



David Wilson Homes

Portsdown Hill, Havant

Ecological Mitigation Plan

The Pavilion, 1st Floor, Botleigh Grange Office Campus, Hedge End, Southampton, Hampshire, SO30 2AF

Tel: +442382 022800 Fax: +442382 022 889

Email: ecology@wyg.com

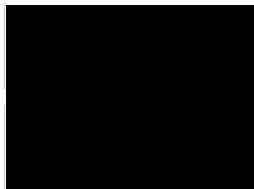


Document Control

Project: Portsdown Hill, Havant
Client: David Wilson Homes
Job Number: A083733
File Origin: A083733 / outputs

Document Checking:

Prepared by:	Emmanuelle Amiral Assistant Ecologist	Signed:	
--------------	--	---------	--

Checked and	Tamsin Clark MCIEEM	Signed:	
Verified by:	Associate Ecologist		
On behalf of:	Claire Wilmer CEnv MCIEEM Director of Ecology		

Issue	Date	Status
1	September 2014	Final v1
2	October 2014	Final v2



Contents Page

1.0	Introduction.....	1
2.0	Ecological Baseline	3
3.0	Relevant Wildlife Protection Legislation.....	4
4.0	Roles and Responsibilities	7
5.0	Pre-Construction Mitigation	9
6.0	Construction Phase Mitigation and Management.....	17
7.0	Post Construction Mitigation and Management	19
	References	23

Figures

Figure 1 – Mitigation

Figure 2 -Hibernacula design

Figure 3 - Fencing design

Figure 4 – Brent Goose and Lapwing Mitigation Area

Appendices

Appendix A - Bat boxes



1.0 Introduction

1.1 Background

WYG was commissioned by David Wilson Homes to prepare an Ecological Mitigation Plan (EMP) for Portsdown Hill, Havant following the granting of planning permission.

The Section 106 agreement states that:

Ecological Mitigation Plan

Prior to Commencement of Development to submit to and obtain written approval by the Council for an Ecological Mitigation Plan.

The Ecological Mitigation Plan shall include:

- *ecological mitigation measures;*
- *boundary treatments.*

Following approval of the Ecological Mitigation Plan to thereafter implement and promote the objectives of the approved plan and ensure that (as far as is reasonably practicable) the objectives are met.

In the event that the Ecological Mitigation Plan identifies a requirement for any off-site or on-site works to be undertaken in order to meet the objectives then (unless otherwise agreed in writing with the Council) those works shall be carried out by the Owner at its own cost in accordance with a timescale to be included within the Ecological Mitigation Plan.

This EMP has been developed using information collected during a number of ecological surveys which were completed during 2013 and 2014 to inform the planning application for the development and to guide ecological mitigation, compensation and enhancement proposals.

1.2 Location

The site is located on the western periphery of Bedhampton, comprising the north east corner of a large arable field with horse paddocks in the northeast corner of the site.

The proposed site is approximately 4.75 ha, located directly to the west of Glebe Park Avenue and junction 5 of the A3, Bedhampton (OS grid reference SU 693 062) and is designated as a SINC site. The eastern



boundary comprises residential buildings with gardens, beyond which lies the major infrastructure associated with the A27 and A3M. The southern corner of the proposed site borders Havant Road (A2030), and the proposed western boundary intersects the middle of the arable field and hence arable land lies beyond the western boundary. To the northern boundary lies residential development beyond which lies Portsmouth Hill Road. In the centre of the northern boundary within a residential garden which lies over the boundary, it is understood that a former chalk quarrying area is present which is now heavily vegetated.

The majority of the site is part of a large arable field, with an area of heavily grazed horse paddocks (improved grassland with scattered scrub) and associated run-down timber sheds occupying the north east corner of the site.

1.3 Development Proposals

David Wilson Homes has planning permission to construct 47 new houses with associated access and recreational space within the site boundary.



2.0 Ecological Baseline

Table 1 provides a summary of the baseline ecological work that was completed by WYG to support the planning application.

