

4 Middlewood Cottages, Offton

Ecology Report

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Rev: A
24th April 2023

EXECUTIVE SUMMARY

- A Preliminary Ecological Appraisal, including a Phase 1 Habitat Survey and Ecological Scoping Survey, and a Preliminary Bat Roost Assessment and bat emergence surveys were undertaken at a site of a proposed extension at 4 Middlewood Cottages, Offton, in Suffolk.
- The PEA and PBRA were carried out on 17th April 2021 and updated 10th December 2022, and the bat emergence surveys of the buildings were carried out between September and October 2021 and between July and September 2022.
- The proposals involve the construction of a two-story extension to the rear of the main building (Building 1). The works zone will be the footprint of the semi-detached building and hard standing to the west and north of the building.
- The site is located on Bildeston Road at the west end of the village of Offton, which is west of the A14 and Ipswich, Suffolk. The site comprises a semi-detached house and sheds, with hardstanding, amenity grassland, scattered trees and ornamental planting and hedges.
- There are two statutory and two non-statutory designated sites for nature conservation value within 2 km of the site. The closest statutory designated site is Middle Wood, Offton (SSSI), 0.09 km north of the site. The closest of non-statutory is Bushey Ley Farm (CWS), located 1.54 km south of the site.
- The site falls within the SSSI Impact Risk Zones of statutory designated sites greater than 2 km from the site, but the development does not meet the thresholds requiring consultation with Natural England, and therefore adverse impacts on these statutory sites are ruled out.
- No impacts on designated sites would occur from construction of the proposed development or post-development.
- There were no habitats of intrinsic conservation importance present on site. Plant species and habitats that are present are mostly introduced species or ornamental planting and are not considered to be of intrinsic ecological interest.
- The scattered trees and ornamental hedges all have a local nature conservation value. The development will retain the onsite trees, hedges and other vegetative habitats, with works restricted to areas of hard standing and Building 1.
- Building 1 has high bat roost potential due to features on its roof. Surveys undertaken in 2021 and 2022 showed no bat use Building 1 for roosting. As this building has hibernation potential for bats, the sections of roof requiring removal will need to be removed outside of bat hibernation season, which is November – February inclusive, to avoid potentially impacting bats.
- The other buildings and all trees on site are not suitable for use by roosting bats.
- Seven species of bats were recorded during the surveys, with common and soprano pipistrelle recorded on site. Observed bat commuting activity on site was mainly associated with the boundary hedgerows. Works will only take place during day light hours and no additional lighting is proposed post construction, thus foraging and commuting bats will not be impacted by the proposed development.
- Measures should be undertaken during the construction phase to avoid harming breeding birds, badgers and hedgehogs which could use vegetation adjacent to the work zone for sheltering, nesting and foraging and which may commute across the hardstanding within the work zone.
- As an enhancement measure, one bat box will be installed on a retained mature tree onsite to provide additional roosting opportunities for bats.

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1 Introduction

1.1 Purpose and scope of this report

1.1.1 A Preliminary Ecological Appraisal, including a Phase 1 Habitat Survey and Ecological Scoping Survey, and a Preliminary Bat Roost Assessment of the buildings and trees to assess their potential to support roosting bats, were undertaken at a site of a proposed extension at 4 Middlewood Cottages, Offton, in Suffolk. The surveys were initially conducted in April 2021 and updated in December 2022. These identified the main building on site with features of high potential for roosting bats that required bat emergence surveys. Bat emergence surveys were undertaken in 2021 and 2022.

1.1.2 The aims of this report are to:

- map and assess the habitats present on site;
- inspect and assess the buildings and trees on site for their potential to support roosting bats;
- assess the site for potential to support protected species or other species that could present a constraint;
- survey suitable buildings on site to establish presence / likely absence of bats and evaluate the nature of any roosts present.
- assess the likely impacts (if any) of the development on protected species;
- make appropriate recommendations for further survey work if necessary;
- provide outline mitigation measures as appropriate; and
- make recommendations for appropriate biodiversity enhancements in line with national and local planning policy.

1.1.3 A desk-based review of designated sites and records of protected species and other species that could present a constraint was undertaken in 2022.

