proposals entail a reserved matters application for the demolition of the existing glasshouses, residential bungalow, stables and various outbuildings for a residential development of up to 268 dwellings with associated access, public open space and landscaping.

BASELINE DATA AND LIKELY IMPACTS OF THE PROPOSALS

2.1 Suitable Habitat Description

The site comprises a range of habitats potentially suitable for Dormice, including native species rich with Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Field Maple (*Acer campastre*), Hazel (*Corylus avellana*), dense Bramble (*Rubus fruticosus* agg) and Ivy (*Hedera helix*) dominated scrub (**Fig 2**) and tree lines.

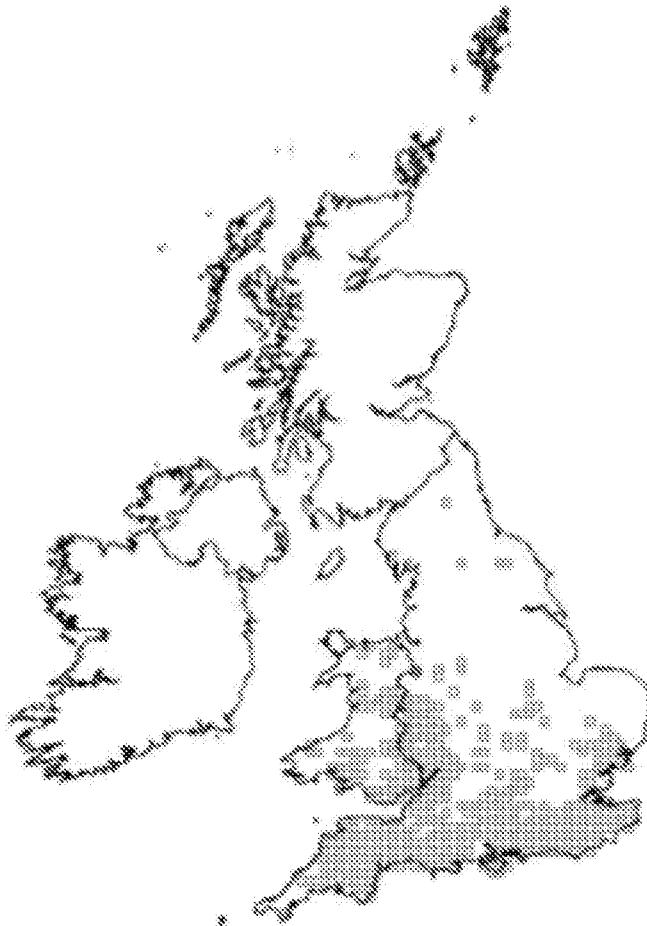
Figure 2. Example of habitat types within the western extent of the site. The hedgerow seen is linked to the hedge across Northfields lane where a Dormice nest was recorded.



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 (**Fig 3**). Dormice will typically live at population densities of less than 10 adults per hectare, even in good habitat (Ewald, 2004).

Figure 3. The UK distribution of Dormice ¹.



Distribution map published in 2013.
Source: JNCC

Populations are adversely affected by weather and climate 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)

¹ http://www.naturalengland.org.uk/Images/Dormice_tcm6-21704.pdf

2.2.1 Pre-existing records

SBIC hold two records for Dormice form within 2 km of the site along with a reference within the Ramboll report (2014) to a record near Fontwell Park on the NBN interactive map (now no longer operational). Both the SBIC records are dated from 2008 and are located in Wandleys Copse 1 km to the north east (**Fig 3**).

Figure 3. The location of the SBIC held records of Dormice relative to the sites location (red outline).



2.3 The Status of Dormice on the Site

2.3.1 Survey Methods

Best practice survey guidelines for establishing the presence or likely absence of Dormice on a site are provided in the *Dormouse Conservation Handbook* (Bright et al., 2006) where it is recommended that a minimum of 50 nesting tubes are placed selected within all suitable habitat on and adjacent to a site at approximately 20 m intervals to. **Fig 3** below indicates the areas that were covered by the survey on site with 70 tubes used in total.

