



Preliminary Ecological Appraisal (Extended Phase 1 Habitat Survey)

Preliminary Ecological Assessment within bounds of site and pertaining to the proposed development, identifying species and habitats, including preliminary Bat scoping survey

Downlands Community School
Dale Avenue
Hassocks
West Sussex BN6 8LP

Ref No: 221012

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Purpose of Report		Site Boundary			
<p>The Preliminary Ecological Appraisal Report (PEAR) was written to identify ecological constraints to the proposed project and make recommendations for further surveys, where required, to inform a detailed impact assessment. Where no further surveys are required, the report makes recommendations for avoidance measures or proportional mitigation and compensation measures required to avoid potential impacts from the proposals.</p> <p>Enhancement measures are outlined to meet the aims and objectives set out within national policies for biodiversity net gain.</p>					
Method					
<p>The report is written in accordance with CIEEM's Guidelines for Preliminary Ecological Appraisal and includes</p> <ul style="list-style-type: none"> • A Desk Study: • Habitat survey • Preliminary habitat suitability assessments for notable and protected species 					
Important Ecological Features	Avoidance of Impacts through Design or Precautionary Method of Working (PMoW)	Mitigation Required	Compensation Required	Enhancement Measures Recommended	Further Surveys Required
Birds	•	•		•	
Terrestrial invertebrates				•	
Hedgehogs	•	•		•	
Bats		•		•	
Badgers	•				

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1 Introduction

- 1.1.1 Writtle Forest Consultancy Ltd has been instructed by Faithful and Gould (the Client) in October 2022 to undertake a Preliminary Ecological Appraisal (PEA) of Downlands Community School, Dale Avenue, Hassocks, West Sussex BN6 8LP (the Site) [Ordnance Survey (OS) grid reference TQ 310151].
- 1.1.2 The Site is approx. 6.4 ha and comprises of multiple large buildings, primarily brick and associated sports infrastructure. There are residential dwellings to the north, east and west of the site. To the immediate east there is a smaller school. To the south lies the school playing fields bounded by a watercourse to the south. It is assumed that the watercourse and its associated embankment, lies outside of the school boundary. South of the water course is designated South Downs National Park
- 1.1.3 The development area within this boundary covers approx. 620m². These boundaries are presented in Figure 1.
- 1.1.4 It is understood that the proposed build works will involve the installation of a single storey building, along with associated hard and soft landscaping within the area of a small cultivated school garden.
- 1.1.5 The scale of the development is considered small. Attention is paid to the development as well as the required access and ingress.
- 1.1.6 The PEA survey was undertaken on the 30th of December 2022.

Figure 1 – The Site's Boundaries



Figure 1 – The Site's Boundaries

1.2 Purpose of the Report

1.2.1 This report has been written in accordance with the Chartered Institute for Ecological and Environmental Management's (CIEEM) guidelines for PEA and aims to:

- Identify key ecological constraints to the proposed development.
- Identify any requirements for further surveys and set out the time frame in which they can be completed.
- Inform the Client on where any significant ecological effects can be avoided or minimised where possible in line with legal and policy implications.
- Make recommendations for enhancement where there are opportunities for the project to achieve a net gain in biodiversity in accordance with local and national policies.

1.2.2 All relevant planning policies and legislation are presented in **Appendix 1**.

2 Methodology

2.1 Study Area

- 2.1.1 The 'Study Area' is the area in which data has been collected in order to complete this assessment. This includes the habitats within the Site boundary, guideline search areas for species and the 'standard' desk study area which is based on the size and type of the proposed development, but which typically ranges from 500 m to 2 km.
- 2.1.2 The area used for the desk study is given in section 2.2, and search areas for each species considered within the survey, are presented in **Appendix 2**.

2.2 Desk Study

- 2.2.1 The local biological records centre (Sussex Biodiversity Records Centre) was contacted for records on local, national and internationally designated wildlife conservation sites, notable habitats and protected species within 2 km of the Site boundaries.
- 2.2.2 Information regarding the location of Protected Species Licences (PSL) granted by Natural England within 1 km of the Site has been obtained using the tools within the Multi-Agency Geographical Information Centre (MAGIC)
<https://magic.defra.gov.uk/MagicMap.aspx> (Accessed 14/01/2023).
- 2.2.3 Aerial mapping has been used to provide the context of surrounding habitats.
- 2.2.4 This level of desk study is considered to be proportionate to the proposed development for which potential impacts are likely to be confined within the Site's boundaries.

2.3 Habitat Surveys

2.3.1 Habitat Survey

- 2.3.1.1 The habitats have been classified and mapped in accordance with the UK habitat classification system (Butcher et al (2020). The UK Habitat Classification User Manual 1.1 at <http://www.ukhab.org>).
- 2.3.1.2 The classifications used within this system are those used within the biodiversity metric 3.0 published by Natural England (Panks et al.,(2021). Biodiversity Metric 3.0: auditing and accounting for biodiversity value. User guide Natural England)
- 2.3.1.3 The habitat survey has been carried out within the Site's boundaries.

2.4 Suitable Habitat Assessments for Notable and Protected Species

- 2.4.1 In addition to the Phase 1 habitat survey, initial assessments have been undertaken to identify if the Site's habitats are suitable to support Species of Principal Importance (SPI) or other notable or legally protected species.
- 2.4.2 During the survey the surveyor has searched for and recorded suitable features within the habitats which can be used for breeding, foraging and/or create links to suitable habitats within the wider landscape for wildlife, in particular:

- Terrestrial Invertebrate
- Great Crested Newt (GCN) (*Triturus cristatus*)
- Reptiles
- Nesting bird and/or other notable or protected bird species
- Bats
- Water vole (*Arvicola amphibius*)
- Otter (*Lutra lutra*)
- Dormouse (*Muscardinus avellanarius*)
- Badger (*Meles meles*)
- Hedgehog (*Erinaceus europaeus*)

- 2.4.3 Although evidence of the presence of protected or notable species may be found during the initial survey (i.e. droppings, species in situ, nest, dens, or feeding remains, etc.), it is not guaranteed. Therefore, further surveys are recommended where suitable habitats are identified, and there is a requirement to establish the presence or likely absence of such species in order to complete an impact assessment.
- 2.4.4 In some cases, a worst-case scenario will be established to identify potential impacts from the proposed development where there are suitable habitats to support protected or notable species.
- 2.4.5 The field survey for all species was carried out within the Site's boundaries, and this area has been extended beyond the boundaries for great crested newt, badger, water vole and otter when there is likely to be an impact to them from the proposed development and where access outside the Site boundaries was available.
- 2.4.6 Details of the methodologies of initial surveys undertaken and habitat requirements for each of the species listed are presented in **Appendix 2** and summarised in Table 1 below.