Table 1: Survey and Month Undertaken

Survey Type	Report Date	Summary of Results
Extended Phase 1 habitat survey	August 2013	The site is approximately 4.75 ha, comprising the north east corner of a large arable field with horse paddocks in the northeast corner of the site. The site is located on the western periphery of Bedhampton. The proposed site is approximately 4.75 ha, located directly to the west of Glebe Park Avenue and junction 5 of the A3, Bedhampton (OS grid reference SU 693 062) and is designated as a SINC site designated for dark-Bellied Brent geese (<i>Branta bernicla bernicla</i>) and dwarf spurge (<i>Euphorbia exigua</i>).
Reptile presence/likely absence survey	February 2014	One species of reptile, slow worm, was recorded at the site between 11th September and 20th October 2013. Slow worms were recorded during all survey visits, a maximum of 18 adult slow worms were recorded during any one survey visit Both adult and juvenile slow worms were recorded during the reptile presence / likely absence survey which indicates a breeding population on the site. In accordance with Herpetofauna Groups of Britain and Ireland (HGBI) (1998) guidance, the population of slow worms is considered to be 'Good' (WYG, 2013b).
Bat activity survey	February 2014	Activity surveys were carried out on 22nd August, 10th September and 26th September 2013. An automatic bat detector was left for 5 then 9 consecutive nights in August and September. Up to seven species of bat were recorded using the habitats across the site. Species recorded include common pipistrelle, soprano pipistrelle, noctule, serotine, long-eared bat (likely brown) and Myotis (likely whiskered/ Brandt's).
Wintering bird survey	July 2014	Two high tide surveys and one low tide survey were completed each month between October 2013 to March 2014, and hence a total of 16 visits were made to the site. A total of 22 species were recorded using the site; six of these species are Birds of Conservation Concern (BoCC) of which four are red listed and two are amber listed; one of the red listed species (lapwing) is also a BAP priority and a NERC S41 species as well as being one of an assemblage of wintering waterfowl that are a qualifying feature of the nearby Chichester and Langstone Harbour Special Protection Area. The data search and consultation revealed a single record of significant numbers of lapwing (>1% of the SPA population) using the wider site (development area and adjacent land) in 2013.



3.0 Relevant Wildlife Protection Legislation

3.1 Wildlife Legislation Relevant to the Site

3.1.1 Reptiles

All British reptiles receive protection under the *Wildlife and Countryside Act 1981 (as amended)*. The four more common species of reptile; the common lizard, the grass snake, the slow worm and the adder receive protection from Section 9(1) and all of Section 9(5) of the *Wildlife and Countryside Act, 1981 (as amended)*, which makes it an offence to intentionally kill or injure an animal, sold or traded in any way.

It is therefore a criminal offence to carry out works on site that may result in the death or injury of a native reptile species where these species are known to be present.

3.1.2 Bats

All 18 British bat species are listed in Schedule 5 of the *Wildlife and Countryside Act 1981 (as amended)* and under Schedule 2 of the *Conservation of Habitats and Species (Amended) Regulations 2012* as European protected species. Furthermore, the *Countryside and Rights of Way Act 2000* (Schedule 12, Paragraph 5) has amended Section 9 of the 1981 Act. They are, therefore, fully protected under Section 9 of the 1981 Act and under Regulation 41 of the *Conservation of Habitats and Species (Amended) Regulations 2012* which transposes the Habitats Directive into UK law.

This makes it an offence to:

- Deliberately capture, injure or kill any bat;
- Deliberately disturb bats, in particular where it is likely to:
 - Impair their ability to breed or reproduce, or to rear or nurture their young;
 - Impair their ability to hibernate or migrate; or
 - Affect significantly the local distribution or abundance of bats.
- Intentionally or recklessly damage, destroy or obstruct the access to the place of shelter or protection; and



- Damage or destroy a bats breeding site or resting place.

Unmitigated removal of linear corridors such as sections of hedgerows and increases in habitat disturbance (through lighting, noise and vibration impacts) during construction and operational phases of a proposed development could indirectly impact bats that use the site to forage and commute.

Furthermore direct impacts to bats may occur through road traffic mortalities in the operational phase of a proposed development. Such indirect and direct impacts could result in an offence being committed.

3.1.3 Breeding Birds

All birds, their nests and eggs are protected by the *Wildlife and Countryside Act 1981 (as amended)*, Part 1. It is therefore an offence to intentionally:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take or destroy the egg of any wild bird;
- (Intentionally or recklessly) disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

The presence of breeding birds should be considered a constraint to development if vegetation clearance is carried out during the bird breeding season, March – September.

3.1.4 Wintering Birds

Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species. Ramsar sites are wetlands of international importance designated under the Ramsar Convention. The legal requirements relating to the designation, protection and management of SPAs in England are set out in the Conservation of Habitats and Species (amendment) Regulations 2012 (as amended), known as the Habitats Regulations. The Habitats Regulations require that any proposed plans, projects or activities in the absence of mitigation which may affect an SPA and require a consent or permission of some kind from a public body must be subject to special scrutiny and first require a detailed appropriate assessment.



3.1.5 Locally Designated Sites

The proposed development site lies within the locally designated wildlife site, 'Fields off Havant Road' Site of Importance for Nature Conservation (SINC). The SINC is designated under criteria 6A (Sites which support one or more notable species) and 6B (Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle). The designation under these criteria is for the presence of dark bellied brent geese (*Branta bernicla bernicla*) and dwarf spurge (*Euphorbia exigua*). Dwarf spurge is 'Near Threatened' under the IUCN Red List of Threatened Species (IUCN 2001).