Figure 3. Areas of habitat on and adjacent to the site covered by the Dormouse nest tube survey (yellow dashed lines). The location of the Dormice nest found during the August check is shown by the blue circle.



The *Dormouse Conservation Handbook* uses an “Index of Probability” to assess the likelihood of a survey detecting Dormice where a score is assigned for each month which nest tubes are on a site (see **Table 1**) and recommends that a total of 20 points is necessary. The tubes were erected on site in early July meaning on the basis of 70 tubes, the checks would have to go until October to achieve a score of over. Checks were carried out by Adam Jessop and Sophie Hughes (NE Dormice survey licence holder) of Ecosupport Ltd.

Table 1. Index of probability of finding Dormice present in nest tubes in any one month. From Bright et al., (2006).

Month	Index of Probability
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

2.3.2 Survey Results

During the check carried out in August, a single Dormice nest was noted within a Blackthorn shrub within the hedgerow running along the west of Northfields Lane approximately 50 m north of the site (see **Fig 3**).

2.2.3 Interpretation / Evaluation of Results

With a single Dormice nest found within habitats linked to the site, presence has been established within habitats along the western boundary. Furthermore, given that Dormice will readily cross open grassland to reach nearby habitats, all habitats on site will be assumed to form part of the local population habitat.

As a European Protected Species, the presence of a Dormouse population on site is considered to be of **District Value**.

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 W&CA (1981 as amended) and the Conservation of Habitats Regulations (2010) through potentially killing, injuring and disturbing Dormice and damaging a place of rest.

3.1 Short-term Impacts: Disturbance

Subject to a successful EPS licence application the works will involve the removal of approximately 3500 m² of scrub and shrubs located along the western boundary and to the south of the existing green houses.

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 retained habitats / 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 from the construction area.

3.2 Long-term Impacts

3.2.1 Habitat Loss or Modification

The proposals will result in the permanent loss of approximately 3500 m² of scrub and shrubs located along the western boundary and to the south of the existing green houses. This is required to facilitate the development of the site

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

3.2.2 Fragmentation & Isolation

The proposals will not result in the severance of any contiguous habitats and so no immediate or long term impacts from fragmentation or isolation of habitats are anticipated.

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) or until dark within the woodland. 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, as a fully protected species, 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 Licenced Ecologist (SLE)

4.1.1 Timing, Methods & Capture

- Prior to the removal of the woody vegetation on site, the hedgerow running along Northfields Lane (with prior approval from the land owners) will have a total of 10 wooden nest boxes erected. These will act as receptors for any Dormice found during the sensitive clearance works (outlined below) by a SLE.
- Clearance of the vegetation within the site will be carried out sympathetically and under the supervision of a SLE ecologist who will search for nests by hand and capture Dormice (if necessary) before and during clearance works. If any active animals are discovered during the works then these animals will be captured and placed within previously erected nest boxes (outlined above). All arising's / cuttings will also be removed from site each day following a hand search by the licenced ecologist.
- To avoid any impacts to Dormice the removal of all vegetation will adopt a staggered approach with the upper sections removed over winter (when Dormice may be hibernating in the lower parts) and the trunk and roots removed during spring. The Dormouse conservation handbook (Bright et al., 2006) suggests the following method for the first stage of the removal process:

Winter clearance

'This should remove sufficient vegetation to persuade dormice emerging from hibernation in April or May to move to more appropriate habitat nearby. Once emergence is complete, by the end of May, full clearance of the area can continue. Winter clearance should thus be planned as a two-stage process.