Table 1 – Summary of Habitats and Survey Areas

Ecological Feature	Legal Status	Typical Suitable Habitats ^a	Survey Area ^b
Terrestrial invertebrate	<ul style="list-style-type: none"> • Approximately 400 species are SPI 	<ul style="list-style-type: none"> • Grassland • Woodland Rides • Woodland Edges • Ponds • Riverbanks • Hedgerows 	Within the Sites boundaries.
Great crested newt	<ul style="list-style-type: none"> • EPS • WCA 1981 Sch 2 	<ul style="list-style-type: none"> • Ponds • Rough grassland • Scrub • Hedgerows • Woodland • Rubble or Stockpiles 	Within the Sites boundaries and up to 500 m beyond.
Reptiles	<ul style="list-style-type: none"> • WCA 1981 Sch 2 and Sch 5 	<ul style="list-style-type: none"> • Rough grassland • Woodland edges • Embankments • Scrub 	Within the Sites boundaries.

Ecological Feature	Legal Status	Typical Suitable Habitats ^a	Survey Area ^b
		<ul style="list-style-type: none"> Hedgerows Heathland 	
Birds	<ul style="list-style-type: none"> WCA 1981 Sch 5 and some are listed in Sch 1 	<ul style="list-style-type: none"> Buildings Brownfield sites Trees Woodland Grassland Amenity and residential open space Rivers Estuaries Costal Heathland Arable Pasture 	Within the Sites boundaries.
Bats	<ul style="list-style-type: none"> EPS WCA 1981 Sch 2 	<p>Roosting</p> <ul style="list-style-type: none"> Built structures Trees <p>Foraging and Commuting</p> <ul style="list-style-type: none"> Woodland Hedgerows Pasture Grassland Arable Rivers, streams, and ponds 	Within the Sites boundaries.
Water vole	<ul style="list-style-type: none"> WCA 1981 Sch 2 	<ul style="list-style-type: none"> Rivers Streams Ditches Ponds Lakes 	Within the Site's boundaries and up to 50 m beyond.
Otter	<ul style="list-style-type: none"> EPS WCA 1981 Sections 9 and 11 	<ul style="list-style-type: none"> Clean rivers 	Within the Site's boundaries and up to 50 m beyond.
Dormouse	<ul style="list-style-type: none"> EPS WCA 1981 Sch 5 	<ul style="list-style-type: none"> Hedgerows with connections to woodlands and foraging resources 	Within the Site's boundaries and up to 1 km beyond.
Badger	<ul style="list-style-type: none"> Protection of Badgers Act 1992 	<ul style="list-style-type: none"> Embankments Woodlands Grassland Hedgerows Scrub Arable 	Within the Site's boundaries and up to 30 m beyond

Ecological Feature	Legal Status	Typical Suitable Habitats ^a	Survey Area ^b
Hedgehog	<ul style="list-style-type: none"> • SPI 	<ul style="list-style-type: none"> • Grassland • Gardens • Woodland • Pasture • Arable 	Within the Site's boundaries and up to 500 m beyond.
<p>Notes:</p> <p>a – These are a list of the typical habitats these fauna are known to use, the surveyor has also checked for evidence of the species within the Site, and so there may be incidents when the animals are found in different habitats to those listed.</p> <p>b – The search for the areas beyond the Site's boundaries have only been conducted where suitable habitats are present for the species within the Site and where access is available.</p> <p>SPI – Species of Principal Importance</p> <p>EPS – European Protected Species</p> <p>WCA – the Wildlife and Countryside Act 1981</p>			

2.5 Preliminary Ecological Assessment

- 2.5.1 Data from the survey will be analysed to provide recommendations for further surveys, avoidance measures, mitigation and/or compensation required for the ecological constraints identified within the Study Area.
- 2.5.2 Under the National Planning Policy Framework (NPPF) (MHCLG (2019), National Planning Policy Framework, HM Government) and the 25-year environmental plan, (Defra (2019), A Green Future: Our 25 Year Plan to Improve the Environment, HM Government), (see **Appendix 1**) the government has set out policies and aims to deliver a net gain in biodiversity through improved green infrastructure and increased opportunities for wildlife. In accordance with these policies, enhancement measures are recommended for inclusion in the proposed development.

2.6 Limitations to the Surveys

- 2.6.1 Any ecology assessment must be considered as a 'snapshot' of the site conditions at the time of the survey. Ecological constraints will change over time, and therefore the findings of this report are valid for a period of one year, after which the report should be reviewed to assess whether the survey should be updated.
- 2.6.2 No constraints were such that they affect the overall conclusions and recommendations made herein.

3 Baseline Ecological Conditions

3.1 Desk Study

- 3.1.1 The area immediately south of the school playing fields is an UNESCO European designated Biosphere Reserve, Brighton & Lewes Downs, forming a central unit of the hills of the South Downs National Park.
- 3.1.2 There is one SSSI site and two Local Wildlife Sites (LWS) within 2km of the site to be developed.