4.0 Roles and Responsibilities

4.1 Construction

The EMP will be distributed to all relevant personnel involved with the construction phase of the development including David Wilson Homes and any contractors who may be working on the site. It will be the responsibility of the main contractor) to distribute this document (where relevant) to all other (sub) contractors and visitors to the site as appropriate, who will in turn be bound by the terms therein.

It will be the responsibility of the Ecological Clerk of Works (to be appointed by David Wilson Homes) to provide advice to the construction teams during all phases of the scheme on all pertinent ecological issues and to check that the ecological protection and mitigation measures, as specified in this document, are implemented. Recommendations will be passed to David Wilson Homes who will be responsible for ensuring implementation.

The Ecological Clerk of Works will have specific responsibilities which will include:

- Provision of advice on the location of protected species e.g. reptiles and the type and location of protection or mitigation required;
- To supervise and monitor the implementation and maintenance of protective or mitigation measures in accordance with legal requirements or the terms set out in this document; and
- Liaison with the main contractor's site manager and others relevant stakeholders as appropriate;

Specific responsibilities of the client, David Wilson Homes, in relation to this EMP will include:

- adhering to the relevant provisions made within this document;
- complying with the advice of the Ecological Clerk of Works as appropriate;
- ensuring that this EMP is distributed to all relevant parties; and,
- ensuring that all persons working within the area covered by this Scheme are briefed on relevant aspects. Once the initial tool box talk has taken place (prior to works commencing on the site), briefing notes will be left on site for future visitors/contractors.



4.2 Post Construction

Post construction management will be the responsibility of David Wilson Homes.



5.0 Pre-Construction Mitigation

5.1 On-site Habitats

5.1.1 Retained Hedgerow

Within the development, it is proposed to create a native species hedgerow (using locally sourced plants) of no greater than 2m in height along the western boundary of the proposed development site, and to plant trees to screen the houses from the field, which will reduce the visual and noise disturbance to the remainder of the arable field. All retained hedgerows will be protected by hedges fencing (in addition reptile proof fencing) in line with the Tree Protection Plan (Barrell Plan Ref: 13373-BT2).

5.1.2 Dwarf Spurge

Dwarf spurge plants were recorded in six separate locations along the northern boundary of the arable field, with most specimens recorded within the boundary of the proposed development site. As dwarf spurge is an annual species, associated with arable fields, it persists through annual disturbance associated with arable farming and therefore despite the retention of the boundaries, this species will not be able to persist within the proposed development. Thus, to mitigate for dwarf spurge the following is proposed:

- seed collection and appropriate storage;
- preparation of the receptor site for translocation/ sowing;
- sowing;
- translocation;
- and post sowing/ translocation management and monitoring after a period of establishment.

1. Seed collection and appropriate storage

- Throughout 2013 and 2014 the seed of dwarf spurge from the site has been collected and refrigerated.

2. Preparation of the receptor site for translocation/ sowing;



- Between November and February, prior to sowing the dwarf spurge, the arable margins where the plant is to be relocated to (the northern margin) will be rotivated and tilled.

3. Sowing seed

- The seed will be sown within an area along the arable field margin (in spring as this is the main germination period for this species), where it is currently absent. The identified location is shown on **Figure 1**. The management of the arable field will continue as before, which will entail regular disturbance of the habitat, allowing dwarf spurge to persist.

4. Soil translocation

- Prior to site clearance, a tracked digger with a wide bladed bucket will remove the vegetation and soil supporting dwarf spurge from within the proposed development site as marked out by the survey (the locations of dwarf spurge have been identified by wooden pegs marking out the area). Soil to a depth of approximately 500mm will be moved to ensure that as much of the seed bank as possible is translocated.
- The soil and plants will then be placed in a transportation vehicle appropriate for the site conditions and quantity of soil to be moved. It is important to keep the vegetated side facing upwards at all times, and an effort will be made to preserve the structure of the soil.
- The donor site will be fenced off from the proposed development site in October 2014 and translocation of the seedbed will be undertaken in spring 2015 (following completion of the reptile translocation). It is important to avoid the procedure if the ground is dry, so the areas will be watered prior to translocation if required.
- The translocated soil from the donor site must be placed at the centre of pre-dug pits at the receptor site, with an effort made to ensure that the structure of the soil is disturbed as little as possible and the vegetation side remains facing upwards. Any gaps must be filled in with loose soil and additional watering may be required.
- The receptor site area must then be left untouched until the following Autumn, when normal management designed to maintain site conditions for the arable annuals can recommence. Current management, which should continue, comprising sowing of crops in spring and ploughing over winter.



5.2 Reptiles

As slow worms have been recorded within the development site, measures are required to avoid killing/injuring these animals during construction activities and to maintain the population within the semi-improved grassland/scrub habitat on site in perpetuity. A reptile mitigation strategy has been prepared below.

