LINDSAY CARRINGTON
ECOLOGICAL SERVICES

ECOLOGICAL APPRAISAL AND PHASE 1 BAT SURVEY
ST. MARTIN'S GRANGE
QUEEN STREET
GILLINGHAM
DORSET
SP8 4DZ

NOVEMBER 2017

ON BEHALF OF MAGNA HOUSING LTD.

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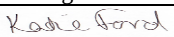
Report prepared by:	Katie Ford	08.11.17	
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SUMMARY

1. Lindsay Carrington Ecological Services Limited were commissioned by Magna Housing Limited to conduct an ecological appraisal at St. Martin's Grange, Queen Street, Gillingham, Dorset, SP8 4DZ (Grid Ref: ST 80677 26695) in relation to the proposed larger alternative care home facility development.

2. An ecological appraisal is essentially a multi-disciplinary walk-over survey and was conducted with the objective of identifying any ecological constraints associated with the proposals such as the site's potential to support any legally protected species or habitats of high nature conservation value.

3. The site comprised a dilapidated barn, a bungalow, a wooden shed and two houses, areas of semi-improved grassland, scrub, tall ruderal, scattered trees, ornamental planting, ephemeral/short perennial, woodland, a hedgerow, rubble piles and brash piles. A stream runs along the eastern site boundary.

4. Building 1 was considered to hold low potential to support roosting bats, whilst buildings 2 and 3 were considered to hold moderate potential to support roosting bats. Further recommendations have been made in section 5.1.

5. Buildings 4 and 5 were assessed as holding negligible potential to support roosting bats. No further recommendations have been made with regards to these buildings.

6. A single horse chestnut tree was assessed as holding low potential to support roosting bats. Further recommendations have been made in section 5.1.

7. The woodland, hedgerow, scattered trees, and scrub habitat provide suitable habitat for nesting birds. Further recommendations have been made in section 5.2.

8. The semi-improved grassland, scrub, tall ruderal, woodland, brash and rubble piles provide suitable habitat for reptiles. Further recommendations have been made in section 5.3.

9. A stream runs along the eastern boundary of the site. This stream may support populations of otters or water-voles. Recommendations have been made in section 5.4.

10. Recommendations to enhance the biodiversity of the site have been made in section 5.5.

1.0 INTRODUCTION

Lindsay Carrington Ecological Services Limited were commissioned by Magna Housing Ltd. to conduct an ecological appraisal at St. Martin's Grange, Queen Street, Gillingham, Dorset, SP8 4DZ (Grid Ref: ST 80677 26695). The survey was undertaken to support a planning application to demolish the current care home buildings and construct a larger alternative care home facility. Concept development plans can be seen in appendix III.

An ecological appraisal is essentially a multi-disciplinary walk-over survey and was conducted with the objective of identifying any ecological constraints associated with the proposals such as the site's potential to support any legally protected species or habitats of high nature conservation value.

Section 2 of the report provides some background information on legislative requirements and relevant policy. Section 3 details the methodologies adopted for the ecological surveys that were conducted and section 4 provides an account of the survey results. Section 5 provides information on the relevance of the results to the proposed development and makes recommendations for measures to mitigate and compensate for the effects on a particular habitat or species.

2.0 LEGISLATION AND POLICY

2.1 Legislation

The following legislation may be of relevance to the proposed works. Full details of statutory obligations with respect to biodiversity and the planning system can be found in DCLG Circular 06/2005.

- **The Conservation of Habitats and Species Regulations 2010:**
  This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into domestic law. The Regulations provide protection for a number of species including:
    - All species of bat;
    - Dormouse;
    - Otter; and
    - Great crested newt.

  This legislation makes it an offence to deliberately capture, kill or injure individuals of these species listed on Schedule 2 and damage or destroy their breeding site or place of shelter. It is also illegal to deliberately disturb these species in such a way as to be likely to significantly affect: (i) the ability of any significant group of the species to survive, breed or rear or nurture their young; or (ii) the local distribution or abundance of the species[1];

  This legal protection means that where development has the potential to impact on bats, or other European protected species, the results of a protected species survey must be submitted with a planning application.

  Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are also protected under this legislation. These are a network of sites designated for supporting habitats or species of high nature conservation importance in the European context. Any activity that has a detrimental effect on these European sites is made an offence under the Regulations. Where a development is likely to have a significant impact on a European site, the Regulations require a rigorous assessment of the impacts, known as an Appropriate Assessment.

- **The Wildlife and Countryside Act 1981 (and amendments):** Protected fauna and flora are listed under Schedules 1, 5 & 8 of the Act. Species likely to be of relevance include:

[1] Note that the amendment to the Habitats Regulations in August 2007 and January 2009 has resulted in an increase in the threshold of illegal levels of disturbance to European Protected Species (EPS). An offence is only committed if the deliberate disturbance would result in significant impacts to the EPS population. However, it should be noted that activities that cause low levels of disturbance to these species continue to constitute an offence under Section 9 of the Wildlife and Countryside Act (see below).

- All species of **bat.** It is an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost;
- All species of British **reptile** (in particular grass snake, common lizard, adder and slow-worm). It is illegal to kill or injure these species; and
- **Great crested newt.** It is illegal to obstruct access to any structure or place which great crested newts use for shelter or protection or to disturb any great crested newt while it is using such a place.
- **Water vole.** It is an offence to intentionally kill, injure or take water vole, intentionally or recklessly damage, destroy, obstruct access to water vole burrows or disturb them whilst in a burrow.

This Act also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built). In addition, it is an offence to disturb any nesting bird listed on Schedule 1 or their young.

Schedule 9 of the Act lists those species for which it is an offence to cause their spread. Schedule 9 species that are most likely to be encountered are Japanese knotweed (*Fallopia japonica*) and New Zealand pigmyweed (*Crassula helmsii).*

Sites of Special Scientific Interest (SSSIs) are also protected under the Wildlife and Countryside Act 1981. These are a network of sites identified as being of national nature conservation importance and hence afforded legal protection.

- **The Countryside and Rights of Way Act 2000:** This Act strengthens nature conservation and wildlife protection. It places a duty on Government Ministers and Departments to conserve biological diversity, provides police with stronger powers relating to wildlife crimes, and improves protection and management of SSSIs.

- **The Protection of Badgers Act 1992:** This Act makes it an offence to wilfully take, injure or kill a badger (*Meles meles*); cruelly mistreat a badger; interfere with badger setts. A licence is required for work which may damage or disturb a sett.

- **Wild Mammals (Protection) Act 1996:** This Act provides protection for all wild animals from intentional acts of cruelty.

- **Hedgerow Regulations 1997:** These Regulations establish a set of criteria for assessing the importance of hedgerows. Where a hedgerow is deemed to be 'important' its removal is prohibited without consent from the local Planning Authority

2.2 Policy

The following policy is of relevance to the proposed works:

- **National Planning Policy Framework (NPPF):** This sets out the Government's vision for biodiversity in England with the broad aim that planning, construction, development and regeneration should maintain and enhance, restore or add to biodiversity and geological conservation interests. NPPF includes sections on legally protected species and sites (see Section 2.1).

- **Local Sites (including Sites of Nature Conservation Interest (SNCIs), Local Nature Reserves (LNR), and Biological Notification Sites (BNSs)/County Wildlife Sites (CWSs)):** These are a network of sites designated for their nature conservation importance in a local context. Although they are not afforded legal protection they contribute towards local and national biodiversity. Where such development is permitted, the local planning authority will use conditions and/or planning obligations to minimise the damage and to provide compensatory and site management measures where appropriate.

- **Biodiversity Action Plans (BAPs):** BAPs set out policy for protecting and restoring priority species and habitats as part of the UK's response as signatories to the Convention on Biological Diversity. BAPs operate at both a national and local level with priority species and habitats identified at a national level and a series of Local BAPs that identify ecological features of particular importance to a particular area of the country. The requirement to consider and contribute towards BAP targets was strengthened through the Countryside and Rights of Way Act 2000. Habitat and Species Action Plans that are likely to be of relevance include:

    - Otter (UK BAP)
    - Reptiles (UK BAP)
    - Brown long-eared bat (UK BAP)
    - Soprano pipistrelle (UK BAP)

3.0 METHODOLOGY

3.1 Desk study

Dorset Environmental Records Centre (DERC) and Lindsay Carrington Ecological Services (LCES) in-house database provided protected species records within 2 kilometres of the site and details on non-statutory designated sites. The Multi-Agency Geographical Information for the Countryside (MAGIC) website was used to provide any information statutory designated sites within 5 kilometres of the proposed development.