Site Name	Designation	Distance and Location from the site	Habitat and Species included in the designation
Clayton to Offham Escarpment	SSSI	1.6km south	Diverse chalk grassland
Lag Wood and Butcher's wood	LWS	0.6km south west	Priority Habitat Ancient and Semi natural woodland
Keymer Meadow	LWS	0.85km north east	Good quality semi improved grassland

- 3.1.3 Natural England has granted 2 Protected Species Licence for Bats within 2 km of the Site. One licence was granted in 2014 for the destruction of a resting place and is located 0.25 km west of the Site. The other licence was granted in 2013 for the destruction of a resting place and is located 1.3 km east of the Site.
- 3.1.4 MAGIC records show the presence of Great Crested Newt, primarily to the west and south of the site. 2016, 1.3km south west of the site; 2017, 1.4km west of the site; 2017, 1.5km west of the site; 2014, 1.8km west of the site; 2014, 1.3km south of the site; 4 records in 2015, between 1.5km and 1.9km north west of the site.
- 3.1.5 Natural England has granted 1 Protected Species Licence for Great Crested Newts within 2 km of the Site. The licence was granted in 2019 for the destruction of a resting place and breeding site and is located 1.6km north west of the Site.

3.2 Habitats

- 3.2.1 The Site is located on the very edge of a UNESCO Bioreserve, set within the South Downs National Park. Whilst the immediate habitats to the north of the site are residential housing, the habitats to the south of the site are recognised for their uniqueness and diversity.
- 3.2.2 The area to be developed is to the north east of the site. It is an area of the school that has been developed as a small garden, presumably created for pupils to utilise.
- 3.2.3 There is little currently growing in the created raised beds. There is a very small composting area adjacent to a beech hedge.
- 3.2.4 The site is screened by a Beech hedge. It is understood that part of this will need to be removed to facilitate the proposed build.
- 3.2.5 There are some small trees planted in the area, it is understood this will be relocated.

3.2.6 None of the buildings associated with the area of development appeared favourable bat habitat.

3.2.7

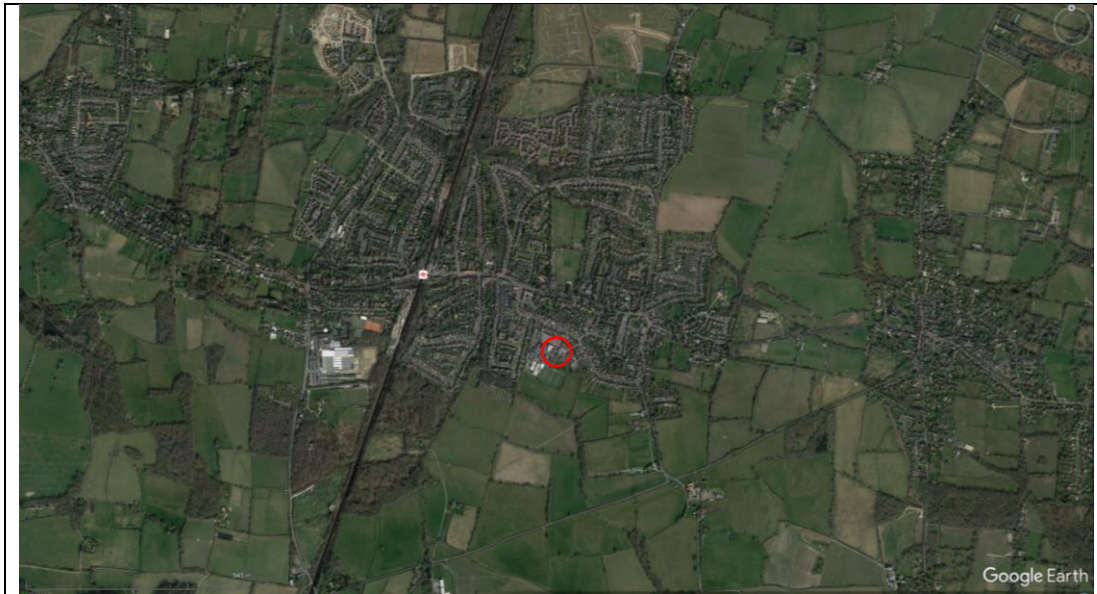


Fig. 2: Landscape context of site. Red circle shows site area to be developed

3.2.8 Photographs of the site are presented in the Appendices.

3.3 Connectivity to the site

3.3.1 Given the current use of the area more favourable habitat exists outside of the proposed site to be developed.

3.3.2 There is limited connectivity to the site from the wider environment.

3.3.3 The connectivity between the proposed site development and the wider environment is seen as potentially utilised by Terrestrial Invertebrates, Birds, Hedgehogs, Bats and Badgers.

3.3.4 There was no evidence at the time of the survey of any Badger activity within the area proposed to be developed.

3.4 Species

3.4.1 Species for which there are potentially suitable habitats within the study area (see section 2.1) are discussed in this section and include:

- Terrestrial Invertebrates
- Hedgehogs
- Nesting birds
- Bats
- Badger

3.4.2 Species for which suitable habitats are not present within the study area have been scoped out and are not discussed further in this report.

3.4.3 Whilst GCN are recorded within a 2km radius there is no immediate suitable water sources recognizable within the area and scarce connectivity in relation to those areas where presence was recorded.

3.4.4 The potential for reptiles is also ruled out due to the poor connectivity/ isolation of the site, The area is limited in size and the potential habitat minimal and shaded.

3.4.5 **Terrestrial Invertebrates**

3.4.4 The Site may provide very limited foraging for more widespread and common terrestrial invertebrates. The habitats are unlikely to support an important diversity or abundance of rare or scarce species of insects.

3.4.5 The site considered to be relevant at a site level for terrestrial invertebrates. This generally relates to neglected areas where wood has been left.

3.4.6 **Hedgehog**

3.4.7 The baseline data search returned 63 records of hedgehogs between 2005 and 2022.

3.4.8 The sites habitats provide opportunity for forage and sheltering hedgehogs. Materials and neglected areas on the site are minimal yet could provide hibernation areas.

3.4.9 The site may be considered important to a site level for hedgehogs.

3.4.10 **Nesting Birds**

3.4.11 The baseline data search returned 900 records of birds consisting of 53 species.

3.4.12 Of these records, 3 species are likely to use the habitats connected with the Site for nesting, e.g. Grey Wagtail (*Motacilla cinerea*), House sparrow (*Passer domesticus*), and Starling (*Sturnus vulgaris*).