This document will need to be approved by the Local Planning Authority, before any works commence at the site.

5.2.1 On Site Enhancement

The following measures will be carried out to maintain and enhance the habitats on site for reptiles:

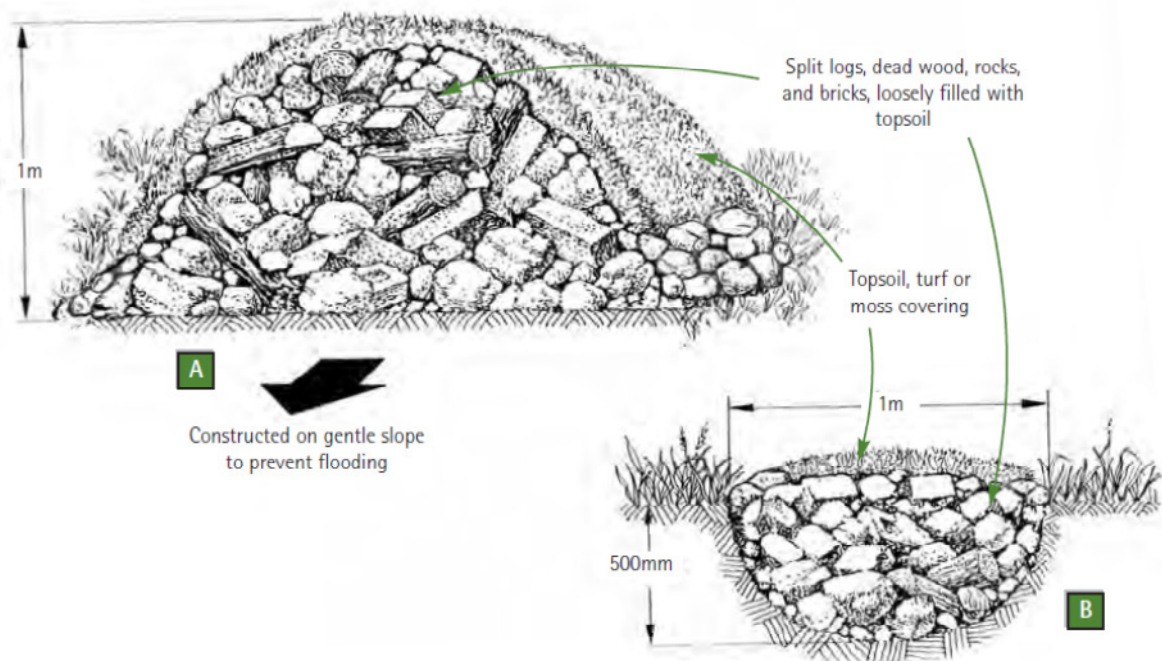
- Creation of three hibernacula;
- Planting up;
- Appropriate on-going habitat management.

Creation of hibernacula

Three hibernacula will be constructed to provide additional habitat to hibernating reptiles along the northern boundary (See Figure 1). The design will follow that in Figure 2 below. The hibernaculum presented is suitable for great crested newt but the design is synonymous for overwintering reptiles.

An Ecological Clerk of Works will be present to determine the final location of the hibernacula and will oversee works to create this feature. Works will be undertaken by hand and will take place when reptiles are active, between March and October.

Figure 2: Hibernacula design on (A) impermeable and (B) free-draining soils (taken from the Great Crested Newt Conservation Handbook, Froglife, 2001).



Planting up

A new native hedgerow will be planted, with a 3m buffer of wildlife grassland will be created, as shown in the soft landscape master plan.