Trees and shrubs within the area in question should be cut down between November and March inclusive, to avoid both the bird nesting season and the majority of the period when dormice might be found in nests above ground. Clearance should be done by hand and in a sensitive manner, to minimise the likelihood of disturbing or killing hibernating dormice. Similarly, the process of removing the cut material should, as far as possible, be designed to protect dormice hibernating on the ground. This can involve such techniques as:

- *Sacrificing a single 'haul- route', which has first been cleared by hand if necessary;*
- *Using a long-reach mechanical grab and/or limiting the number of 'drag-lines' along which stems are removed; and/or*
- *Directional felling to minimise the ground impact. '*

Spring clearance

Once the above works have been completed, the roots will be removed using hand tools where possible or with a digger using a toothed bucket under the supervision of the SLE from April onwards (provided the temperatures have been warm enough for Dormice to emerge from hibernation at the discretion of the SLE).

All site personnel involved in the vegetation removal will be briefed on the nature of the works they are undertaken through a toolbox talk given by the overseeing SLE.

4.2 Short Term Disturbance

To mitigate for the short impacts of disturbance during the construction process, all hedgerow areas / trees that are being retained will be demarcated **PRIOR** to construction works commencing with a robust fence (such as Heras with sound proofing). 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.

4.2.1 Operational Impacts

To mitigate against any potential operational impacts, the immediate edge (1 – 2 m) of the main compensatory hedgerow areas (see Fig 4) around the 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 (through their close proximity for example).

To reduce potential impacts from the increase in external lighting associated with the development, low level bollard lighting should be employed which will be hooded where used along the hedgerow / woodland boundaries to minimise spill over and potential disturbances to Dormice.