3.2 Field study

3.2.1 Vegetation

The standard phase 1 habitat survey methodology (JNCC, 2010) was adopted whereby habitats are mapped using colour codes (appendix I). A detailed walkover survey was undertaken on 25th October 2017 by Katie Ford and Aimee Cokayne, directly searching for legally protected and invasive species of plant and categorising any habitats of ecological value that were encountered. A general description of the vegetation was also noted, listing species encountered and scoring their abundance using the DAFOR scale:

D Dominant;
A Abundant;
F Frequent;
O Occasional;
R Rare;
L Local (used as a prefix to any of the above).

3.2.2 Protected species assessment

Badgers

A direct search was undertaken for signs of badgers. Signs of badgers may include setts, dung pits, latrines, paths or hairs on fences and vegetation. Any setts encountered were classified according to the number of entrances and the extent of their use.

Bats

Buildings

Bats roost in a wide variety of sites within buildings, with many species roosting in cracks and crevices, within brick work, under slates and tiles, and within timber beam joints where they are difficult to see.

Bats often access roosts at key areas such as the gable end, soffits, barge boards, ridge tiles, between double lintels, around window frames, through open joints in the brickwork or broken tiles through open doors / entrances to the buildings.

The presence of roosting bats can be spotted through signs such as accumulations of moth or butterfly wings, staining, bat droppings, or bats themselves. The absence of these cannot, however, be treated as conclusive evidence that bats are not using the buildings. An assessment was therefore also made of the potential of the building to support bats based on the following scale:

Table 1: Criteria for assessing bat roosting potential of buildings

Confirmed Roost	Evidence of bat occupation recorded
High Roosting Potential	With significant roosting potential, either because they contain a large number of suitable features or those features present appear optimal
Medium Roosting Potential	Features with moderate roosting potential, with roosting features appearing less suitable
Low or Negligible Roosting Potential	Buildings with few, if any, features suitable for roosting

Limitations and constraints

An internal survey was not undertaken on building 4 as permission was not obtained for internal access. Therefore, an external survey was undertaken on the building. Additionally, building 3 was only surveyed externally due to health and safety concerns regarding the state of the building. However, since building 3 does not contain an internal roof void, an external survey is considered sufficient to gage the levels of potential to support roosting bats in this case.

Trees

Bats often roost in trees. Features such as old woodpecker holes, splits, cavities and rot holes, loose or flaking bark and ivy creepers will be exploited by bats to roost. Any trees present on site were therefore assessed for their potential to support roosting bats by searching for such features. The presence of roosting bats can be spotted through signs such as accumulations of moth or butterfly wings, staining, bat droppings, or bats themselves. The absence of these cannot, however, be treated as conclusive evidence that bats are not present, and therefore an assessment was made of the potential of the trees to support bats based on the scale presented in table 2 below, adapted from the Good Practice Guidelines (Collins, 2016).

Table 2: Criteria for assessing bat roosting potential of trees

Confirmed Roost	Evidence of bat occupation found
High Roosting Potential	Trees with multiple, highly suitable features capable of supporting larger roosts or with evidence of bat occupation found
Moderate Roosting Potential	Trees with definite bat potential, supporting fewer suitable features than high roosting potential trees or with potential for use by single bats
Low or Negligible Roosting Potential	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found or the tree supports some features which may have limited potential to support bats or trees with no potential to support bats

Dormice

The habitat on the site was assessed for the potential to support dormice (*Muscardinus avellanarius*), which are found in habitats such as woodlands, scrub and hedgerows with good connectivity and suitable food plants. A visual inspection for their distinctive nests was undertaken. Where fruiting hazel (*Corylus avellana*) is present nuts are checked for dormice distinctive opening holes. Satellite images were used to assess the connectivity of any suitable habitat present on the site to other areas of woodland and hedgerow networks.

Great crested newts

Suitable breeding ponds are essential to support populations of great crested newt (*Triturus cristatus*) although they actually only spend a relatively short period of the year in the ponds during the spring for breeding. The remainder of the year is spent in suitable 'foraging' terrestrial habitat such as tall grassland and woodland. During the winter the great crested newt hibernates, often amongst the roots of trees and scrub or in places such as piles of rubble, amongst foundations of buildings or under fallen trees and logs.

Great crested newts are known to forage up to at least five hundred metres from their breeding pond and suitable habitats that fall within two hundred and fifty metres must be considered even in situations where the breeding pond itself will not be affected. The site and surrounding area was assessed for the presence of ponds that would be suitable breeding habitat for great crested newts during the phase 1 habitat survey. Suitable terrestrial habitat was also assessed.

Otters

Otters (*Lutra lutra*) are secretive and generally confined to watercourses, wetlands and coastal areas. They can have territories extending up to 20 kilometres and will use a variety of habitats such as cavities in tree root systems, dense bramble patches and reedbeds for the establishment of holts (breeding sites) and resting areas. They forage on fish, crayfish, birds and amphibians. Further specialist surveys will be recommended for

proposals that are considered likely to lead to disturbance of otters or damage to an otter's place of shelter.

Reptiles

Reptiles are widespread in habitats that provide both cover, in the form of scrub or tall vegetation, and basking areas such as areas of hard standing or short grassland communities. Piles of debris or rubble also provide excellent cover and hibernation sites for reptiles. The site was assessed for any suitable habitat able to support reptile species during the phase 1 habitat survey.

Water voles

Water voles (*Arvicola amphibius*) occur mainly along well vegetated banks of slow flowing rivers, ditches, dykes and lakes with little shading. Water voles excavate extensive burrow systems into the banks of waterways. They forage on grasses, reeds, rushes and bark, and steep earth banks are preferred for burrowing. Suitable waterbodies within 5 metres of the site are visually assessed for suitability to support water voles. Any field signs such as burrows, latrines and feeding stations are noted. Further specialist surveys will be recommended where appropriate.

4.0 RESULTS

4.1 Desk study

Statutory and non-statutory sites

Table 3 below lists statutory designated sites within a five kilometre radius and non-statutory sites within two kilometres of the site boundary.

Table 3: Statutory designated sites within a five kilometre radius and non-statutory sites within a two kilometre radius of St. Martin's Grange, Gillingham.

Site name	Conservation status	Distance and direction from site (km)	Size (Ha)	Habitat description
Culver's Farm	SINC[2]	1.7 south west	1.01	Notified as a west-facing slope of limestone grassland
King's Court Wood	SINC	1.7 east	22.16	A large oak and ash woodland

No designated statutory sites were found within a five-kilometre radius of the development site. There are two non-statutory sites (SINC's) within 2 kilometres of the site boundary, however due to the size of the proposed development and the distance between the proposed development site and the designated sites no adverse impacts on the designated sites are anticipated.

Protected species records

Records of protected species within a two-kilometre radius of the site were collected from Dorset Environmental Records Centre and are presented in table 4 below.