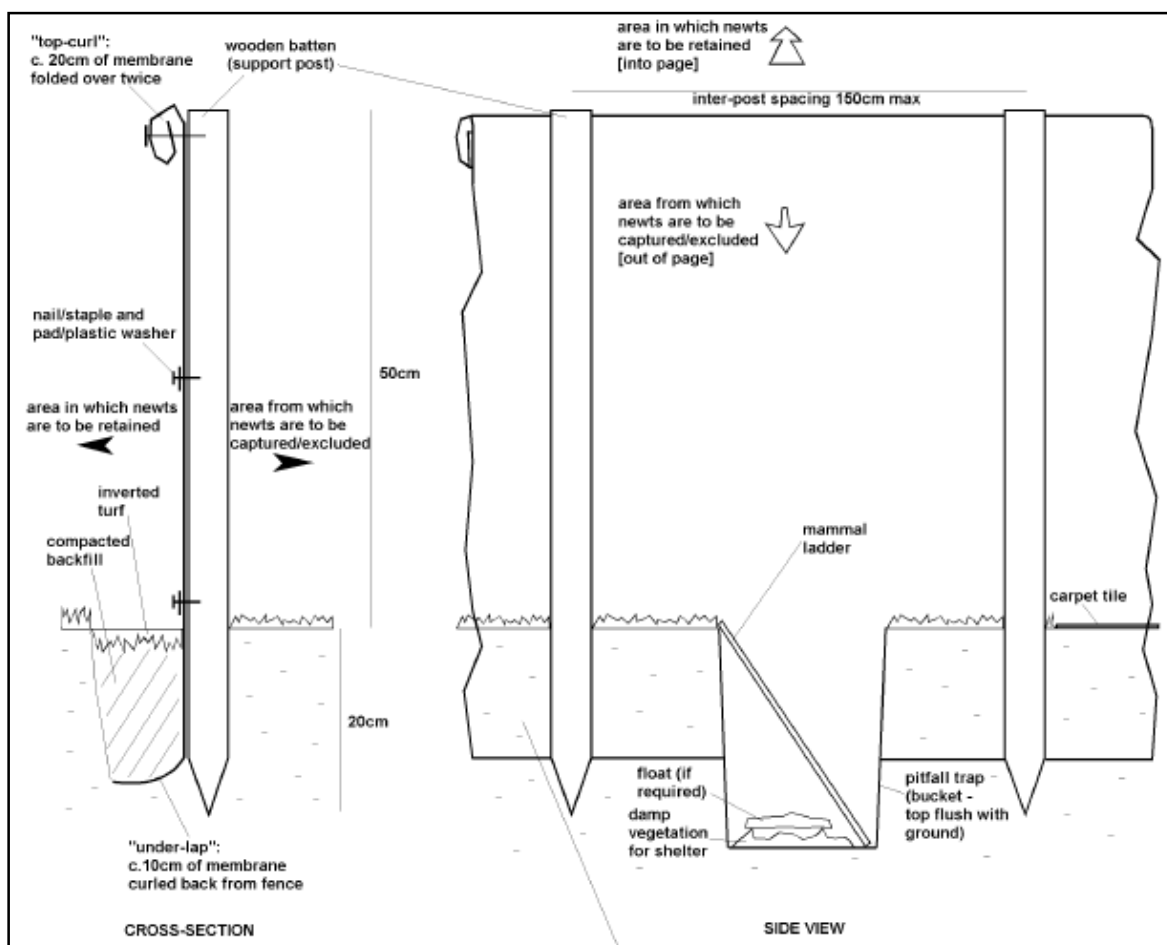
5.2.2 Installation of Reptile Exclusion Fence

To protect reptiles from killing/injury, reptile exclusion fencing will be installed along the northern boundary of the semi-improved grassland/scrub habitat, where reptiles were found (refer to Figure 3). The fencing will help to prevent reptiles accessing the development footprint, including the footpath alignment, and thus prevent them from coming to harm as a result of construction activities. The fence will be installed between March and October under the supervision of an Ecological Clerk of Works and following confirmation from Hampshire County Council that the prescriptions within this document have been approved.

An Ecological Clerk of Works will be present to determine the final route of the fence which will need to take account of, for example, tree roots and scrub, and to supervise its installation. The fence will be a minimum of 500mm tall and extend 300mm below ground. The backfill will be placed vegetation side down to suppress re-growth. The fence will have a top curl to prevent reptiles from climbing over and posts will

be placed on the development area side of the fence. Figure 3 presents a schematic example of reptile fencing (this is fencing for great crested newt but the design is synonymous with reptile fencing).

Figure 3: Fencing design (taken from the Great Crested Newt Mitigation Guidelines, 2001)



The areas where fencing is to be installed will be hand searched for reptiles by an Ecological Clerk of Works prior to installation of the fence to ensure that no reptiles are harmed during this operation.

The fencing will be checked daily by the Site Manager to ensure no damage is done to the reptile exclusion fencing and ensuring it is maintained throughout the construction phase of the development.

5.2.3 Reptile translocation

Artificial refugia will be deployed one week prior to commencing the reptile translocation. The purpose of the artificial refugia is to attract slow worms and facilitate their capture. The refugia will comprise pieces of



corrugated metal painted black or pieces of roofing felt and / or similar material, measuring approximately 0.5m x 0.5m. They will be placed at a high density, averaging 50 refugia per hectare of suitable habitat in accordance with HGBI, 1998.

Given that the slow worm population at the site is considered to be 'Good', the HGBI (Herpetofauna Groups of Britain and Ireland) advice for translocation and mitigation programmes recommends a minimum of seventy visits of capturing, at locations with a 'good' slow worm population; however given that the majority of the reptile habitat at the site will be retained and only a small area of suitable reptile habitat will be impacted (the boundary of the paddock habitat in the north east corner of the site) it is considered that 30 translocation visits to the site is considered sufficient.