3.4.13 The hedgerows and trees within the Site are suitable for use by nesting birds, the buildings generally appear less favourable. No nests were found/ visible connected to the build works proposed.

3.4.14 Nests were visible in trees and hedges adjacent to the site, with no evidence of being currently used.

3.4.15 The potential value of the nesting is considered to be important at a site level.

3.4.16 **Bats**

3.4.17 The baseline data search returned 419 records of bats consisting of 11 species.

3.4.18 All of the buildings were considered to be of negligible suitability for use by roosting bats.

3.4.19 Bats are likely to forage and commute around the Site as part of a wider home range.

3.4.20 The Site is considered to have the potential to be relevant at a site level, with respect to forage and commuting.

3.4.21 **Badger**

3.4.22 No evidence of badger was recorded on the site. There was evidence of mammal paths to the outskirts of the playing fields to the south. But none within or immediately adjacent to the site.

3.4.23 The site is considered relevant to a site level for Badgers, such that the area may potentially be used as an area of forage.

4 Ecological Constraints and Opportunities

4.1 Impact assessment

- 4.1.1 The development will impact none of the designated sites identified in Section 3.1.
- 4.1.2 The habitats and species identified in Section 3.3, which may be impacted by the proposed development, include;
- Nesting birds
 - Bats
 - Hedgehogs
 - Terrestrial Invertebrates
 - Badger
- 4.1.3 The constraints, mitigation and potential further survey recommendations for these species are discussed in this section.
- 4.1.4 In addition, enhancement opportunities are presented for the following species based on the opportunities provided by the proposed development;
- Nesting birds
 - Bats
 - Hedgehogs
 - Terrestrial Invertebrates


4.2 Nesting Birds

- 4.2.1 Works involving the removal or cutting back of the vegetation or demolition of the outbuilding where birds could nest should be undertaken outside of the main breeding season (which is generally taken to run from March to September inclusive¹).
- 4.2.2 If sensitive timings are not possible, a check for nesting birds should be undertaken immediately prior to habitat removal by a suitably experienced ecologist. If the latter approach is taken and nesting is encountered, there is a risk of delay since an 'exclusion zone' may need to be set up around nests until young have fledged.
- 4.2.3 Following the application of sensitive timings or nesting bird checks and compensation, the proposed development will have a negligible impact on nesting birds.
- 4.2.4 **Enhancement opportunities**
- 4.2.5 Two bird boxes should be included within the final design of the development. These boxes should be suitable for use by passerine birds such as tits, sparrows, nuthatches, and flycatchers.

¹ This is a general guide only. Different species may nest at different times, and prevailing weather conditions may limit or expand the breeding season. Some species, such as pigeons and owls, can breed throughout the year in suitable conditions.

4.2.6 The boxes maybe be integrated into the facades of the new build and built from long-lasting materials such as woodcrete. Examples of the type of boxes which can be used are presented in Table 2.

Table 2 – Examples of Bird Boxes

Description of Box	Example Dimensions	Example Image
<p>A single-chambered box manufactured from WoodStone® with an entrance hole which is suitable for passerine birds such as tits, sparrows, nuthatches, and flycatchers.</p> <p>The box can be integrated or attached to brickwork or attached to trees.</p>	<p>Width: 200 mm Height: 310 mm Length: 200 mm Weight: 6.9 kg</p>	 <p>Photo Courtesy of Vivara pro</p>
<p>A double-chambered box manufactured from WoodStone® (a mix of concrete and FSC wood fibres) which provides two nesting chambers which provide a thermally stable environment.</p> <p>The box can be integrated into the brickwork or attached onto the façade.</p>	<p>Width: 290 mm Height: 210 mm Depth: 160 mm Weight: 7.5 kg</p>	 <p>Photo Courtesy of Vivara pro</p>
<p>A single-chambered box manufactured from WoodStone® which has an entrance hole in the front, bottom corner of the box.</p> <p>The box can be integrated into the brickwork close to the top of a façade.</p>	<p>Width: 310 mm Height: 170 mm Depth: 170 mm Entrance Hole Height: 290 mm Weight: 3.65kg</p>	 <p>Photo Courtesy of CJ Wildlife</p>

4.2.7 The sparrow terraces should be located on or within a façade close to vegetation and at a minimum of 2 m above the ground.

4.2.8 Bird boxes should ideally be located away from windows or doors to prevent droppings causing future conflict.

4.2.9 It may be suitable, dependent on the build design to erect the boxes either on adjacent builds that are more appropriate or on trees within the immediate vicinity. This may be assessed as part of the final design stages of the landscaping.

4.3 Bats

4.3.1 None of the buildings associated with the development are suitable roosts or habitat for Bats. However, the area may be used for forage and commuting.

4.3.2 It is recommended that lighting for the development is designed in accordance with the guidance set out in the Institute for Lighting Professionals' (ILP) note on bats and artificial lighting. This includes advice such as:

- Using luminaires that lack UV elements when manufactured.
- Using LED luminaires where possible.
- Adopting a warm white spectrum (ideally <2700 kelvin).
- Using luminaires which feature a peak wavelength higher than 550 nm.
- Setting any external security lighting on motion detectors and short (1 min) timers.
- Recessing internal luminaires where installed in proximity to windows to reduce glare and light spill.

4.3.3 It is also recommended that the boundary vegetation is not lit by external lighting so that a dark corridor is maintained around the Site.


4.3.4 Following the application of sensitive lighting design, the proposed development is likely to have a negligible impact on foraging and commuting bats.

4.3.2 Enhancement opportunities

4.3.5 Enhancement measures are those which go beyond that required for mitigation. Therefore, regardless of the findings of the further surveys, the development should include the provision of bat boxes.