Table 4: Protected and notable species within a two-kilometre radius of St. Martin's Grange

Common Name	Scientific name	Status	Dates
Amphibians and reptiles			
Great crested newt	*Triturus cristatus*	Schedule 5 WCA[3], Schedule 2 Habs Regs[4], UKBAP[5]	8 records dated between 2005 to 2012

[2] SINC: Sites of Importance for Nature Conservation
[3] WCA: Wildlife and Countryside Act 1981 (as amended)
[4] Habs Regs: Conservation of Habitats and Species Regulations 2010
[5] UK BAP: UK Biodiversity Action Plan

Common Name	Scientific name	Status	Dates
Adder	*Vipera berus*	Schedule 5 WCA, UKBAP	1 record dated 2013
Birds			
Common sandpiper	*Actitis hypoleucos*	Amber list BoCC[6]	3 records dated between 2006 and 2008
Kingfisher	*Alcedo atthis*	Schedule 1 WCA, Annex 1[7], Amber List BoCC	4 records between 2005 and 2006
Swift	*Apus apus*	Amber List BoCC	3 records dated between 2005 and 2008
Cuckoo	*Cuculus canorus*	Red List BoCC, UK BAP	3 records dated between 2005 and 2008
House martin	*Delichon urbicum*	Amber List BoCC	2 records dated 2006 and 2008
Little egret	*Egretta garzetta*	Annex 1	3 records dated between 2006 and 2008
Reed bunting	*Emberiza schoeniclus*	Amber List BoCC, UK BAP	1 record dated 2008
Kestrel	*Falco falco*	Amber List BoCC	3 records dated between 2005 and 2008
Peregrine	*Falco peregrinus*	Schedule 1 WCA, Annex 1, Red List BoCC	5 records dated between 2006 and 2008.
Hobby	*Falco subbuteo*	Schedule 1 WCA	19 records dated between 2005 and 2008.
Red kite	*Milvus milvus*	Schedule 1 WCA, Annex 1, Amber List BoCC	1 record dated 2007.
Grey wagtail	*Motacilla cinerea*	Red List BoCC	3 records dated between 2005 and 2008.
Redstart	*Phoenicurus phoenicurus*	Amber List BoCC	1 record dated 2006
Willow warbler	*Phylloscopus trochilus*	Amber List BoCC	2 records dated 2006
Dunnock	*Prunella modularis*	Amber List BoCC, UK BAP	3 records dated 2012
Bullfinch	*Pyrrhula pyrrhula*	Amber List BoCC, UK BAP	1 record dated 2012
Mistle thrush	*Turdus viscivorus*	Red List BoCC	2 records dated 2006
Barn owl	*Tyto alba*	Schedule 1 WCA	2 records dated between 2006 and 2008
Mammals – bats			

[6] BOCC: Bird of Conservation Concern
[7] Annex 1: Species listed under Annex 1 of the Birds Directive

Common Name	Scientific name	Status	Dates
Western barbastelle	*Barbastella barbastellus*	Annex 2[8], Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	1 record dated 2015.
Serotine	*Eptesicus serotinus*	Schedule 2 Habs Regs, Schedule 5 WCA	14 records dated 2005 and 2015
Noctule	*Nyctalus noctula*	Schedule 2 Habs Regs, Schedule 5 WCA	4 records dated 2015
Common pipistrelle	*Pipistrellus pipistrellus*	Schedule 2 Habs Regs, Schedule 5 WCA	14 records dated between 2005 to 2015
Soprano pipistrelle	*Pipistrellus pygmaeus*	Schedule 2 Habs Regs, Schedule 5 WCA	6 records dated between 2005 and 2015
Pipistrelle sp.	*Pipistrellus* sp.	Schedule 2 Habs Regs, Schedule 5 WCA	6 records dated between 2005 and 2010
Brown long-eared bat	*Plecotus auritus*	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	1 records dated 2009
Long-eared bat species	*Plecotus sp.*	Schedule 2 Habs Regs, Schedule 5 WCA	7 records dated between 2009 and 2013.
Mammals – Terrestrial (non-bats)			
Water vole	*Arvicola amphibius*	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	27 records dated between 2006 and 2014
West European hedgehog	*Erinaceus europaeus*	UK BAP	21 records dated 2005 and 2006.
Brown hare	*Lepus europaeus*	UK BAP	7 records dated between 2005 and 2009
European otter	*Lutra lutra*	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	13 records dated 2005 and 2015
Eurasian badger	*Meles meles*	PBA[9]	19 records dated 2005 and 2014
Hazel dormouse	*Muscardinus avellanarius*	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	1 record dated 2005
Invertebrates (Lepidoptera)			
Small blue	*Cupido minimus*	Schedule 5 WCA	2 records dated 2011

[8] Annex 2: Species listed under Annex II of the Habitats Directive (Directive 92/43/EEC)
[9] PBA: Protection of Badgers Act

Common Name	Scientific name	Status	Dates
Marsh fritillary	*Euphydryas aurina*	Schedule 2 Habs Regs, Schedule 5 WCA	1 record dated 2011
Wood white	*Erynnis tages*	Schedule 5 WCA	1 record dated 2006

These records of protected and notable species in the vicinity of the site increase the likelihood of them being present where suitable habitat is identified in the field survey.

4.2 Field survey

4.2.1 Vegetation

The accompanying phase 1 habitat map provided as appendix I depicts the habitats encountered and highlights areas of particular interest with target notes.

The site comprises five buildings and surrounding hard standing, with tussocky semi-improved grassland, ephemeral/short perennial, scrub, ornamental planting, a hedgerow and tall ruderal. Scattered trees were present along the eastern boundary. The site is bordered in the east by a fast-flowing stream.

Descriptions of these habitats are provided below:

Semi-improved grassland (Target note 1)

The majority of the site comprises semi-improved grassland. The grassland was tussocky, with a long sward height. Species recorded included abundant Yorkshire-fog (*Holcus lanatus*), occasional perennial rye-grass (*Lolium perenne),* frequent cock's-foot (*Dactylis glomerata*) and locally abundant false oat-grass (*Arrhenatherum elatius*). A full species list is provided in table 5 below.

Table 5: Plant species recorded within the semi-improved grassland

Common name	Latin name	Abundance	Status
Grasses, ferns and mosses			
Bent sp.	*Agrostis sp.*	A	Common & widespread
False oat-grass	*Arrhenatherum elatius*	LA	Common in meadows & on road verges
Cock's-foot	*Dactylis glomerata*	F	Common & widespread
Yorkshire-fog	*Holcus lanatus*	F	Common & widespread
Perennial rye-grass	*Lolium perenne*	O	Common & widespread
Herbaceous plants			
Yarrow	*Achillea millefolium*	LF	Common & widespread
Cow parsley	*Anthriscus sylvestris*	LO	Common on roadsides, hedge banks & woodland borders
Creeping thistle	*Cirsium arvense*	LO	Common & widespread

Common name	Latin name	Abundance	Status
Cleavers	*Galium aparine*	O	Common & widespread
Herb-Robert	*Geranium robertianum*	LO	Common & widespread
Hogweed	*Heracleum sphondylium*	O	Common & widespread
Cat's-ear	*Hypochaeris radicata*	LO	Common in meadows, grasslands, not usually on very calcareous soils
Autumn hawkbit	*Leontodon autumnalis*	LO	Common & widespread
Common mallow	*Malva sylvestris*	O	Common on roadsides, wasteland & hedge banks
Barren strawberry	*Potentilla sterilis*	LF	Locally frequent on mountain grasslands & rocks
Creeping buttercup	*Ranunculus repens*	LA	Common & widespread
Common sorrel	*Rumex acetosa*	O	Common in grasslands & open woodlands
Broad-leaved dock	*Rumex obtusifolius*	O	Common & widespread
Common ragwort	*Senecio jacobaea*	O	Common & widespread
Prickly sow-thistle	*Sonchus asper*	LF	Common & widespread
Dandelion	*Taraxacum agg.*	F	Common & widespread
Germander speedwell	*Veronica chamaedrys*	LF	Common & widespread

Species present within the semi-improved grassland are common and widespread, this habitat was found to have limited botanical interest. However, the semi-improved grassland does provide suitable habitat for reptiles. Further recommendations have been made in section 5.3.

Scrub (Target note 2)

Several areas of scrub are present within the site, mainly along the eastern and the north-eastern site boundary. Species within this habitat include locally dominant bramble (*Rubus fruticosus agg.*), and locally frequent cock's-foot, Yorkshire-fog and ivy (*Hedera helix*). A full species list can be seen in table 6 below:

Table 6: Plant species recorded within the scrub

Common name	Latin name	Abundance	Status
Grasses, ferns and mosses			
Pendulous sedge	*Carex pendula*	O	Common in woodlands on base-rich, heavy clay soils
Cock's-foot	*Dactylis glomerata*	LF	Common & widespread
Yorkshire-fog	*Holcus lanatus*	LF	Common & widespread
Herbaceous plants			
Butterfly bush	*Buddleja davidii*	LO	Non-native, invasive
Pampas grass	*Cortaderia sp.*	LO	Non-native
Willowherb sp.	*Epilobium sp.*	O	Common & widespread
Ivy	*Hedera helix*	LF	Common & widespread

Common name	Latin name	Abundance	Status
Bramble	*Rubus fruticosus agg.*	LD	Common & widespread
Common nettle	*Urtica dioica*	LO	Common & widespread
Trees and shrubs			
Hazel	*Corylus avellana*	LO	Common & widespread, on less acid soils

Species within the scrub are common and widespread. However, the scrub does provide suitable habitat for nesting birds and reptiles. Further recommendations have been made in sections 5.2 and 5.3 respectively.