1.1.4 This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist, Crystal Acquavivia, who is a full member of CIEEM (since 2013), a professional consultant ecologist since 2011 (currently a principal ecologist for an ecological consultancy based in Cambridgeshire), and holds Natural England class licenses for bats (Levels 3 and 4), hazel dormice (Level 1) and great crested newts (Level 1).

1.2 Study area

1.2.1 The site is located on Bildeston Road at the west end of the village of Offton, which is west of the A14 and Ipswich, Suffolk. National Grid coordinates for the site centre are TM 062 496.

1.2.2 The site comprises a semi-detached house and sheds, with hardstanding, amenity grassland, scattered trees and ornamental planting and hedges.

1.2.3 Residences and ornamental gardens are located to the east and west of site, and arable fields to the north and south. A small woodland, Middle Wood, Offton Site of Special Scientific Interest (SSSI) is located approximately 90 m north. The Channel, a stream that runs along the southern side of Bildeston Road, is approximately 15 m south. The wider landscape is comprised of arable fields with hedgerows, small woodlands and villages.

1.3 Development proposals

1.3.1 The proposals involve the construction of a two-story extension to the rear of the main building (Building 1). The works zone will be the footprint of the semi-detached building and hard standing to the west and north of the building, see Figure 3.1.

1.4 Legislation and policy

1.4.1 Relevant legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to throughout this report where appropriate.

1.4.2 The relevant legislation and policy are:

- The National Planning Policy Framework (NPPF, 2021);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2021);
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Natural Environment and Rural Communities Act 2006;
- Mid Suffolk Local Plan (first adopted 1998 and will be replaced by a new Joint Local Plan document for Babergh and Mid Suffolk districts once adopted);
- The Suffolk Planning Biodiversity Action Plan (2012).

1.4.3 A summary of legislation relevant to protected or other species identified as potential constraints in this report is provided in Appendix A.

2 Methods

2.1 Desk Study

- 2.1.1 Ecological records within a 2 km radius of the site were requested from Suffolk Biodiversity Information Service (SBIS). Data requests were limited to records for protected species recorded within the last ten years and sites of nature conservation interest within 2 km of the site. This included a review of existing statutory sites of nature conservation interest, such as Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Area of Conservation (SACs) and National Nature Reserves (NNRs), and non-statutory sites, such as Sites of Importance for Nature Conservation (SINCs) and Local Wildlife Sites (LWSs).
- 2.1.2 Locations of statutory designated sites and SSSI Impact Risk Zones were accessed via the government 'MAGIC' website (MagicMap, 2023).
- 2.1.3 A 1:25,000 OS map was used to identify nearby features such as ponds or green corridors that could provide habitat or connectivity to other areas.

2.2 Ecological Appraisal

- 2.2.1 The ecological appraisal consisted of two components: a Phase 1 Habitat survey and a scoping survey for protected species and other species of conservation concern which could present a constraint to the development. The surveys were carried out on 17th April 2021 and updated 10th December 2022.
- 2.2.2 The Phase 1 Habitat surveys followed the standard methodology (JNCC, 2010), and as described in the Guidelines for Preliminary Ecological Assessment (CIEEM, 2017). In summary, this comprised walking over the survey area and recording the habitat types and boundary features present.
- 2.2.3 A protected species scoping survey was carried out in conjunction with the Phase 1 Habitat survey. The site was assessed for its suitability to support protected species, in particular great crested newts *Triturus cristatus*, reptiles, birds, badgers *Meles meles*, bats, and other species of conservation importance that could pose a planning constraint.
- 2.2.4 The surveyor looked for evidence of use including signs such as burrows, droppings, footprints, paths, hairs, refugia and particular habitat types known to be used by certain groups such as ponds. Any mammal paths were also noted down and where possible followed. Fence boundaries were walked to establish any entry points or animal signs such as latrines. Areas of bare earth were inspected for mammal prints. Areas of habitat considered suitable for protected species or those of conservation interest were recorded.