4.3 Habitat Compensation

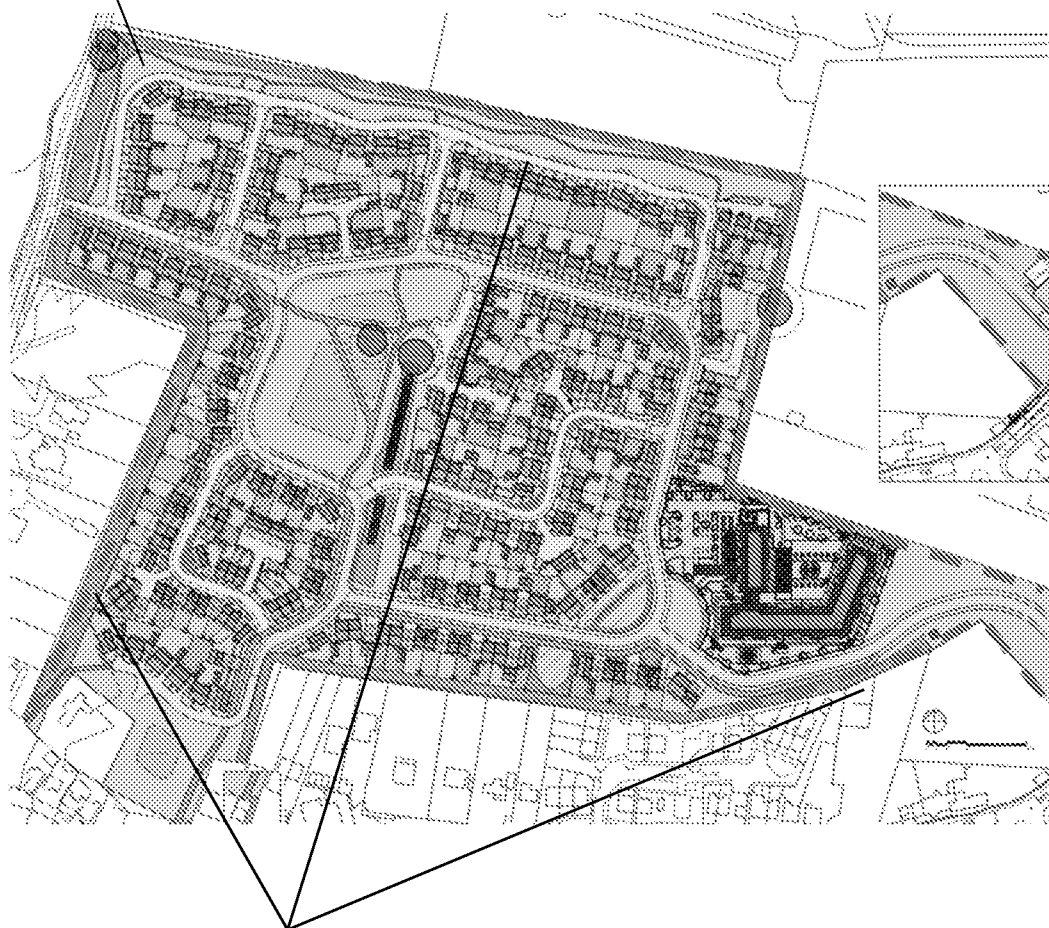
4.3.1 Loss of Habitat

The loss of approximately 3500m² of shrub and scrub will be compensated for through a comprehensive new planting scheme throughout the site including planting of new hedgerows and the strengthening of existing ones. Species that should be considered within the hedgerow and compensational planting area will include Hazel, Field Maple (*Acer campestre*), Pedunculate Oak, Ash, Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and climbers such as Dog Rose (*Rosa canina*) and Honeysuckle (*Lonicera periclymenum*) (these species will supplement the 'Shelterbelt' mix already suggested within the RPS soft landscape scheme). These species are noted as being of value to Dormice (Bright et al., 2006) and are reflective to those already present within the on site and adjacent habitats. Based on the calculations (Fig 4), it is anticipated that the compensatory planting will total 3300 m² (on the basis of the hedgerows planted at a width of 3 m). Although this is a deficit of 200 m², it is considered that this will be offset by the enhanced linkages into the surrounding landscape and the higher quality (with a more diverse and protracted range of food sources) habitat.

NB All shrubs/trees used for the planting will be of at least a size of 600mm or larger bare root plants. Native climbers will be planted as required and favourable to the planting arrangements of the other shrubs/trees. The use of spiral guards and canes will be included to protect new plantings (particularly given the presence of Deer on site). Planting will aim take place during the first late autumn-winter period available after the EPS licence has been granted.

Figure 4. Mitigation and compensation plan. The red dashed lines represent new hedgerow planting.

Buffer to existing
hedgerow habitat
along western
boundary.



Newly planted native species rich hedgerow. The section of this that are along areas of POS (i.e. northern boundary) will have 1 – 2 m bramble bank planted in front to deter cats.

4.4 Post Development Management and Site Safeguard

The management of the site and all compensatory hedgerow planting will be the responsibility of a (yet to be) appointed management company with funding provided by the developer. The below information will form the basis of management works.

- 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 a herbicide, specifically glyphosate.
- There will be a non-intervention of trimming or reduction during the first 5 years of growth other than light trimming works where required due to access or other such requirements. Spiral guards (required due to presence of deer) 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 and food resources from the shrubs are not impacted upon.

4.5 Proposed Time Table

The below timetable (Table 2) of works is used for illustrative purposes and will likely be subject to change depending on the dates of when the relevant permissions are granted.

Table 2. Indicative timetable of works.

Works to be carried out	Nov – Mar 17/18	Nov – March 17/18	April 2018 onwards
Erection of mitigation boxes			
Removal of upper sections of all vegetation to be removed.			
Planting of whips / scrub for compensational hedgerow planting.			
Removal of roots / lower sections			
Erection of temporary protective fencing for retained suitable habitats.			
On going management works			

5.0 REFERENCES

Bright, P, Morris, P and Mitchell-Jones, T., (2006) The Dormouse conservation handbook, 2nd edition, English Nature.

Department for Communities & Local Government (2012). *National Planning Policy Framework*. The Stationary Office, London

Ewald N. (2004) Distribution and status of the Dormouse *Muscardinus avellanarius* in Hampshire Report for Hampshire Wildlife Trust

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