Tall ruderal (Target note 3)

An area of tall ruderal is present along the north-eastern boundary of the site, adjacent to some scattered trees and the stream and along the southern boundary of the site. Species within this area include locally dominant creeping buttercup (*Ranunculus repens*) and locally abundant bramble. As the area is unmanaged, regeneration of trees has occurred, saplings present include locally abundant ash (*Fraxinus excelsior*) and horse chestnut (*Aesculus hippocastanum*). A full species list is presented in table 7.

Table 7: Plant species recorded within the tall ruderal

Common name	Latin name	Abundance	Status
Grasses, ferns and mosses			
Pendulous sedge	*Carex pendula*	LO	Common in woodlands on base-rich, heavy clay soils
Yorkshire-fog	*Holcus lanatus*	LF	Common & widespread
Herbaceous plants			
Creeping thistle	*Cirsium arvense*	LO	Common & widespread
Spear thistle	*Cirsium vulgare*	LO	Common & widespread
Willowherb sp.	*Epilobium sp.*	LO	Common & widespread
Cleavers	*Galium aparine*	LO	Common & widespread
Ivy	*Hedera helix*	LF	Common & widespread
Autumn hawkbit	*Leontodon autumnalis*	LF	Common & widespread
Creeping buttercup	*Ranunculus repens*	LD	Common & widespread
Bramble	*Rubus fruticosus agg.*	LA	Common & widespread
Common sorrel	*Rumex acetosa*	LR	Common in grasslands & open woodlands
Curled dock	*Rumex crispus*	LO	Common & widespread
Broad-leaved dock	*Rumex obtusifolius*	O	Common & widespread
Bittersweet	*Solanum dulcamara*	LO	Common & widespread
Marsh woundwort	*Stachys palustris*	LO	Common on streamside and marshes
Common nettle	*Urtica dioica*	LO	Common & widespread
Trees and shrubs			
Horse chestnut (seedlings)	*Aesculus hippocastanum*	LA	Common & widespread
Ash (seedlings)	*Fraxinus excelsior*	LA	Common & widespread

Species within the tall ruderal are common and widespread. The habitat provides limited potential habitat for reptiles. Further recommendations have been made in section 5.3.

Ephemeral/short perennial (Target note 4)

Ephemeral and short perennial species have colonised hard standing consisting as one of the building present south of the site, which has been dismantled and its foundations left in situ. Species within the area include locally dominant dove's-foot crane's-bill (*Geranium mole*), abundant Yorkshire-fog, locally abundant bramble and locally frequent barren brome (*Anisantha sterilis*) and cut-leaved crane's-bill (*Geranium dissectum*). A full species list is presented in table 8.

Table 8: Species recorded within the ephemeral/short perennial vegetation

Common name	Latin name	Abundance	Status
Grasses, ferns and mosses			
Barren brome	*Anisantha sterilis*	LF	Common on dry hedge banks, waste ground & roadsides
Common yellow sedge	*Carex viridula*	LO	Common & widespread
Yorkshire-fog	*Holcus lanatus*	LA	Common & widespread
Annual meadow-grass	*Poa annua*	O	Abundant in grasslands, cultivated ground & waste ground
Herbaceous plants			
Butterfly bush	*Buddleja davidii*	O	Non-native
Wavy bittercress	*Cardamine flexuosa*	O	Common in damp habitats, stream sides, wasteland & gardens
Spear thistle	*Cirsium vulgare*	R	Common & widespread
Cleavers	*Galium aparine*	LO	Common & widespread
Dove's-foot crane's-bill	*Geranium molle*	LD	Common & widespread
Cut-leaved crane's-bill	*Geranium dissectum*	LF	Common & widespread
Autumn hawkbit	*Leontodon autumnalis*	O	Common & widespread
Forget-me-not sp.	*Myosotis sp.*	LR	Common & widespread
Bramble	*Rubus fruticosus agg.*	LA	Common & widespread
Broad-leaved dock	*Rumex obtusifolius*	O	Common & widespread
Prickly sow-thistle	*Sonchus asper*	R	Common & widespread
Common nettle	*Urtica dioica*	LO	Common & widespread
Common field speedwell	*Veronica persica*	O	Common on arable & wasteland

Species present within the ephemeral/short perennial vegetation are common and widespread. No further recommendations have been made.

Scattered trees (Target note 5)

Scattered trees were recorded mainly along the eastern boundary of the site. These include native species such as ash, and ornamental tree species including apple (*Malus sp.*) and butterfly bush (*Buddleja davidii*). A full species list is presented below in table 9.

Table 9: Species within the scattered trees

Common name	Latin name	Status
Trees and shrubs		
Sycamore	*Acer pseudoplatanus*	Introduced, common on richer soils
Horse chestnut	*Aesculus hippocastanum*	Common & widespread
Butterfly bush	*Buddleja davidii*	Non-native, invasive
Hazel	*Corylus avellana*	Common & widespread, on less acid soils
Leylandii species	*Cypressus x leylandii*	Non-native, ornamental
Ash	*Fraxinus excelsior*	Common & widespread
Holly	*Ilex aquifolium*	Common on drier soils
Apple	*Malus sp.*	Cultivar, ornamental
Cherry	*Prunus sp.*	Cultivar, ornamental
Willow species	*Salix sp.*	Common & widespread in damp habitats
Elder	*Sambucus nigra*	Common on nutrient-enriched soils

The scattered trees are common and widespread species; however, they do provide suitable habitat for nesting birds. Recommendations have been made in section 5.2. Additionally, a horse chestnut tree was identified as holding potential to support roosting bats. Further recommendations have been made in section 5.1.

Hardstanding (Target note 6)

Colonised hard standing is present in the south west of the site and surrounds the buildings in the form of pathways and parking areas. Vegetation has grown within gaps. Species include locally frequent daisy (*Bellis perennis*) and occasional annual meadow-grass (*Poa annua*), and dandelion (*Taraxacum agg.*). A full species list is presented in table 10.

Table 10: Species recorded within the colonised hardstanding

Common name	Latin name	Abundance	Status
Grasses, ferns and mosses			
Annual meadow-grass	*Poa annua*	O	Abundant in grasslands, cultivated ground & waste ground
Herbaceous plants			
Daisy	*Bellis perennis*	LF	Common & widespread

Red valerian	*Centranthus ruber*	LO	Ornamental plant
Smooth hawk's-beard	*Crepis capillaris*	O	Common & widespread
Wood-sorrel	*Oxalis acetosella*	O	Common in shady, dry woodlands
Common ragwort	*Senecio jacobaea*	O	Common & widespread
Dandelion	*Taraxacum agg.*	O	Common & widespread

The species are common and widespread and hold little ecological value. No further recommendations have been made.

Ornamental planting (Target note 7)

Small areas of ornamental planting are located around building 1. Species within this habitat include locally frequent Yorkshire-fog, forsythia species (*Forsythia sp.*) and cleavers (*Galium aparine*). A full species list is presented in table 11 below.

Table 11: Species recorded within the ornamental garden

Common name	Latin name	Abundance	Status
Grasses, ferns and mosses			
Yorkshire-fog	*Holcus lanatus*	LF	Common & widespread
Herbaceous plants			
Butterfly bush	*Buddleja davidii*	LO	Non-native, invasive
Sun spurge	*Euphorbia helioscopia*	LO	Common on dry disturbed grassland, arable & wasteland
Forsythia	*Forsythis sp.*	LF	Ornamental plant
Cleavers	*Galium aparine*	LF	Common & widespread
Climbing rose	*Rosa sp.*	O	Ornamental plant
Thyme	*Thymus vulgaris*	R	Ornamental plant
Vibernum	*Vibernum sp.*	O	Ornamental plant
Trees and shrubs			
Sycamore	*Acer pseudoplatanus*	R	Introduced, common on richer soils

Ornamental species are either common and widespread or non-native. However, the ornamental planting does provide suitable habitat for nesting birds. Further recommendations have been made in section 5.2.