2.3 Bat Roost Assessment

- 2.3.1 A detailed bat roost assessment was carried out on the buildings and trees on site by a qualified ecologists, Crystal Acquaviva (NE bat class licence lvi-3 2015-14503-CLS-CLS and lvi-4 2015-14566-CLS-CLS), on the 17th April 2021 and updated on 10th December 2022 following best practice as described by the Bat Conservation Trust (Collins, 2016), English Nature's Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Joint Nature Conservation Committee's Bat Worker's Manual (Mitchell-Jones & McLeish, 2004).
- 2.3.2 The buildings were examined externally and internally, where accessible, and trees were examined externally for potential roosting places and access points for bats and for any evidence of bat use, using binoculars (Bushnell Legend) and a powerful torch (Cluson CB2).
- 2.3.3 Signs that could indicate use by bats include:
- bat droppings;
 - staining of access points used by bats to enter the structure; and
 - feeding remains such as moth and butterfly wings.

- 2.3.4 The buildings' suitability for bat roosting was assessed by examining structural features. Structural features that may influence the suitability of a building to support roosting bats include the presence of a roof void, the presence of access points into the building (including gaps beneath barge boards, soffits and fascias, gaps under lead flashing, gaps within masonry and under loose tiles), the complexity and size of any roof void and daytime light levels in the roof void.
- 2.3.5 Trees were assessed for the potential to support bats roosts by checking for features such as holes, cavities or splits, and evidence like dark staining on a tree below a feature caused by the natural oils in the bats' fur, scratch marks around the feature or droppings below.
- 2.3.6 The buildings' and trees' suitability for roosting bats was also assessed by examining the surrounding habitat. Important habitat features surrounding the structure which may influence roost potential include whether the structure is in a semi-rural or parkland location, its proximity to a significant linear habitat features such as a watercourse, mature hedgerow, wooded lane or an area of woodland.

2.4 Bat Emergence Survey

- 2.4.1 Presence / absence surveys of the main building (Building 1) were carried out in September and October 2021 and updated in July through September 2022. The building had high potential for roosting bats. Figures 3.1-7 show the building that was surveyed and the location of the surveyors on each survey. Descriptions of the buildings and trees on site are provided in Table 3.3.
- 2.4.2 Presence / absence surveys involve surveyors visiting at dusk or dawn to listen / record with the use of bat detectors and watch for bats emerging or returning to roosts and compile information on species, numbers, access points and roosting locations.
- 2.4.3 Bat detectors were used to record bat echolocation calls of any emerging bats and identify species where possible. Surveyors monitored the buildings using Echo Meter Touch, Petterson D-240X, and Anabat Express detectors. Calls were analysed using Analook W and Kaleidoscope software to identify bat species recorded in each survey location.
- 2.4.4 Surveyors were positioned outside the building, facing the features considered to offer potential bat emergence / re-entry points.
- 2.4.5 The dusk surveys commenced 15 minutes before sunset, and lasted for 1.5 hours after sunset, and dawn surveys commenced approximately 90 minutes before sunrise and lasted until sunrise, in order to record any bats that may emerge from the roost feature.
- 2.4.6 All bat passes, including time and species, were recorded. Where possible the behaviour of the bat was also recorded, including foraging, commuting or feeding behaviour.
- 2.4.7 The surveys were carried out following current guidelines (Collins, 2016). The dates and weather conditions during the surveys are shown in Table 2.1.

Table 2.1. Dates and weather conditions during bat surveys

Date	Building	Weather	Sunset/sunrise time	Start time	End time
11.09.21	B1	Start: 19°C Dry, Beaufort 0, cloud 2/8 End: 17°C Dry, Beaufort 1, cloud 3/8	19:21	10:06	20:51
19.09.21	B1	Start: 13°C Dry, Beaufort 1, cloud 1/8 End: 14°C Dry, Beaufort 1, cloud 2/8	6:37	5:07	6:37
1.10.21	B1	Start: 14°C Dry, Beaufort 0, cloud 0/8 End: 10°C Dry, Beaufort 0, cloud 0/8	18:34	18:19	20:04
11.07.22	B1	Start: 23°C Dry, Beaufort 1, cloud 7/8 End: 18°C Dry, Beaufort 1, cloud 7/8	21:14	21:00	22:44
5.08.22	B1	Start: 18°C Dry, Beaufort 0, cloud 3/8 End: 15°C Dry, Beaufort 0, cloud 2/8	20:40	20:25	22:10
27.09.22	B1	Start: 12°C Dry, Beaufort 0, cloud 7/8 End: 10°C Dry, Beaufort 1, cloud 6/8	18:43	18:28	20:13

2.5 Limitations

Desk Based Assessment

- 2.5.1 The desk study data is third party controlled data, purchased for the purposes of this report only.