4.3.6 At least 1 box should be erected on site. Example of the type of box which can be used are presented in Table 3.

Table 3 – Example of Bat Box

Description of Box	Example Dimensions	Example Image
This type of box is of a suitable design for use by bat species which typically roost in woodland environments. It has two entrances at the rear and front and a domed top to allow bats to roost in clusters. Due to the open bottom, the box does not require cleaning or maintenance, and the design is effective against small predators and excludes drafts.	Height: 360 mm Diameter: 160 mm Weight: 4.3 kg	 <p>Photo courtesy of Schwegler</p>


4.3.7 The bat box should be located close to vegetation and a minimum of 3 metres from the ground. The box should not be directly lit or impacted by light spill from windows.

- 4.3.8 Bat boxes should ideally be located away from pedestrian areas to prevent droppings causing future conflict.
- 4.3.9 It may be suitable to erect the box either on an adjacent build or on trees within the immediate vicinity. This may be assessed as part of the final design stages of the landscaping.
- 4.3.10 A planting scheme should aim to include night-scented plants, which will attract prey species of bats. The scheme could include:
- Cherry pie (*Heliotropium arborescens*)
 - Evening primrose (*Oenothera biennis*)
 - Honeysuckle (*Lonicera periclymenum*)
 - Night-scented catchfly (*Silene noctiflora*)
 - Night-scented stock (*Matthiola bicornis*)
 - Nottingham catchfly (*Silene nutans*)
 - Soapwort (*Sapnoria officinalis*)
 - Sweet rocket (*Hesperis matronalis*)
 - Tobacco plant (*Nicotiana alata*)
 - White jasmine (*Jasminum officinale*)

4.4 Hedgehogs

- 4.4.7 Hedgehogs may be disturbed, injured or killed during the construction works of the proposed development.
- 4.4.8 The clearance of any existing vegetation, composting material or other relevant arisings (stacked fencing materials) should be undertaken outside of the hibernation period for hedgehogs (which is typically between October and March).
- 4.4.9 Such dismantling or movement of vegetation and stored materials should be removed carefully by hand to check for sheltering hedgehogs. The animals should be left to move away on their own accord if found.
- 4.4.10 All construction materials should be kept off the ground on pallets or stored away to prevent them from becoming suitable for use by sheltering or hibernating hedgehogs.
- 4.4.11 All excavations should be covered at night or when not in use to prevent hedgehogs from being trapped during construction.
- 4.4.12 **Enhancement Opportunities**
- 4.4.13 An opportunity can be created to allow hedgehogs to shelter and breed on the Site by providing a hedgehog dome. An example of which is presented in Table 4.

Table 4 – Example of Hedgehog dome

Description	Example Dimensions	Example Image
<p>A hedgehog dome will provide a safe place to hibernate or shelter. It can be constructed of natural materials such as wicker or long lasting materials such as Woodcrete®. The shelter should provide insulation against extreme weather conditions.</p>	<p>Diameter: 480 mm Weight: 17.5 kg</p>	 <p>Photo courtesy of Schwegler</p>

4.5 Terrestrial invertebrates

4.5.1 The impact is likely to be temporary during construction, and the invertebrates may return to the Site once the works are complete.

4.5.2 The proposed development can have a negligible impact on terrestrial invertebrates once new landscaping is established.

4.5.3 Enhancement Opportunities

4.5.4 At least two insect boxes should be included in the development's final design. These boxes should be suitable for use by solitary bees or ladybirds.

4.5.5 It may be suitable to erect the boxes either on an adjacent build or on trees within the immediate vicinity. This may be assessed as part of the final design stages of the landscaping.

Table 5 – Example of boxes for Terrestrial invertebrates

Description	Example Dimensions	Example Image
<p>This woodcrete box is inset with reed stems, creating numerous nesting opportunities for insects such as ladybirds. The box can be integrated into the brickwork, attached to a façade, or attached to a tree within a hedgerow.</p>	<p>Width: 90 mm Height: 180 mm Depth: 260mm Weight: 2.8 kg</p>	 <p>Photo courtesy of Ark Wildlife</p>

4.5.6 Planting schemes should include nectar-rich plants which provide food throughout the season, such as:

- Coneflower - *Echinacea* spp.
- English bluebell - *Hyacinthoides non-scripta*
- Heather - *Erica cinerea*
- French marigold - *Tagetes patula*
- Currant - *Ribes* spp.
- Lady's bedstraw - *Galium verum*
- Golden rod - *Solidago* spp.
- Grape hyacinth - *Muscari armeniacum*
- Lavender - *Lavandula angustifolia*
- Honeysuckle - *Lonicera periclymenum*
- Lungwort - *Pulmonaria officinalis*
- Ice plant - *Sedum spectabile*
- Primrose - *Primula vulgaris*
- Purple toadflax - *Linaria purpurea*
- Sweet violet - *Viola odorata*
- Meadow saffron - *Colchicum autumnale*
- Winter aconite - *Eranthis hyemalis*
- Sea holly - *Eryngium maritimum*
- Michaelmas daisy - *Aster pyrenaeus*
- Wood anemone - *Anemone nemorosa*
- Verbena - *Verbena bonariensis*
- Common sunflower - *Helianthus annuus*
- Alyssum – *Alyssum montanum*
- Wallflower - *Erysimum cheiri*
- Red valerian - *Centranthus ruber*

4.6 Badger

- 4.6.1 There was no evidence at the time of the survey that the area was utilised by Badgers for foraging or commuting.
- 4.6.2 However, given evidence in the wider area of commuting mammals it would be prudent to ensure that all excavations are covered at night or when not in use, to prevent Badgers from being trapped within earth works or building construction.

5 Conclusions

- 5.1.1 On the 30th of December 2022, Writtle Forest Consultancy Ltd completed a PEA at Downlands Community School, Dale Avenue, Hassocks, West Sussex BN6 8LP. The survey identified an area of garden adjacent to a temporary single storey build acting as a classroom as well several multi storeyed educational buildings. The school is set on the very edge of the South Downs National Park and a UNESCO biosphere reserve.
- 5.1.2 No further surveys are required assuming that 1) works will be undertaken outside of Bird nesting season and 2) dismantling and removal of existing vegetation and wood piles on the site are carried out carefully by hand, prior to commencement of works and outside of the hibernation period.
- 5.1.3 Enhancement opportunities have been recommended in accordance with national policies for biodiversity net gain (See Appendix 1).