Stream (Target note 8)

The stream is located on the eastern boundary of the site. It is approximately 1 – 1.5 metres wide and fast flowing with fairly steep-sided earth banks, although the northern most section has re-enforced stone banks. Ivy has colonised part of the banks and trees including sycamore (*Acer pseudoplatanus*), willow (*Salix sp.*), ash (*Fraxinus excelsior*), elder (*Sambucus nigra*), holly (*Ilex aquifolium*), and horse chestnut (*Aesculus hippocastanum*) are growing alongside the stream, which causes shading.

The stream provides suitable habitat for otters and water voles. Further recommendations have been made in section 5.4.

Deciduous woodland strip (Target note 9)

Two mixed woodland strips are located east of building 4, within the grassland. Species present include leylandii (*Cypressus x leylandii*), elder (*Sambucus nigra*), pine species (*Pinus sp*.), bramble, willow (*Salix sp*.), ivy (*Hedera helix*), and apple species (*Malus sp*.).

The woodland strip provides suitable sheltering habitat for reptiles and suitable habitat for nesting birds. Further recommendations have been made in sections 5.2 and 5.3.

Hedgerow (Target note 10)

A hedgerow is present to the west of building 1. The species present consists of dominant leylandii and yew (*Taxus baccata*).

The hedgerow provides suitable habitat for nesting birds. Further recommendations have been made in section 5.2.

Rubble piles (Target note 11)

Several rubble piles are present to the east of building 2. These are from the remains of a building which has since been demolished.

The rubble piles provide suitable habitat for reptiles. Further recommendations have been made in section 5.3.

Brash pile (Target note 12)

A brash pile is present in the north of the site.

The brash pile provides potential hibernacula for reptiles. Further recommendations have been made in section 5.3.

4.2.2 Protected species assessment

Badgers

DERC returned 19 records of badgers within the surroundings of the site. However, no evidence of badgers, including setts, dung pits, latrines, paths or fur, was identified at the time of the survey within the immediate surroundings of the site.

It is therefore considered that badgers are not currently using the site. No further action is recommended.

Bats

Buildings (Target note 13-17)

The phase 1 map provided in appendix I illustrates the locations of the buildings on site and a description of each has been provided below. Four buildings are present on site, including two 2-storey buildings previously used as care home accommodation, a bungalow and a barn. The following was noted about the buildings:

Building 1 – Care home accommodation (Target note 13)

External

- The building is a two storey, u-shaped construction with brick elevations, and a pitched roof of inter-locking clay tiles.
- There is a flat-roofed dormer section on the southern elevation with lead flashing around the pitched roof and dormer section.
- The dormer section is also covered in wooden hanging tiles that are well-sealed.
- There are four brick chimneys, near each corner of the building, all have lead flashing in a good condition.
- The soffit boxes are wooden and in a good condition.
- The window frames are a mixture of metal and uPVC.
- There is a single storey section to this building, on the northern elevation that is linked to the main building; the elevations are brick and the roof comprises inter-locking clay tiles and flumes with lead flashing.

Internal

An internal survey was undertaken; one roof void was accessible. No other voids are accessible.

- The void is L-shaped with a queen-trussed wooden frame 3.5 metres at the apex and 10 meters in length and 8 metres in width.
- An internal rendered brick chimney is present on the northern elevation of the void.
- There are two water tanks located along the east and north-western elevations.
- The loft space is partially boarded.
- Fibreglass insulation was present throughout the void with older fibreglass insulation present underneath the newer insulation.
- Bitumen felt lining is present within the void. This is generally in good condition apart from two rips near the light gaps on the southern elevation.
- There is a light scattering of cobwebs throughout the void.

Building 2 - Education Centre (Target note 14)

External

- A 2/3 storey building with the third storey having been built into the roof space is present.
- The roof has clay tiles and a dual pitched roof with a third pitch running east to west.
- There are three brick chimneys with lead flashing present.
- The window frames and doors are wooden and in poor condition and there are wooden eaves on all elevations and wooden fascias on the western elevation.
- Birds nest were seen under the eaves on the western elevation.
- There is an outside storage area which comprises a single storey extension on the southern elevation with clay tiles and ridge, wooden doors and chipboard internal insulation.

Internal

The building contains five roof voids, and five flank voids.

Flank voids

- All flank voids were of similar construction.
- Voids measured approximately 1.5 metres in length, 1.5 metres in width and 1.5 metres in height at the apex.
- The voids are mono-pitched.
- Wooden sarking and boarding is present within the voids.
- A light scattering of cobwebs is present in all the voids.
- Due to the presence of wasps in one of the flank voids, a thorough inspection was not undertaken in this void.

Roof Voids

Appendix II shows the location of the roof voids within the building.

Void 1

- The void measures approximately 7 metres in length, 1.5 metres in width and 0.5 metres in height.
- Wooden beams and sarking is present within the void.
- Access to the void is limited due to size of roof void.
- Fibreglass insulation was recorded piled up on the southern side of the void.

Void 2

- The void measures approximately 6 metres in length, 1.5 metres in width and 1.5 metres at the apex.
- The void has a pitched roof.
- An internal brick chimney is present along the eastern elevation.
- Wooden beams and wooden sarking are present.
- There was limited access due to no boarding and electrical wiring across the void.
- There is an open grill on the western elevation of the void.
- Fibreglass insulation in good condition is present throughout the void.

Void 3

- The void measures approximately 6 metres in length, 2 metres in width and 1.5 metres at the apex.
- A grill is present on the eastern elevation.
- Fibreglass insulation is present throughout the void, this is in moderate condition.
- An internal chimney breast is present on the western elevation. A gap is present in the brickwork of the chimney.
- Wiring is present throughout the void.
- Wooden beams are present within the void.
- A light scattering of cobwebs is present throughout the void.

Void 4

- The void measures approximately 1.5 metres at apex, 6 metres in length and 2 metres in width.
- A brick chimney is present on the eastern elevation.
- An open grill is present on the western elevation.
- Access to the void was limited as the void is not boarded.
- Fibreglass insulation is present throughout the void, in good condition.

Void 5

- The void measures approximately 1.5 metres at apex, 3 metres in width and approximately 20 metres in length
- Grills are present within the northern and southern elevations
- Wooden beams are present of a typical truss design.
- Wooden sarking is present within the void.
- Fibreglass insulation of varying ages, mainly in good condition, is present within the void.
- Access to the void was limited due to a lack of boarding.

Building 3 – Barn (Target note 15)

- Single storey barn with stone elevations and a pitched roof of clay inter-locking tiles.

- The building has partially collapsed and there are tiles missing from the southern elevation.
- The whole building is covered in a very thick layer of ivy making it difficult to determine gaps/holes underneath the vegetation.
- Access to the building was limited due to the dilapidated nature of the building and the thick vegetation surrounding the building.

Building 4 – Bungalow (Target note 16)

- Single storey bungalow with brick elevations and a pitched roof with inter-locking clay tiles and a concrete roof ridge. The tiles are all well-sealed.
- There is a mixture of wooden and uPVC soffit boxes on the western and northern elevations and the guttering is also plastic.
- The window frames are wooden and there is a plastic door on the western elevation.
- Internal access was not available.

Building 5 – wooden shed (Target note 17)

- A single storey wooden shed is present to the east of building 4.
- The elevations are of wood construction.
- The roof is pitched and of wood construction covered in roofing felt.
- A wooden door is present on the northern elevation.

External survey

No evidence of bats was encountered during the external survey despite a thorough inspection.

Internal survey

No evidence of bats was encountered during the internal surveys. However, access into the roof voids of buildings was limited due to a lack of boarding. Additionally, no internal access was possible for building 4.

Assessment of bat potential

Several roosting opportunities and access points were available for bats within the buildings and these are described in table 12 below.