Survey

- 2.5.2 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.
- 2.5.3 This ecological appraisal does not assess the presence or absence of a species but is used to assess the potential for a habitat to support them. Where a species is seen, or there is clear and recent evidence of a species, this is reported.
- 2.5.4 It should be noted that bats are a group of species with a range of dynamic behaviours and as such, bats can roost in different locations, forage in different areas and preferentially commute along different routes in response to a number of changing physical and environmental factors. Bats exhibit seasonal use of buildings, built structures and trees, and being so mobile may arrive and start using a site after it has been surveyed or be roosting somewhere else during the period it was surveyed.
- 2.5.5 The bat data presented in the tables detailing results of the bat surveys shows the number of contacts for different bat species. It is important to note that the number of contacts does not equate to the number of individual bats, as several contacts can be generated by one bat flying past the surveyors several times. Instead, the number of contacts provides an index of bat activity, which can be used to identify areas of habitat of greater or lesser importance for bats.
- 2.5.6 Species identification by sonogram is limited to a certain extent by similarities in call structure parameters for certain species. All bats modulate their calls according to the habitats they are navigating and their behaviour. This imposes limitations on reliable identification of bats to species level for species of the same genus, and specifically for Plecotus, Myotis and Nyctalus bats. Due to the location of the site and known range of Plecotus bats, every Plecotus bat recorded was assumed to be brown long-eared bat.

Accurate Lifespan of Ecological Data

- 2.5.7 This survey provides a snapshot of ecological constraints found to be present at the time and survey results contained in this report are considered accurate for two years, assuming no significant considerable changes to the site conditions.

3 Results

3.1 Designated Sites

- 3.1.1 There are two statutory designated sites for nature conservation value within 2 km of the site. The closest of these is Middle Wood, Offton Site of Special Scientific Interest (SSSI), 0.09 km from the site.
- 3.1.2 Two non-statutory sites are located within the 2 km search radius of the site. The closest of these is Bushey Ley Farm County Wildlife Site (CWS), located 1.54 km from the site.
- 3.1.3 A summary of these sites is provided in Table 3.1 below.

Table 3.1: Designated sites within 2 km of the study area

Site name	Type	Approx. area (ha)	Interest Features	Distance from site (km)
Statutory Sites				
Barking Woods	SSSI	98.75	NS	1.69
Middle Wood, Offton	SSSI	23.31	Comprises two separate woodland parcels	0.09
Non-statutory Sites				
Bushey Ley Farm (arable fields)	CWS	16.60	Bushey Ley Farm is a 40 acre organic farm situated to the north-east of the village of Elmsett. The site has good structural diversity, with arable, grassland, hedgerows, an orchard and a stream running west-east through the centre of the farm. The arable fields, which have been under organic production for many years, support a diverse flora, including a number of uncommon Suffolk species such as round-leaved and sharp-leaved fluellens, night-flowering catchfly, nationally scarce Shepherd's-needle and a large population of corn buttercup; it is estimated that the population of this rare plant, which grows well in the fields of winter-sown oats, represents 90% of the national population.	1.54
Langham Close Wood	CWS	1.34	This small linear-shaped area of woodland is a remnant of a much larger ancient wood which has been grubbed for conversion to arable farming. Langham Close Wood has a fairly uniform structure throughout. It consists of oak and ash standards with a coppice layer of ash, field maple and hazel. Other woody species include elder, hawthorn, spindle and silver birch. In addition there is a dense clump of blackthorn scrub in the centre of the wood which provides valuable habitat for nesting birds. Bramble and dog's mercury dominate the field layer, with small quantities of a few ancient woodland indicator plants, for example hairy St John's-wort. Langham Close Wood is used for pheasant rearing and shooting.	1.95

Abbreviations used in Table 3.1: SSSI: Site of Special Scientific Interest; CWS: County Wildlife Site; NS: Not supplied; ha: hectare.