Translocation will be undertaken over approximately 30 visits in suitable weather conditions during the reptile's active season (March – October) in line with best practice guidelines (HGBI, 1998). Optimal weather conditions are defined as temperatures above 10 degrees Celsius and below 18 degrees Celsius, excluding heavy rain and strong winds. The most suitable conditions are intermittent or hazy sunshine and little or no wind (Gent and Gibson, 1998). Refugia will be checked by an experienced ecologist twice daily and any slow worms or other reptiles captured will be placed individually in cloth bags and be transported to the receptor site (Figure 1). All reptiles will be released into artificial hibernacula to lower the risk of predation and death immediately following translocation.

Checking of refugia will continue beyond 30 visits, if necessary, until no reptiles have been caught for five consecutive suitable days. The translocation may be terminated early at the discretion of the Project Ecologist following five clear days of no capture during optimal weather conditions.

Following the conclusion of the capture stage, a supervised destructive search will be carried out of the works area focusing on the perimeter of the site where reptiles are most likely to be.

5.2.4 Destructive search

Following the successful completion of the translocation, the development site will be destructively cleared. This will involve two parts, a hand search and a mechanical search, completed to the following specifications:

- A suitably qualified ecologist will supervise all aspects of the destructive search



- Hand searches will be conducted, including the removal of debris on the ground in order to remove potential refuges;
- Using a medium sized excavator (approximately 8-10 tonnes) with a toothed bucket carry out a gradual scrape of the top one to two inches (25 - 50mm) of top soil;
- Both the areas from where soil is removed and the subsequent spoil heaps should be checked for reptiles and amphibians;
- Carry out deeper scrapes where necessary, such as beneath root systems, buried material, cracks or holes in the ground;
- The excavated spoil will be stored as directed by the ECOW in consultation with the developers and in an area identified as unsuitable as reptile habitat.

5.2.5 Ecological Clerk of Works (ECOW) to supervise clearing Area 1

Rather than complete a translocation exercise of the area in the south east of the site where the proposed access is due to enter the site, it is considered preferable that an Ecological Clerk of Works supervises the vegetation removal within this area to clear the area around the access. It is recommended that an ECOW supervises the clearance of reptiles from this area which will be undertaken as follows:

- The grassland will be strimmed to 15 cm. An ECOW will then complete a hand search of these areas.
- The clearance of this area will be finalised by a destructive search. The details of this method are described in section 5.2.4 above.

5.3 Breeding Birds

Removal of any trees and scrub on site will take place outside of the bird-breeding season (i.e. during October to February). In the event that removal takes place within the breeding season, an Ecological Clerk of Works will check the structure in advance. If any active nests are found these will be left *in situ* and an appropriate buffer around the nest established for that species until all the young have fledged. The Ecological Clerk of Works will advise on buffer size and the likely timescale of fledging.



5.4 Wintering Birds

5.4.1 On Site

Within the development, it is proposed to create a native species hedgerow (using locally sourced plants) of no greater than 2m in height along the western boundary of the proposed development site, and to plant trees to screen the houses from the field, which will reduce the visual and noise disturbance to the remainder of the arable field. There will be no permitted public access into the arable land that will be retained beyond the western boundary of the proposed development site. The planting (and subsequent protection) of the hedgerow should take place at as early a stage as possible, to allow the hedge to mature.

5.4.2 Off Site Mitigation area

The mitigation area has been designed to provide mitigation and enhancement for both lapwing and Brent geese. The mitigation that is proposed involves retaining the arable land to the west of the site as shown by the plan in Figure 4 (green area). It is proposed to manage the retained arable field to the west of the site for arable use. Consultation has been undertaken with both Hampshire County Council ecologist and Natural England who have agreed that adopting rotational farming practices in perpetuity for this site will be considered appropriate mitigation and enhancement. The rotational farming that will be implemented for the retained arable land to the west of the site will involve farming practice rotations over a four year period. This will include sowing winter wheat one in four years and spring wheat one in four years allowing the remaining two years to be sown with a crop of choice. Depending upon the season in which construction commences, one of these crops, or a different crop will be sown, commencing the agreed rotation.

5.5 Bats

No mitigation necessary as the site boundary will be retained.



6.0 Construction Phase Mitigation and Management

6.1 Tool Box Talks

A general talk relating to all the biodiversity issues on the site including nesting and wintering birds, reptiles and bats will be delivered to contractors working on site. This will include a plan showing all of the ecological features to be retained and created on the site.

6.2 Habitats and Vegetation

The Site Manager will be responsible for ensuring that the contractors are aware that the grassland buffer are retained as a receptor site for the reptiles and is not to be impacted by construction activities, including storing of materials.

As outlined in the above sections, dwarf spurge will be transported and relocated along the northern boundary, and the western boundary will be enhanced for reptiles by planting a hedgerow of native species and seeding a 3 metre buffer with wildflower grassland, as shown in the soft landscape master plan.