Table 12: Summary of phase 1 bat survey findings for buildings

Building number	Evidence of bat found during survey	Roosting opportunities available	Access available for bats	Assessment of potential
1	None	-Along ridge beam and hanging from rafters. -Between clay ridge tiles.	-Slight gap under the lead flashing on the southern elevation. -Gaps under tiles on the south west corner.	The building has been assessed as holding ***low potential*** to support bats.
2	None	-Along ridge beam and hanging from rafters. -Between clay ridge tiles.	-Through missing and lifted tiles. -Gaps between brick elevations and wooden apex on the northern elevation. -Through the grates in the roof space.	The building has been assessed as holding ***moderate potential*** to support bats.
3	None	-Beneath the thick ivy on the western elevation. -Under gaps in tiles.	-Missing tiles on eastern elevation. -Through gaps in wooden door.	The building has been assessed as holding ***moderate potential*** to support bats.
4	None	None	None	Due to the lack of access and roosting opportunities, the building has been assessed as holding ***negligible potential*** to support bats.
5	None	None	None	Due to the lack of access and roosting opportunities building 5 is considered to hold **negligible** potential to support roosting bats.

Some buildings hold potential to support roosting bats. Further recommendations have been made in section 5.1.

Trees

During the ecological walkover survey, one tree was assessed as holding low potential to support bats. The tree assessed to hold potential was a large horse chestnut with a single hole present in the southern elevation of the trunk (Target note 18). All other trees are considered to hold negligible potential to support roosting bats.

The tree holds low potential to support roosting bat. Recommendations have been made in section 5.1.

Dormice

The scrub and scattered trees along the eastern boundary of the site provide suitable habitat for dormice. However, the habitat is fairly isolated and is not well connected to other suitable areas of habitat. No evidence of dormice such as nests or feeding remains were observed during the walkover survey. Furthermore, the suitable habitat present on site is small and only one record of dormice (*Muscardinus avellana*) within two kilometres was returned by DERC, dating from 2005. However, this record is from over 1.5 kilometres from the site boundary, with no suitable habitat connects between the record and the site boundary.

No further action has been recommended.

Great crested newts

Records provided by DERC returned seven records of great crested newt within 2 kilometres of the site. The woodland strip, scrub and semi-improved grassland could provide suitable terrestrial habitat for newts. Additionally, the rubble piles and brash pile could provide potential hibernacula for great crested newts. A single pond was identified within 500 metres of the site boundary. The pond is situated to the east of the site and is separated from the site by a fast-flowing river. This river would act as a barrier to movement and therefore it is highly unlikely that great crested newts would be present on site.

It is considered highly unlikely that terrestrial great crested newts are present on site and therefore no further action is required.

Nesting birds

The scattered trees, woodland strips, hedgerows and scrub present on site holds potential to support nesting birds. Additionally, swallow (*Hirundo rustica*) nests were recorded under the eaves of building 2.

Further recommendations have been made in section 5.2

Reptiles

The tussocky semi-improved grassland, tall ruderal, scrub, and woodland strips offer suitable foraging, basking and sheltering habitat for reptiles. The brash pile and rubble piles provide suitable hibernation features for reptiles.

It is therefore likely that common reptile species are using the site. Further recommendations have been made in section 5.3.

Otters

Thirteen records of otters have been returned by DERC within two kilometres of the site boundary. Suitable habitat has been recorded on site in the form of the stream, scrub and trees bordering the stream. The stream may be used for commuting and the scrub and trees may be used as resting places.

Under current plans no impacts on the stream are anticipated and there is a buffer zone between the banks of the stream and the development. Therefore, no further surveys should be required. However, should plans change and the buffer zone be reduced further surveys will be required, as such further recommendations have been made in section 5.4.

Water voles

Twenty-seven records of water voles were returned by DERC in the vicinity of the site. During the initial walkover survey the stream was considered to hold potential to support water voles due to the presence of steep earth banks for burrowing. Although the majority of the stream adjacent to the site is heavily shaded with little marginal plants suitable for foraging water voles, this is not considered sufficient evidence to conclude absence.

Under current plans there will be no impact on the stream and there is a significant barrier between the development and the banks of the stream. However, should plans change further surveys will be required and therefore further recommendations have been made in section 5.4.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Bats

5.1.1 Buildings

Summary of findings

Buildings 2 and 3 were assessed to hold moderate potential to support roosting bats, while building 1 holds low potential and building 4 holds negligible potential.

Recommendations

In accordance with the Bat Conservation Trust (BCT) survey guidelines (Collins, 2016), where a building is considered to hold moderate potential (buildings 2 and 3) to support roosting bats, two dusk emergence or dawn re-entry surveys are required. Where a building is considered to have low potential to support roosting bats (building 1) a single evening dust emergence survey is required. Where bats are recorded emerging from any of the buildings a full suite of three surveys will be required. These surveys must be conducted between May and September with at least two of these surveys being undertaken during the optimum survey period between May and August. The phase 2 bat surveys involve a number of surveyors positioned around the buildings covering all potential access and egress points. Dusk surveys will commence 15 minutes before sunset and continue for up to 2 hours after sunset. The pre-dawn re-entry survey will commence 2 hours before sunrise and continue until fifteen minutes after sunrise. Surveyors will use bat detectors and recording devices to record any bats that are seen emerging or re-entering the building along with general bat activity within the vicinity of the site. These surveys will confirm the number of bats, roost type and points of access that bats are using to enter the roost.

In the event that bats are recorded emerging from the building a licence from Natural England will be needed to facilitate any works that will result in the disturbance, loss or modification of the bat roosts. This can only be applied for once full planning permission has been granted. A mitigation strategy will be produced in the event that bats are roosting and will include measures such as construction of permanent replacement bat roosts, and works to be conducted under a watching brief.

5.1.2 Trees

Summary of findings

One horse chestnut was assessed to hold low potential for roosting bat.

Recommendations

If possible, plans should seek to retain the tree that holds potential to support roosting bats. However, should the tree require removal, then an endoscope survey will be required to determine whether bats are roosting within the hole. If bats are recorded then further dusk/dawn surveys will be required, and a licence will be required from Natural England to facilitate its removal.

5.2 Nesting birds

Summary of findings

Building 2 has several nests in the eaves and the vegetation within the site, including the scrub, ornamental, scattered trees, hedgerow and woodland strip provides foraging and nesting habitat both for common and widespread species of bird such as blue tit (*Cyanistes caeruleus*) and wren (*Troglodytes troglodytes*) as well as birds listed as amber on the BoCC (Birds of Conservation Concern) list such as dunnock (*Prunella modularis*), and Biodiversity Action Plan (BAP) species such as song thrush (*Turdus philomelos*).

Recommendations

The following precautions should negate risk of harming, injuring or contributing to the demise of these species:

- Demolition of building 2 should where possible be undertaken outside of the bird nesting season, this is considered to extend from the 1st March to the 31st August, or if this is not possible, must be done under the supervision of an ecologist to ensure that nesting birds are not harmed. Where nesting birds are encountered, demolition and/or clearance must be postponed until the nestlings have fledged.

- All vegetation clearance should be conducted outside of the bird nesting season. Where this is not possible a suitably qualified ecologist should check potential nesting habitat immediately prior to clearance. Where nesting birds are encountered clearance must be postponed until the nestlings have fledged.

- Ecological enhancement measures suggested in section 5.5 will provide foraging and nesting opportunities for many species of bird.

5.3 Reptiles

Summary of findings

Suitable reptile habitat was recorded on site in the form of semi-improved grassland, scrub, woodland and tall ruderal. Additionally, the rubble piles and brash piles provide potential hibernation habitat.

Recommendations

To establish the presence of reptiles on site, targeted reptile surveys will be undertaken. This involves placing artificial refuges such as pieces of roofing felt or carpet tiles in suitable areas. These provide ideal shelter for reptiles and the heat saturation of these refuges means that reptiles are encouraged to shelter underneath them during the early morning and early evening when they are warmer than the surrounding ground. These refugia are then checked for reptiles a total of seven times during these times of the day in suitable weather conditions and at suitable times of the year (March to June, September and October).

5.4. Otter and water vole

Summary of findings

The stream located on the west of the site, may be used for foraging and commuting by otters, alongside the scrub habitat and trees which may be used as resting places. The earth banks of the stream may be used for water voles burrowing. Under current plans there is a significant barrier between the stream and the development, therefore further surveys should not be required. However, should the development plans change, further surveys will be required in line with the recommendations below.

Recommendations

An otter and water vole survey should be undertaken to establish the presence of these species using the stream and any part of the site adjacent to the stream.