- 3.1.4 The site lies within the SSSI Impact Risk Zones of designated sites (SSSIs, SACs, SPAs and/or Ramsar sites) over 2 km from the site. However, the development does not fall under the categories that are considered likely risks to the designated sites.

3.2 Species

- 3.2.1 Records of protected species were obtained from the Suffolk Biodiversity Information Service (SBIS). A number of species of conservation importance or otherwise notable were recorded within the 2 km search radius of the site. A summary of these records is provided in Table 3.2.
- 3.2.2 In order to simplify the results, only records of species from the last 10 years are shown. In addition, where possible data with a 6 figure grid reference resolution or higher are provided, since locations given at a lower resolution do not allow accurate calculation of distance to the site boundary. However, some records were only provided at 4 figure (i.e. 1km) grid or a 2km grid reference resolution.

Table 3.2: Species records from the last 10 years within 2 km of the site

Common name	Scientific name	Nearest distance from site (km)	Year of most recent record	Conservation Status
Plants				
Bluebell	<i>Hyacinthoides non-scripta</i>	0.38	2014	WCA 8
Common Cow-wheat	<i>Melampyrum pratense</i>	0.45	2020	RedListEng_NT
Bird's-nest Orchid	<i>Neottia nidus-avis</i>	0.28	2014	RedListGB_VU, RedListEng_NT
Sulphur Clover	<i>Trifolium ochroleucon</i>	1.64	2020	RedListGB_VU, RedListEng_NT
Invertebrates				
Purple Emporor	<i>Apatura iris</i>	1.80	2020	RedListGB_NT,
Small Heath	<i>Coenonympha pamphilus</i>	Within same 1km grid square as site	2019	NERC, UKBAP, RedListGB_NT
White Admiral	<i>Limenitis camilla</i>	0.14	2020	NERC, UKBAP, RedList_VU
Stag Beetle	<i>Lucanus cervus</i>	0.99	2020	NERC, UKBAP, HabDir2,
White Letter Hairstreak	<i>Satyrrium w-album</i>	Within same 1km grid square as site	2019	NERC, UKBAP, RedList_EN
Reptiles				
Grass Snake	<i>Natrix natrix</i>	1.41	2018	WCA 5, NERC, UKBAP
Birds				
Sparrowhawk	<i>Accipiter nisus</i>	Within same 1km grid square as site	2020	Birds:Amb
Skylark	<i>Alauda arvensis</i>	0.45	2021	NERC, UKBAP, Birds:Red
Swift	<i>Apus apus</i>	Within same 2km grid square as site	2017	Birds:Red
Little Owl	<i>Athene noctua</i>	Within same 1km grid square as site	2018	Bern 2
Green Finch	<i>Chloris chloris</i>	1.61	2020	Bern 2, Birds:Red
Rook	<i>Corvus frugilegus</i>	Within same 2km grid square as site	2017	Birds:Amb
Cuckoo	<i>Cuculus canorus</i>	0.14	2017	NERC, UKBAP, Birds:Red
Whitethroat	<i>Curruca communis</i>	1.61	2017	Birds:Amb
Yellowhammer	<i>Emberiza citrinella</i>	1.41	2020	Bern 2, NERC, UKBAP, Birds:Red