6.3 Fauna

6.3.1 Reptiles

The reptile exclusion fence will remain intact for the duration of the construction activities and will be checked daily by the Site Manager (BDW to appoint). In the event that the fence becomes damaged, it will be repaired as soon as possible in order to continue excluding reptiles from the development footprint.

6.3.2 Bats

During the construction phase, security lighting will be positioned so as not to directly illuminate boundary habitats and the retained semi-improved grassland/scrub habitat to the south of the site. In addition, works on site will cease prior to sunset. This will help to avoid disturbing foraging and commuting bats that use these habitats.



6.3.3 Breeding Birds

If any further vegetation clearance is required during the construction phase within the breeding bird season (March to September inclusive) then suitable nesting habitat will be checked for nests by the appointed Ecological Clerk of Works, immediately prior to its removal. If nests are found, removal of the structure will be delayed until young have fledged and left the nest. A buffer zone will be established to prevent disturbance of the nest until the young have fledged. The size of buffer required will be species dependant.

6.3.4 Wintering Birds

Operating machinery will be used following best practice guidelines to reduce unnecessary noise.



7.0 Post Construction Mitigation and Management

This section provides details of the ongoing mitigation and management post construction. It will be implemented by the management company appointed by David Wilson Homes. The management of the site will be undertaken in perpetuity.

An Ecological Management pack will be provided to residents of the properties on the site, providing information on sensitive ecological receptors.

7.1 Retained boundary treatment

7.1.1 Hedgerows

To provide screening for the arable field, which will form a mitigation area, the western boundary will be planted up with scrub to form a hedgerow to screen the site from the SPA (see Figure 2). The species will include blackthorn, elder, hawthorn, hazel, rose and creeping willow. This habitat will over time provide refuge and hibernation habitat to reptiles. Planting will be carried out by hand when reptiles are active between March and October.

The western hedgerow will not be cut for the first five years to allow it to become established. The existing hedgerows will be cut annually to their existing heights. The hedgerow will be cut outside of the breeding bird season ideally in March and October (to prevent disturbance to breeding/wintering birds) to maintain the height of the hedge at 2 metre as waders (including lapwing) benefit if trees, scrub and hedgerows on site are managed to remain below 2m in height (Milsom *et al.*, 1998) as this offers increased visibility, allowing birds to detect predators and prevent perches for predatory species such as magpies and carrion crows.

Tree and scrub management will be undertaken every second year (ideally in the months of March and October) to avoid disturbance of the summer breeding or wintering bird seasons.

7.1.2 Grassland buffers

The grassland edge habitat will be retained as an 'open space' within the development and the aim of the on-going habitat management will be to promote use of the area by reptiles.



To reduce operational impacts on the reptiles using the 'open space' habitat, signage will be erected along the footpath within the site to provide information to new residents and dog walkers regarding the importance of the area and the reptiles present.

The retained grassland boundaries will be cut to a height of no less than 6 inches (to prevent killing/injuring to reptiles). Either the grassland will be strimmed or cut with a wheeled vehicle with the flail set to 6 inches. The grassland will be cut in September/October to allow the grassland species to seed and hence continue the species diversity.

7.1.3 Dwarf Spurge Translocation Area

The receptor site area will be left untouched until the Autumn following the translocation, when normal management designed to maintain site conditions for the arable annuals can recommence. Current management, which should continue, comprising sowing of crops in spring and ploughing over winter.

Monitoring will be undertaken for the first two years after the initial translocation and establishment process is completed. This will help to determine the success of the translocation procedure but also allow for ameliorative mitigation to be established should it be required, such as reduction of aggressive weed cover or soil erosion. Longer term monitoring is recommended in partnership with local volunteer conservation organisations.

7.2 Fauna

7.2.1 Reptiles

Upon the completion of the construction phase, the exclusion fence will be removed during the reptile active season (March to October) under the supervision of the Ecological Clerk of Works. This will allow animals within the area to make use of grassland buffer areas.

Monitoring of the reptile population within the receptor areas is likely to be required in later years to determine the success of the translocation programme and to inform future habitat maintenance of the receptor site.

7.2.2 Bats

Following construction of the buildings and in order to enhance the site for roosting bats, eight bat boxes will be installed on four mature trees along the northern boundary of the site (Figure 2). At least one bat



box on each tree will face in a southerly direction as shown in, Appendix B. These boxes will help to enhance the site for roosting bats, in particular those which inhabit buildings such as common pipistrelle and soprano pipistrelle bats – both of which were recorded on site.

On-going management of the habitats on site, in particular the grassland buffer and hedgerow along the western boundary of the proposed development site, will help to create structurally diverse habitats.

7.2.3 Breeding Birds

Any agricultural practices taking place in the wider site should keep a precautionary watch for nests between mid-March and June.