This involves walking along the stream and checking for signs of otters and water voles and mapping the field signs. Signs of water voles include burrows, latrines, footprints and feeding remains. Two survey visits are required to assess presence/absence. One survey between mid-April to the end of June with the second survey July to September, with at least two months between the surveys. The second survey is not required if water voles are confirmed on the first visit (Dean et al, 2016).

If water voles are found to be present on the site and works are scheduled to take place within five metres of the water bodies then a Conservation Licence will need to be obtained from Natural England. A mitigation scheme will need to be designed ideally

with the enhancement of retained water bodies or the creation of new water bodies within the site to act as receptor sites. These water bodies will need to be created and fully established before any translocation/displacement activities can begin under licence (at least one year prior to translocation).

If otter holts are present on site and works may damage or disturb these a mitigation strategy and European Protected Species mitigation licence will be required. Connectivity should be maintained between water bodies and any suitable terrestrial resting places.

5.5 Ecological enhancement

A few suggestions for ecological enhancements across the site have been made

- Provision of bat boxes and nest boxes for bird species such as swift (*Apus apus*), house martin (*Delichon urbica*) and house sparrow (*Passer domesticus)* on the walls of the buildings or trees. Bird boxes can be purchased from websites such as Alana Ecology http://www.alanaecology.com and Jacobi Jayne www.jacobijayne.co.uk, and their provision on site would enhance the habitat for the local bird population.

- Use of native shrubs and trees for landscaping schemes provides foraging habitat for a range of bird species. Suitable species include hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), dog-rose (*Rosa canina*), elder (*Sambucus nigra*), blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*) and field maple (*Acer campestre*).

- Flowering grassland seed mixes from a supplier of seeds of local provenance can be used to seed the new lawn within the design of the development (such as Emorsgate EL1). Such grassland provides better nectar sources for invertebrates and hence is of greater value for foraging birds, reptiles and amphibians.

- Provision of hedgehog houses will provide potential hibernation sites for hedgehogs. Hedgehog houses can be bought from http://www.wildcareshop.com. Small holes will be left in any fences separating the gardens of the development to allow hedgehogs to move freely throughout the site.

- Installation of bee bricks within the walls of buildings. Bricks can be purchased from www.edenproject.com and www.greenandblue.co.uk, their provision would enhance the local pollinator population.

6.0 REFERENCES

Collins, J., Charleston, P., Davidson-Watts, I., Markham, S. and Kerslake, L. (2016). *Bat Surveys for Professional Ecologists Good Practice Guidelines*. Bat Conservation Trust, London.

Dean, M., Strachan, R., Gow, D., Andrews, R. (2016) *The water vole mitigation handbook* (The Mammal Society Mitigation Guidance Series). The Mammal Society, London.

Department for Communities and Local Government (2005). *Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.*

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

Dorset Environmental Records Centre (2017). *Data search reference – DERC Ref St Martins Extra Care*.

Joint Nature Conservation Committee (2010). *Handbook for Phase I Habitat Survey.* JNCC.

Multi-Agency Geographical Information for the Countryside (MAGIC) Website at www.magic.gov.uk

APPENDIX I: Phase 1 habitat map

Phase 1 habitat key

	Building
	Hardstanding
	Semi- improved grassland
	Tall ruderal
	Scrub
	Woodland
	Ephemeral/Short perennial
	Ornamental planting
	Hedgerow
	Rubble pile
	Brash pile
	Fence
	Wall
	Site boundary
	Scattered trees

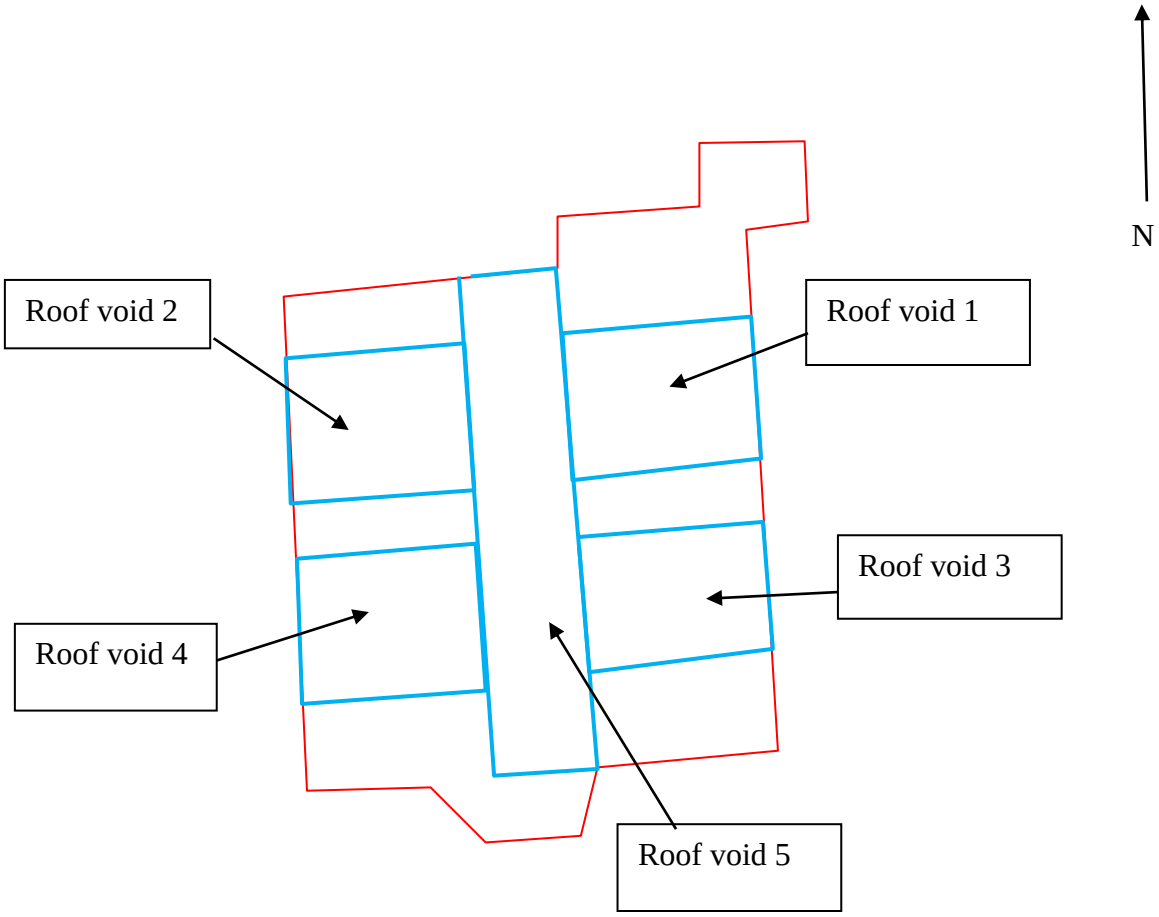
Target notes to accompany Phase 1 habitat map

Target Note	Description
T1	Tussocky semi-improved grassland with abundant bent species (*Agrostis sp.*), locally abundant false oat-grass (*Arrhenatherum elatius*), creeping buttercup (*Ranunculus repens*), frequent cock's-foot (*Dactylis glomerata*), Yorkshire-fog (*Holcus lanatus*), dandelion (*Taraxacum agg.*), locally frequent yarrow (*Achillea millefolium*), barren strawberry (*Potentilla sterilis*), prickly sow-thistle (*Sonchus asper*), germander speedwell (*Veronica chamaedrys*), occasional perennial rye-grass (*Lolium perenne*), cleavers (*Galium aparine*), hogweed (*Heracleum sphondylium*), common mallow (*Malva sylvestris*), common sorrel (*Rumex acetosa*), broad-leaved dock (*Rumex obtusifolius*), common ragwort (*Senecio jacobaea*), locally occasional cow parsley (*Anthriscus sylvestris*), creeping thistle