Kestrel	<i>Falco tinnunculus</i>	1.36	2020	Bern 2, Birds:Amba
Moorhen	<i>Gallinula chloropus</i>	1.41	2020	Birds:Amb
Herring Gull	<i>Larus argentatus</i>	1.41	2020	NERC, UKBAP, Birds:Red
Lesser Black-backed Gull	<i>Larus fuscus</i>	Within same 2km grid square as site	2017	Birds:Amb
Linnet	<i>Linaria cannabina</i>	Within same 2km grid square as site	2017	Bern 2, UKBAP, Birds:Red
Red Kite	<i>Milvus milvus</i>	1.78	2015	WCA1i, Birds Dir Anx 1, RedListGB_NT,
Spotted Flycatcher	<i>Muscicapa striata</i>	Within same 1km grid square as site	2020	Bern 2, NERC, UKBAP, Birds:Red
House Sparrow	<i>Passer domesticus</i>	Within same 2km grid square as site	2020	NERC, UKBAP, Birds:Red
Grey Partridge	<i>Perdix perdix</i>	1.41	2020	NERC, UKBAP, Birds:Red
Willow Warbler	<i>Phylloscopus trochilus</i>	1.61	2020	Birds:Amb
Marsh Tit	<i>Poecile palustris</i>	1.61	2020	Bern 2, UKBAP, Birds:Red
Dunnock	<i>Prunella modularis</i>	1.12	2017	Bern 2, UKBAP, Birds:Amb
Bullfinch	<i>Pyrrhula pyrrhul</i>	1.36	1017	UKBAP, Birds:Amb
Common Tern	<i>Sterna hirundo</i>	Within same 1km grid square as site	2017	Birds Dir Anx1, Bern 2, Birds:Amb
Starling	<i>Sturnus vulgaris</i>	1.61	2020	NERC, UKBAP, Birds:Red
Wren	<i>Troglodytes troglodytes</i>	1.41	2020	Bern 2, Birds:Amb
Song Thrush	<i>Turdus philomelos</i>	1.61	2020	NERC, UKBAP, Birds:Amb
Barn Owl	<i>Tyto alba</i>	0.95	2021	WCA 1a, Bern 2
Lapwing	<i>Vanellus vanellus</i>	1.13	2019	NERC, UKBAP, Birds:Red
Mammals				
Barbastelle	<i>Barbastellus barbastellus</i>	1.58	2019	Bern2, WCA 5, NERC, UKBAP, HabDir2&4, RedListGB_VU,
European Hedgehog	<i>Erinaceus europaeus</i>	0.34	2017	NERC, UKBAP, RedList_VU
European Badger	<i>Meles meles</i>	0.08	2022	Bern3, PBA
Noctule	<i>Nyctalus noctula</i>	1.58	2016	Bern 2, WCA 5, NERC, UKBAP, HabDir4, HabReg2
Pipistrelle bat	<i>Pipistrellus sp.</i>	1.29	2021	Bern 2, WCA 5, HabDir4, HabReg2
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	1.57	2019	WCA 5, HabDir4, HabReg2
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	1.58	2019	Bern2, WCA 5, NERC, UKBAP, HabDir4, HabReg2
Brown Long-eared Bat	<i>Plecotus auritus</i>	0.36	2016	Bern 2, WCA 5, NERC, UKBAP, HabDir4; HabReg2
Myotis bat	<i>Myotis sp.</i>	1.29	2021	Bern 2, WCA 5, NERC, UKBAP, HabDir4; HabReg2

Abbreviations used in Table 3.2: WCA 1i: Wildlife & Countryside Act Schedule 1, part 1; WCA 5: Wildlife & Countryside Act Schedule 5; WCA 8: Wildlife & Countryside Act Schedule 8; NERC: Natural Environment & Rural Communities Act Species of Principal Importance; UKBAP: UK Biodiversity Action Plan priority species; HabDir2, 4: Habitats Directive Annex 2, 4; REDLIST GB:/ ENG RedList_VU: Vulnerable; Redlist_EN: Endangered; Redlist_NT: Near Threatened; Birds:Red: Bird Population Status: red; Birds:Amber: Bird Population Status: amber; Bern 2, 3: Bern Convention Appendix 2, 3. Birds Dir Anx 1: Birds Directive Annex 1; PBA: Protection of Badgers Act 1992; HabReg2: The Conservation of Habitats and Species Regulations 2017 Schedule 2.

3.3 Phase 1 Habitat Survey

- 3.3.1 The survey results are presented in the form of a map with the habitat types and boundary features marked (Figure 3.1). Target notes are provided in Table 3.3. Photographs can be found in Appendix C.
- 3.3.2 Descriptions of the habitat types and boundary features are detailed below. Habitat descriptions are defined by broad habitat types (JNCC, 2010).