Appendix 1 Legislation and Policy

Many active pieces of legislation are aimed at protecting wildlife and habitats within the UK. These are summarised in Table 6

Table 6 – Summary of Primary Legislation in the UK

Legislation or Species	Description
The Wildlife and Countryside Act (WCA) 1981	<p>The WCA is the primary piece of legislation relating to nature conservation in Great Britain. The Act is supplemented by provisions in the CRoW Act 2000 and the NERC Act 2006. It provides for the notification and confirmation of Sites of Special Scientific Interest by Natural England. It also sets out, in schedules, important and invasive species which are legally protected or require active management.</p> <p>The WCA consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain (NB Council Directive 79/409/EEC has now been replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30th November 2009 on the conservation of wild birds (codified version)).</p>
The Conservation of Habitats and Species Regulations 2017	<p>The Conservation of Habitats and Species Regulations 2017 consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017 and extend to England and Wales (including the adjacent territorial sea) and, to a limited extent, in Scotland (reserved matters) and Northern Ireland (excepted matters).</p> <p>The draft Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 were laid before Parliament on 28th January 2019. The draft Regulations ensure that the habitat and species protection and standards derived from EU law will continue to apply after the UK has left the European Union. This draft came into force on the exit day (31st January 2020).</p>
The Countryside and Rights of Way (CRoW) Act 2000	<p>The CRoW applies to England and Wales only, received Royal Assent on 30th November 2000, with the provisions it contains being brought into force in incremental steps over subsequent years. Containing five Parts and 16 Schedules, the Act provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB). The Act is compliant with the provisions of the European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.</p>
Natural Environment & Rural Communities (NERC) Act 2006	<p>The NERC places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.</p> <p>The NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity</p>

Legislation or Species	Description
	<p>in England. The list replaces the UK Biodiversity Action Plans (UKBAP) and has been drawn up in consultation with Natural England, as required by the Act.</p> <p>The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.</p> <p>Fifty-six habitats of principal importance (HPI) are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Of most relevance to the Site, they include ponds, open mosaic habitats on previously developed land and lowland heathland.</p> <p>There are 943 species of principal importance (SPI) included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.</p>
Non-native species	<p>Certain non-native plants and animals are recognised as invasive. The WCA makes it an offence to:</p> <ul style="list-style-type: none"> • Release or allow to escape into the wild any animal which is not ordinarily resident in Great Britain and is not a regular visitor to Great Britain in a wild state or is listed in Schedule 9 to the Act. • Plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act. • Sell, offer, or expose for sale, or possess or transport for the purposes of sale, non-native species that are listed in Schedule 9. <p>Species control agreements and orders can be made by environmental authorities to ensure that landowners take action on invasive non-native species. The NERC Act allows the Secretary of State to issue or approve codes of practice on invasive species. The codes alone cannot be used to prosecute but must be taken into account by a court in any case in which they appear to the court to be relevant.</p>
Great Crested Newts	<p>Great crested newts are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 making them a protected species. The Regulations state that:</p> <p>(1) A person who—</p> <ol style="list-style-type: none"> (a) deliberately captures, injures, or kills any wild animal of a European protected species (b) deliberately disturbs wild animals of any such species (c) deliberately takes or destroys the eggs of such an animal (d) damages or destroys a breeding site or resting place of such an animal <p>is guilty of an offence.</p> <p>(2) For the purposes of paragraph (1)(b), disturbance of animals includes, in particular, any disturbance which is likely—</p> <ol style="list-style-type: none"> (a) to impair their ability— <ol style="list-style-type: none"> (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or

Legislation or Species	Description
	<p>(b) to affect significantly the local distribution or abundance of the species to which they belong.</p> <p>Offences under the Habitats Regulations can be licensed by Natural England for a number of purposes, including 'imperative reasons of overriding public interest', which can include development. Licences can only be issued where full survey data is available, where there is no satisfactory alternative and where the action authorised will not adversely affect the favourable conservation status of the species involved.</p>
Reptiles	<p>All UK native reptile species are protected by law. The Wildlife & Countryside Act 1981 (and later amendments) provides the legal framework for this protection which makes it an offence to intentionally (or recklessly, in Scottish law) kill or injure a reptile.</p> <p>Sand lizard and smooth snake and their places of shelter have the greatest level of legal protection under Schedule 2 of the Conservation of Habitats and Species Regulations.</p>
Nesting Birds	<p>All wild bird nests are protected under The Wildlife and Countryside Act 1981 (as amended), making it an offence to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure, or take any wild bird or their eggs or nests (with certain exceptions). • • Disturb any bird species listed under Schedule 1 to the Act, or it's dependent young while it is nesting. • Nests of the golden eagle, white-tailed eagle and osprey are protected year-round.
Bats	<p>All species of bat in Britain are protected species under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to bats and their habitats, making it an offence to:</p> <ul style="list-style-type: none"> • Deliberately capture, injure, or kill a bat. • Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats. • Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time). • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. • Intentionally or recklessly obstruct access to a bat roost. <p>The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.</p>
Water vole	<p>The water vole is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and is a priority conservation species making it an offence to:</p> <ul style="list-style-type: none"> • intentionally capture, kill, or injure water voles • damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care) • disturb them in a place of shelter or protection (on purpose or by not taking enough care)