Target Note	Description
	(*Cirsium arvense*), herb-Robert (*Geranium robertianum*), cat's-ear (*Hypochaeris radicata*), and autumn hawkbit (*Leontodon autumnalis*).
T2	Scrub with species including locally dominant bramble (*Rubus fruticosus agg.*), locally frequent cock's-foot, Yorkshire-fog, ivy (*Hedera helix*), occasional pendulous sedge (*Carex pendula*), willowherb species (*Epilobium sp.*), locally occasional butterfly bush (*Buddleja davidii*), pampas grass (*Cortaderia sp.*), common nettle (*Urtica dioica*), and hazel (*Corylus avellana*).
T3	Tall ruderal with species consisting of locally dominant creeping buttercup, locally abundant bramble (*Rubus fruticosus* agg), horse chestnut saplings (*Aesculus hippocastanum*), ash saplings (*Fraxinus excelsior*), locally frequent Yorkshire-fog, ivy, autumn hawkbit, occasional broad-leaved dock, locally occasional pendulous sedge, creeping thistle, spear thistle (*Cirsium vulgare*), willowherb species, cleavers, curled dock (*Rumex crispus*), bittersweet (*Solanum dulcamara*), marsh woundwort (*Stachys palustris*), common nettle and locally rare common sorrel (*Rumex acetosa*).
T4	Ephemeral/short perennial species growing in patches within the footings of a now demolished building. Species include locally dominant dove's-foot crane's-bill (*Geranium molle*), locally abundant Yorkshire-fog, bramble, locally frequent barren brome (*Anisantha sterilis*), cut-leaved crane's-bill (*Geranium dissectum*), occasional annual meadow-grass (*Poa annua*), butterfly bush, wavy bittercress (*Cardamine flexuosa*), autumn hawkbit, broad-leaved dock, common field speedwell (*Veronica persica*), locally occasional common yellow sedge (*Carex viridula*), cleavers, common nettle, rare spear thistle, prickly sow-thistle, and locally rare forget-me-not species (*Myosotis sp.*).
T5	Scattered trees including sycamore (*Acer pseudoplatanus*), horse-chestnut, butterfly bush, hazel, leylandii (*Cypressus x leylandii*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), apple (*Malus sp.*), cherry (*Prunus sp.*), willow species (*Salix sp.*), and elder (*Sambucus nigra*).
T6	Hardstanding in the forms of pathways and driveway. Vegetation grows up through the gaps. Species including daisy (*Bellis perennis*), occasional annual meadow-grass, smooth hawk's-beard (*Crepis capillaris*), wood sorrel (*Oxalis acetosella*), common ragwort, dandelion, and locally occasional red valerian (*Centranthus ruber*).
T7	Small areas of ornamental planting. Species include locally frequent Yorkshire-fog, forsythia (*Forsythis sp.*), cleavers, occasional rose species (*Rosa sp.*), vibernum (*Vibernum sp.*), locally frequent butterfly bush, sun spurge (*Euphorbia helioscopia*), rare thyme (*Thymus vulgaris*), and sycamore saplings.
T8	Stream with potential to support water voles and otters.
T9	Two mixed woodland strips are located east of building 4, within the grassland. Species present encompasses leylandii, elder, pine species (*Pinus sp*.), bramble, willow, ivy, and apple species.
T10	Hedgerow consisting of leylandii and yew (*Taxus baccata*).
T11	Rubble pile with potential to provide hibernacula or sheltering habitat for reptiles.
T12	Brash pile which provides potential hibernacula for reptiles.
T13	Building 1 with low potential to support roosting bats.
T14	Building 2 with moderate potential to support roosting bats.
T15	Building 3 with moderate potential to support roosting bats.
T16	Building 4 with negligible potential to support roosting bats.

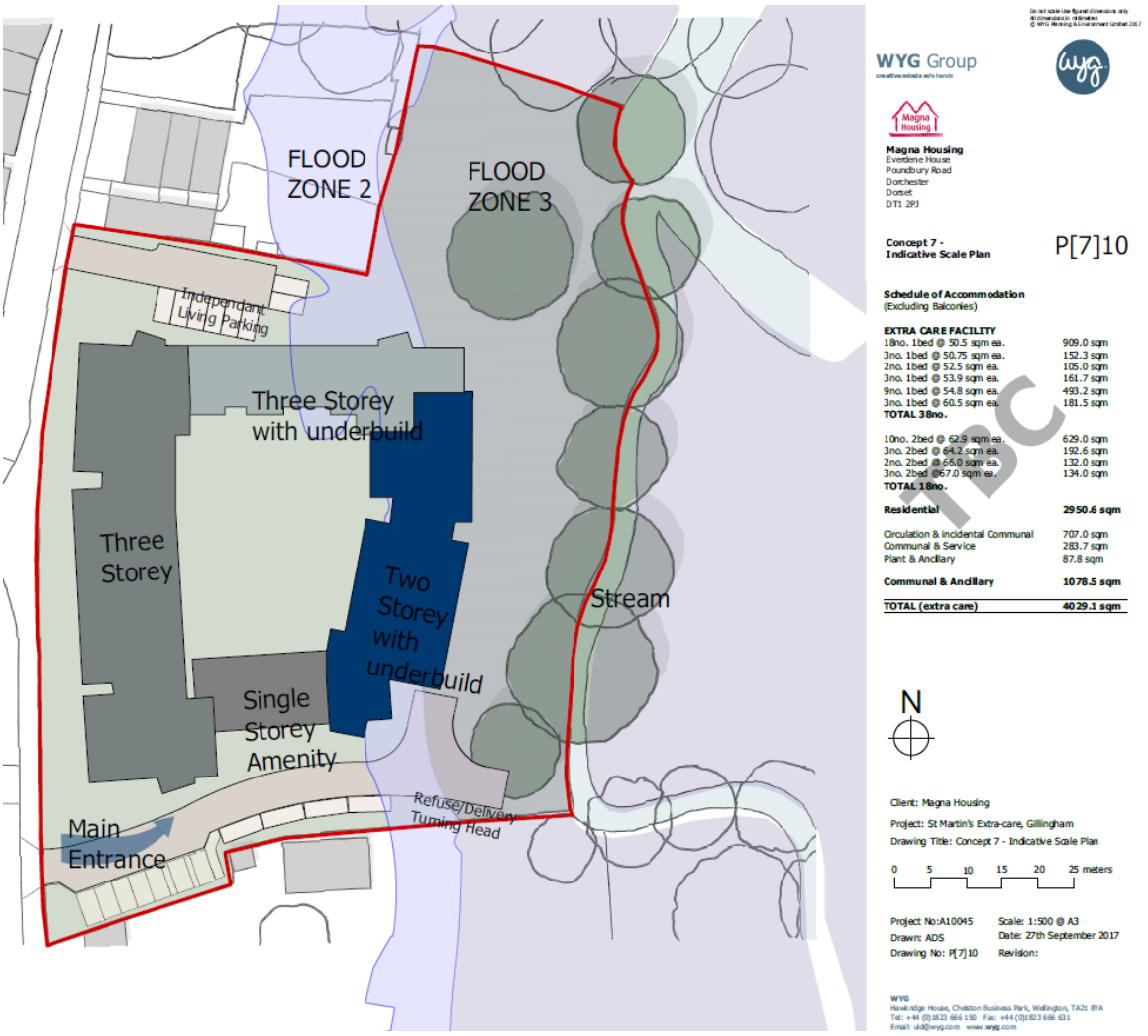
Target Note	Description
T17	Building 5 with negligible potential to support roosting bats.
T18	Horse-chestnut with low potential to support roosting bats.

APPENDIX II: Roof void locations for building 2



Drawing not to scale

APPENDIX III: Development plans of site



APPENDIX IV: Photographs of site


Photo 1: Building 2, south elevation


Photo 2: Building 1, south elevation


Photo 3: Building 4, west elevation


Photo 5: Semi-improved grassland


Photo 6: Building 3, west elevation

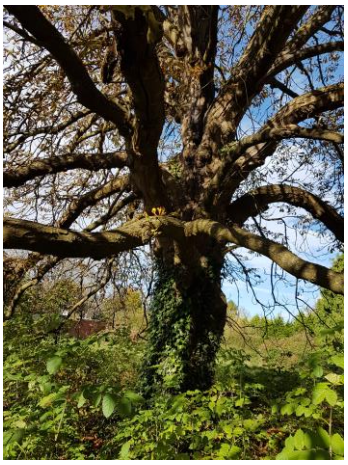


Photo 6: Horse chestnut tree with bat potential