Hard standing

- 3.3.3 The habitat within the work zone comprised hard standing of paving and gravel forming an a driveway and patio.
- 3.3.4 A gravel patio area is present to the north of the residence outside of the work zone, and a gravel path runs from the patio to the rear of the site.

Introduced Shrub and Ornamental Planting

- 3.3.5 Ornamental hedges were present along the north, west and east site boundaries, and within the site. These comprised mainly non-native species. Two short native hedges (both less than 15m) are present at the rear of the site with abundant blackthorn *Prunus spinosa* and hawthorn *Crataegus monogyna* and occasional field maple *Acer campestre*, spindle *Euonymus europaeus* and hazel *Corylus avellana*.
- 3.3.6 Hedges adjacent the work zone comprised Leyland cypress *Cupressocyparis leylandii*, mock orange *Philadelphus coronarius*, liliac *Syringa vulgaris*, pyrocantha *Pyracantha sp.*, elder *Sambucus nigra*, buddleja *Buddleja davidii* and privet *Ligustrum ovalifolium*.
- 3.3.7 Ornamental beds were present within the front and rear gardens of the site containing scattered shrubs and cultivated forbs including rose *Rosa spp.*, Japanese quince *Chaenomeles japonica*, magnolia *Magnolia × soulangeana*, forsythia *Forsythia × intermedia*, iris *Iris × germanica*, avens *Geum spp.*, tulip *Tulipa spp.*, and lavender *Lavandula angustifolia*.

Scattered Trees

- 3.3.8 A few mature scattered trees were present at the north of the site. These were an apple tree *Malus domestica*, two walnut trees *Juglans regia* and a weeping willow *Salix babylonica*. The location of assessed trees are shown in Figure 3.1.
- 3.3.9 Immature scattered trees were also present within the site, mainly within ornamental planting beds included ornamental cherries *Prunus sp.*, magnolia *Magnolia liliiflora*, and silver birch *Betula pendula*.

Scrub

- 3.3.10 Scattered bramble *Rubus fruticosus agg.* scrub was present under the trees at the north of the site and north of the patio.
- 3.3.11 Other scattered scrub within the site included hazel and holly *Ilex aquifolium* at the north of the site.

Grassland

- 3.3.12 Mown amenity grass dominated by creeping bent *Agrostis stolonifera* was present in the front and rear gardens of site with frequent common forbs including daisy *Bellis perennis*, creeping buttercup *Ranunculus repens*, ox-eye daisy *Leucanthemum vulgare*, yarrow *Achillea millefolium*, selfheal *Prunella vulgaris* and dandelion *Taraxacum officinale*. The average sward height was 10cm.

Bare ground

- 3.3.13 An area of bare ground was present within a chicken run at the west of the site.
- 3.3.14 A vegetable patch was present at the east of the site.
- 3.3.15 An area of bare ground was present to the north of the gravel patio which has scattered bramble scrub growing through it.
- 3.3.16 The ground layer below the trees at the north of the site comprised bare ground paths and leaf litter.

Buildings

- 3.3.17 Buildings on site comprised a two-storey semi-detached residence, two wooden garden sheds, a glass green house and a chicken hutch. Full descriptions of the buildings are provided in the Bat Roost Assessment section, with summary descriptions provided in Table 3.3 and locations shown in Figure 3.1.

3.4 Ecological Scoping Survey

Plants

- 3.4.1 No plant species of conservation interest were recorded on site.
- 3.4.2 No non-native invasive plant listed on Schedule 9 of the Wildlife & Countryside Act (1981 and as amended) were recorded on site.

Invertebrates

- 3.4.3 The soft landscaping within the site is likely to support a small assemblage of common invertebrates but not one that is considered to be of significant conservation interest.

Amphibians and reptiles

- 3.4.4 Grass snakes *Natrix helvetica* have been recorded within 1.41 km of the site.
- 3.4.5 The areas of hard standing, buildings on site are of no value to amphibians and reptiles and the areas of amenity grass are of low value. While, areas of scrub, hedges and ornamental planting are suitable for foraging and sheltering reptiles and amphibians.
- 3.4.6 There are no ponds suitable for breeding amphibians within the site. OS maps show five ponds, a moat and The Channel within 500 m of the site. The closest pond is located approximately 300m from site across Bildeston Road and several arable fields. The Channel contains flowing water and is suitable for foraging grass snakes but not for breeding amphibians.