Legislation or Species	Description
	<ul style="list-style-type: none"> possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity)
Otters	<p>The Eurasian otter is the only native UK otter species. It's a protected species under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and is also protected under sections 9 and 11 of the Wildlife and Countryside Act 1981 making it an offence to:</p> <ul style="list-style-type: none"> capture, kill, disturb, or injure otters (on purpose or by not taking enough care) damage or destroy a breeding or resting place (deliberately or by not taking enough care) obstruct access to their resting or sheltering places (deliberately or by not taking enough care) possess, sell, control or transport live or dead otters, or parts of otters
Hazel Dormice	<p>Hazel dormice, their breeding sites and resting places are fully protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and under Schedule 5 of the Wildlife and Countryside Act 1981 making it an offence to:</p> <ul style="list-style-type: none"> deliberately capture, injure, or kill hazel dormice damage or destroy a dormouse resting place or breeding site deliberately or recklessly disturb a hazel dormouse while it's in a structure or place of shelter or protection block access to structures or places of shelter or protection possess, sell, control or transport live or dead hazel dormice, or parts of hazel dormice
Badgers	<p>Badgers are protected, and so are the setts (burrows) they live in. Under the Protection of Badgers Act 1992, in England and Wales (the law is different in Scotland) it is an offence to:</p> <ul style="list-style-type: none"> Wilfully kill, injure, or take a badger (or attempt to do so). Cruelly ill-treat a badger. Dig for a badger. Intentionally or recklessly damage or destroy a badger sett or obstruct access to it. Cause a dog to enter a badger sett. Disturb a badger when it is occupying a sett.
Hedgehogs	<p>Hedgehogs are protected, in England, Scotland and Wales, under the Wildlife and Countryside Act 1981, Schedule 6 and in Northern Ireland under the Wildlife (NI) Order 1985, Schedules 6&7. This means they are protected from being killed or taken by certain methods under Section 11(1) of the Wildlife and Countryside Act 1981.</p> <p>Hedgehogs are also Species of Principal Importance (SPI) included on the S41 list (See NERC above).</p>

Policy

National Planning Policy Framework (NPPF) (2018)

Chapter 15 of the National Planning Policy Framework (NPPF) aims at conserving and enhancing the natural environment and states that planning policies and decisions should contribute to and enhance the natural and local environment. In terms of biodiversity, this should be achieved by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils,
- recognising the intrinsic character and beauty of the countryside, and wider benefits from natural capital and ecosystem services, and
- minimising impacts on and providing net gains for biodiversity by establishing coherent ecological networks that are more resilient to current and future pressures.

The NPPF states that to protect and enhance biodiversity, [local] plans should:

- identify and safeguard components of wildlife-rich habitats and wider ecological networks, and
- promote the conservation and enhancement of priority habitats and ecological networks and the protection and recovery of priority species.

The NPPF states that when determining planning applications, local planning authorities should refuse applications which:

- cause significant harm to biodiversity which cannot be avoided, adequately mitigated or as a last resort, compensated for,
- plan to develop on land within or outside of a Site of Special Scientific Interest (SSSI) and which is likely to have an adverse effect on it (either individually or in combination with other developments) and/or
- result in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) unless there are wholly exceptional reasons and where a suitable compensation strategy exists.

The local planning authority should support developments whose primary objective is to conserve or enhance biodiversity, especially where this can secure measurable net gains in biodiversity.

HM Government – 25 Year Environment Plan

The 25-year plan to improve the environment sets out what the government intends to do to increase biodiversity, reduce climate change and secure ecosystem services. It aims to deliver cleaner air and water, protect threatened species, and provide richer wildlife habitats.

Appendix 2 Preliminary Species Survey Methodologies

Terrestrial Invertebrates

There are approximately 400 species of terrestrial invertebrate which are Species of Principal Importance within the UK (see Table).

Ecological ranges and requirements can vary greatly for different invertebrates from a micro to macro scale. Habitats need to provide resources to support the entire lifecycle within a species' range, e.g. some butterflies require a matrix of grasses and flowers for developing larvae and nectar-filled flowers to feed the adults. A diverse variety of terrestrial invertebrates are found in areas that contain ecotones. These are defined as "a region of transition between two biological communities," i.e. a woodland edge, where a grassland meets a hedgerow or other mosaics of habitats. Other indicators for potentially important invertebrate sites include those with less common habitats, such as heathland or dead wood.

The preliminary survey will identify if there are suitable matrices of habitats, ecological ecotones and/or connectivity to suitable habitats within the wider landscape to support a diverse range of terrestrial invertebrates.

The survey was carried out within the Sites boundaries.

Great Crested Newts (GCN)

Great Crested Newts (GCN) *Triturus cristatus* require aquatic habitats for breeding and terrestrial habitats for foraging, sheltering and hibernation. Breeding occurs in the spring (typically between March and June) with much of the newt's lifecycle spent within the terrestrial habitats. Juvenile newts normally take 2 to 4 years to reach sexual maturity and so spend most of their time in terrestrial habitats.

GCN are known to travel up to 500 m from breeding ponds and require terrestrial habitats which allow them to shelter from excessive heat, dryness, and predators whilst foraging for prey species. GCN hibernate during the winter months underground or under a structure that protects against frost, flooding, and predators; typically logs, vegetation piles, rocks/stone, etc. Optimal habitats generally include grassland, scrub, woodland, hedgerows, and wasteland with some green connections to ponds, within approximately 500 m.

Natural England provides a risk matrix that uses the distance of ponds from a site and the area of a proposed development site to determine if an offence is likely. The distance bands used in the matrix are:

- Pond Onsite
- Land within 100 m from ponds
- Land within 100-250 m from ponds
- Land >250 m from ponds

Aerial and OS mapping will be used to identify the presence and location of ponds within 500 m of the Site. Natural England's risk matrix will then be used to identify if an offence is likely and in what distance to the Site. For the purpose of this exercise, all ponds identified are assumed to be breeding ponds.

Any ponds within the distance bands in which an offence is likely, and for which there is access, will be subject to a Habitat Suitability Index (HSI) assessment.

The assessment involves putting parameters about the pond's habitats (size of the pond, percentage of vegetation cover, water quality, etc. into a calculator to get an HSI value. The

calculated HSI for a pond provides a score between 0 and 1. The pond's HSI can then be compared to the ranges of pond suitability, as shown in Table 77. An inference can then be made between the HSI of the pond and the likelihood of great crested newt presence.

Table 7 – Habitat Suitability Scores

HSI Score	Classification
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

Reptiles

There are four relatively widespread native species of reptiles in Britain, namely adder *Vipera berus*, grass snake *Natrix natrix*, slow worm *Anguis fragilis*, and common lizard *Zootoca vivipara*. All of these species are protected from intentional killing or injury (but their habitat is not specially protected).