7.2.4 Wintering Birds (Lapwing and Brent Geese)

Winter wheat

The field will need to be prepared prior to sowing of winter wheat by ploughing the field and spraying of a natural manure to fertilize the field. The method in which the winter wheat is sown will be dependent upon the management companies and/or farmers available machinery but something such as a grain drill attached to a tractor would be appropriate. The winter wheat will be sown at the beginning of winter between October and the end of November. The exact timing of the sowing depends upon the variety of winter wheat that is planted. Similarly the depth at which the crop is sown also depends upon the variety. Winter wheat needs a period after initial growth with consistent temperatures under 7°C in order for it to “vernalise” and become fertile.

Dependent upon weather condition, the winter wheat will be ready for harvesting between late July to early August, using either a combine harvester or a sythe. The harvesting of this crop will not impact the two target species and hence the harvesting of the crop i.e. timings and methods will be at the discretion of the farmer/management company.

Spring wheat

Again the timing and the depth at which the seed is sown is dependent upon the variety of spring wheat which is sown. The spring wheat will be sown in early spring around March time but generally once ground temperatures are above 8°C. Again, dependent upon the weather conditions the crop is usually ready for harvesting in July. This report will not dictate harvesting methods as these will not impact these two target species.



The continual soil disturbance both through sowing of winter and spring wheat will provide the necessary disturbance required for dwarf spurge to continue to grow. The grassland margins along the northern and western boundary of the Mitigation Area will be retained for reptile habitat and managed as per Section 7.1.2.

Monitoring

Monitoring is proposed for the lapwing and Brent goose mitigation area. Given the infrequent historical use of the site by these species, it will be difficult to determine the success of this mitigation. However as lapwing have only been recorded during the core months for winter bird surveys, it is recommended that a single high tide visits are undertaken between November and February every other year for five years post construction.



References

ACD Landscape Architects (2013) Landscape Planting Scheme

Barrell Tree Plan (2012) Arboricultural Impact Assessment and Method Statement

Bat Conservation Trust (undated). *Bats and lighting in the UK. Bats and the Built Environment Series*. Bat Conservation Trust, London.

Conservation of Habitats and Species (Amendment) Regulations (2012) H.M.S.O

Conservation of Natural Habitats and of Wild Fauna and Flora Directive (1992) Council Directive 92/43/EEC

Countryside and Rights of Way Act (2000) H.M.S.O., London.

Department for Communities and Local Government (2012) National Planning Policy Framework.

English Nature, (2001). Great crested newt mitigation guidelines. English Nature, Peterborough.

English Nature, (2004). *Reptiles: Guidelines for Developers*. English Nature, Peterborough.

Froglife, (1999). Reptile Survey: *Planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.

Gent, T. and Gibson, S., (2003). *The Herpetofauna Workers Manual*. Joint Nature Conservation Committee, Peterborough.

Herpetofauna Groups of Britain and Ireland (1998). *Evaluating Local Mitigation/Translocation Programmes: Maintaining Best Practice and Lawful Standards*. HGBI/Froglife, Halesworth.

Hundt (2012). *Bat Surveys, Good Practice Guidelines 2nd Edition*, Bat Conservation Trust, London.

Office of the Deputy Prime Minister (2005). *Planning Policy Statement 9: Biodiversity and Geological Conservation* (PPS 9). H.M.S.O., London.

Office of the Deputy Prime Minister (2005) *Biodiversity and Geological Conservation – Statutory Obligations and their impact within the Planning System*. H.M.S.O., London.



Portsmouth Hill, Havant: Ecological Mitigation Plan

The Conservation of Habitats and Species Regulations (2012) (S.I. 490) available at:
<http://www.opsi.gov.uk/>

The Hedgerow Regulations, (1997). H.M.S.O., London.

Wildlife and Countryside Act, (1981) H.M.S.O., London.

WYG (2014a). Portsmouth Hil, Havant: Extended Phase 1 Habitat Survey.

WYG (2014b). Portsmouth Hil, Havant: Reptile/Presence Likely Absence Survey Report.

WYG (2014c). Portsmouth Hil, Havant: Bat Activity Survey Report.

WYG (2014d). Portsmouth Hil, Havant: Wintering Bird Survey Report.

WYG (2014c). Portsmouth Hil, Havant: Dwarf Spurge Report.



Figures

Appendix A - Bat Boxes

BAT BOXES FOR TREES



Woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are long lasting (approx. 25 years) and are rot- and predator-proof. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail. This box is attractive to the smaller British bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture)

Diameter: 16cm

Height: 33cm

Weight: 4kg

HIBERNATION BOX FOR CREVICE DWELLING SPECIES



This box is designed to provide a protected environment, particularly through the cold winter months when bats hibernate. It has three internal wooden panels imitating crevices.

Schwegler woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are extremely long lasting and rot- and predator-proof.

This very heavy box (30kg) is supplied complete with special fixing brackets. It is important to fit it very securely if mounting above the ground, and to site it well away from public areas.