These species can be found in a broad range of habitats including grassland, open woodland, grassy scrub and, in the case of grass snakes, wetland. Reptiles require open areas to bask, sheltered areas to hide from excessive heat and predators and protected areas for hibernation. A typical habitat considered suitable for reptiles will be comprised of a matrix of structures that allow for some or all the reptile's requirements, i.e. grassland with patches of scrub.

The habitats within the Site's boundaries were assessed for their suitability to support reptiles.

Nesting Birds

All birds and their active nests are protected in the UK (including feral pigeon). Some species are included on Schedule 1 of the WCA 1981 and are afforded greater protection.

Birds will create nests in a variety of habitats depending on the species. Most require sheltered areas such as vegetation or voids and crevices within man-made structures. Others will nest on flat surfaces, whilst some prefer specific habitats such as barn swallow *Hirundo rustica* or barn owl *Tyto alba*.

The habitats within the Site's boundaries were investigated for the presence of active or old nests. An appraisal was also made of the suitability of habitats to support nesting birds and which species or group are most likely to be found within the Sites habitats.

Bats

A preliminary survey for bats identifies if there are habitats and/or structures present within the Site which have suitable features that can be used for roosting, foraging and/or commuting bats. An assessment was made as to whether a development will directly or indirectly impact a roost.

Preliminary Roost Appraisal

A Preliminary Roost Appraisal (PRA) for bats was undertaken in accordance with the Bat Conservation Trust's bat survey guidelines. The PRA was undertaken on all buildings and trees within the Sites boundaries.

The PRA identified the type and number features within the structures which are suitable for use by roosting bats. A suitable feature will be a sheltered void or crevice in which individual bats can roost or in which several bats can gather. The structures have been categorised in accordance with the criteria set out within the guidelines and recreated in Table 2 for reference.

Table 2 – Bat Roost Suitability Categories

Suitability Categorisation	Description of Roosting habitat
Negligible	Negligible habitat features onsite likely to be used roosting bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used regularly or by larger numbers of bats (i.e. unlikely be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain PRFs but none seen from the ground or features seen with only very limited roosting potential.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat, but unlikely to support a roost of high conservation status.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. Likely to be used as maternity or hibernation roosts.

Evidence such as bats in situ, droppings, and staining from urine or oils from the bat's fur, has also be searched for during the preliminary survey. However, bats can roost in areas inaccessible during a preliminary survey such as between roof tiles of lining and so this evidence may not always be found.

The number of further surveys and timings (if required) are based on the categorisation of the suitability of a structure to support roosting bats.

Foraging and Commuting

In accordance with the guidelines, the Site's habitats were evaluated for the suitability to be used for foraging and commuting bats. The categorisations are based on the criteria set out in the guidance and recreated in Table 38.

Table 3 – Bat Foraging and Commuting Suitability Categories

Suitability Categorisation	Commuting and Foraging Habitats
Negligible	Negligible habitat features onsite likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected with the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland, or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses, and grazed parkland. Site is close to and connected to known roosts.

The preliminary bat surveys were carried out within the Sites boundaries, except in instances where neighbouring structures will be adversely affected by the proposed development. In which case, these structures were also assessed where access was possible.

Water vole and Otters

Water voles and otters require riverine habitats to support breeding, foraging, and sheltering.

The water vole lives along rivers, streams, and ditches, around ponds and lakes, and in marshes, reedbeds and areas of wet moorland. The otter requires clean rivers, with an abundant source of food and plenty of vegetation to hide their secluded holts.

Evidence of water vole will be investigated and include the presence of burrows along the banks, feeding remains and droppings. The survey area included the length of the suitable habitat within the Site's boundaries and up to 50 m outside of the boundaries if access was possible.

Evidence of otter will include the presence of holts, footprints, or spraints. The survey area included the length of the river within the Site's boundaries and up to 50 m beyond if access was available.

Dormice

Dormice live in deciduous woodland, hedgerows, and dense scrub, and spends most of the spring and summer up in the branches, rarely coming down to the ground. It eats buds, hazelnuts, berries, and insects. Hazel dormice build nests out of grasses, stripped honeysuckle bark and fresh hazel leaves, in which the female will give birth to up to seven young. They hibernate during the winter months, either on the ground (under logs, leaves, in grass tussocks and at the base of trees) or just beneath the ground where the temperature is more constant.

The habitats within the Site's boundaries and connectivity to suitable habitats in the wider landscape have been evaluated to determine the suitability of the Site to support dormice.

Badgers

Badgers are found across the UK, with the highest numbers in southern England. The ideal badger habitat is a mixture of woodland and open country.

The species lives in a network of underground burrows and tunnels known as a sett. Each badger territory will include a main sett and several smaller outlying setts. The main sett is the group's headquarters, where they spend most of their time and rear their young. Outlying setts are smaller and provide a safe place to retreat to if needed when badgers are out foraging. Setts tend to be located in the shelter of woodland, with the badgers emerging at night to forage in fields and meadows.

Though not as common as urban foxes, badgers can also survive in towns and cities, providing there is suitable cover in which to dig their setts and nearby gardens and parks where they can hunt for food.

The presence of setts has been investigated during the survey within the Site and up to 30 m from the Site's boundaries (where access was available). In addition, evidence of badgers has been searched for including foraging holes, latrines, scratch posts and hairs.

Hedgehogs

Hedgehogs are known to travel around one mile every night through parks and garden foraging for food and looking for mates. Grassland, hedgerows, and shrub are considered to provide suitable foraging habitat. Compost, log piles, and hedgerows are suitable for nesting and hibernating hedgehogs.

The habitats within the Site's boundaries and connectivity to suitable habitats in the wider landscape have been assessed for their suitability to support hedgehogs.

Appendix 3 Photographs



Photo 1 – Overview of Garden area



Photo 2 – Composting area



Photo 3 – Stored wood material, pallets & fencing



Photo 5 – Build around area to be developed



Photo 6 – Build around area to be developed



Photo 7 – Build around area to be developed



Photo 8 – Build around area to be developed