Birds

- 3.4.7 The site has foraging and nesting habitat with the potential to support common and widespread breeding birds in the scattered trees and hedges on site.

Mammals

Bats

3.4.8 Several species of bat, including roosts, have been recorded within 2 km from the site:

- Common pipistrelle *Pipistrellus pipistrellus* (1.57 km)
- Soprano pipistrelle *Pipistrellus pygmaeus* (1.58 km)
- Pipistrelle bat, *Pipistrellus sp.* (1.29 km)
- Myotis bat, *Myotis sp.* (1.29km)
- Noctule *Nyctalus noctula* (1.58 km)
- Barbastelle *Barbastellus barbastellus* (1.58 km)
- Brown long-eared bat *Plecotus auritus* (0.36 km)

3.4.9 Building 1 on site could be used by bats for roosting, and the onsite trees and hedges could be used by bats for foraging and commuting.

3.4.10 The results of the roost assessment of the buildings and trees are discussed later in this section.

Badgers and Hedgehogs

3.4.11 There are records of badger *Meles meles* 0.8 km from the site and of Hedgehogs *Erinaceus europaeus* 0.34 km from the site.

3.4.12 Habitats on site, including the amenity grassland, scrub and areas of ornamental planting were suitable for use by foraging and commuting badger and hedgehog, and the hedges suitable for sheltering hedgehog.

Other animals

3.4.13 No habitat for other animal species of conservation significance occurred on site.

3.5 Bat Roost Assessment

Trees

3.5.1 All trees on site were assessed for bat roost potential, and all lacked features suitable for use by roosting bats.

3.5.2 The location of assessed trees are shown in Figure 3.1.

Buildings

3.5.3 Locations of the surveyed buildings and potential external roost / access features are shown in Figure 3.1 and detailed in Table 3.3.

Building 1

3.5.4 Building 1 was a 1920's semi-detached brick-built residence, with a gabled, clay pan-tile roof. The original parts of the building are two-storeys and there was a modern one-storey extension on the north. The extension is brick-built with a sloped concrete pan-tiled roof.

- 3.5.5 Gaps at the wall plate on the west facing gable allowed potential bat access into the loft. Gaps were present under multiple roof tiles on the southern aspect of the roof but only under a few tiles on the northern aspect, and gaps were also present under the lead flashing around the south side of the chimney and the ridge of the one-storey extension allowing potential roosting features for crevice roosting bats. The eaves were sealed on both sides of the building.
- 3.5.6 Internally the loft had timber rafters and beams. The roof was lined with bitumen felt which was in good condition. The space was used for storage reducing the openness of the loft.
- 3.5.7 No access into the roof void of the one-storey extension was possible as there was no access hatch.
- 3.5.8 No evidence of bats was present within the loft or externally.
- 3.5.9 Due to features present, the building has high bat roosting potential and further nocturnal bat surveys were recommended to confirm presence / absence of roosting bats. These were undertaken in 2021 and 2022 and results provided in the Section 3.6.

Building 2

- 3.5.10 Building 2 was a large, wooden garden shed with a shallow gabled, bitumen-felted roof. A single window was present on its east face, lighting the interior of the building during the day.
- 3.5.11 No potential bat roost features were present, and thus no internal inspection was conducted. No droppings or other evidence of bats were present externally.

Building 3

- 3.5.12 Building 3 was a small wooden garden shed with a gabled, bitumen-felted roof. A single window was present on its north face, lighting the interior of the building during the day.
- 3.5.13 No potential bat roost features were present, and thus no internal inspection was conducted. No droppings or other evidence of bats were present externally.

Building 4

- 3.5.14 Building 4 was a glass and steel-framed greenhouse, not suitable for roosting bats.

Building 5

- 3.5.15 Building 5 was a small wooden chicken hutch, not suitable for roosting bats.

Figure 3.1: Phase 1 habitat map and preliminary bat roost assessment map

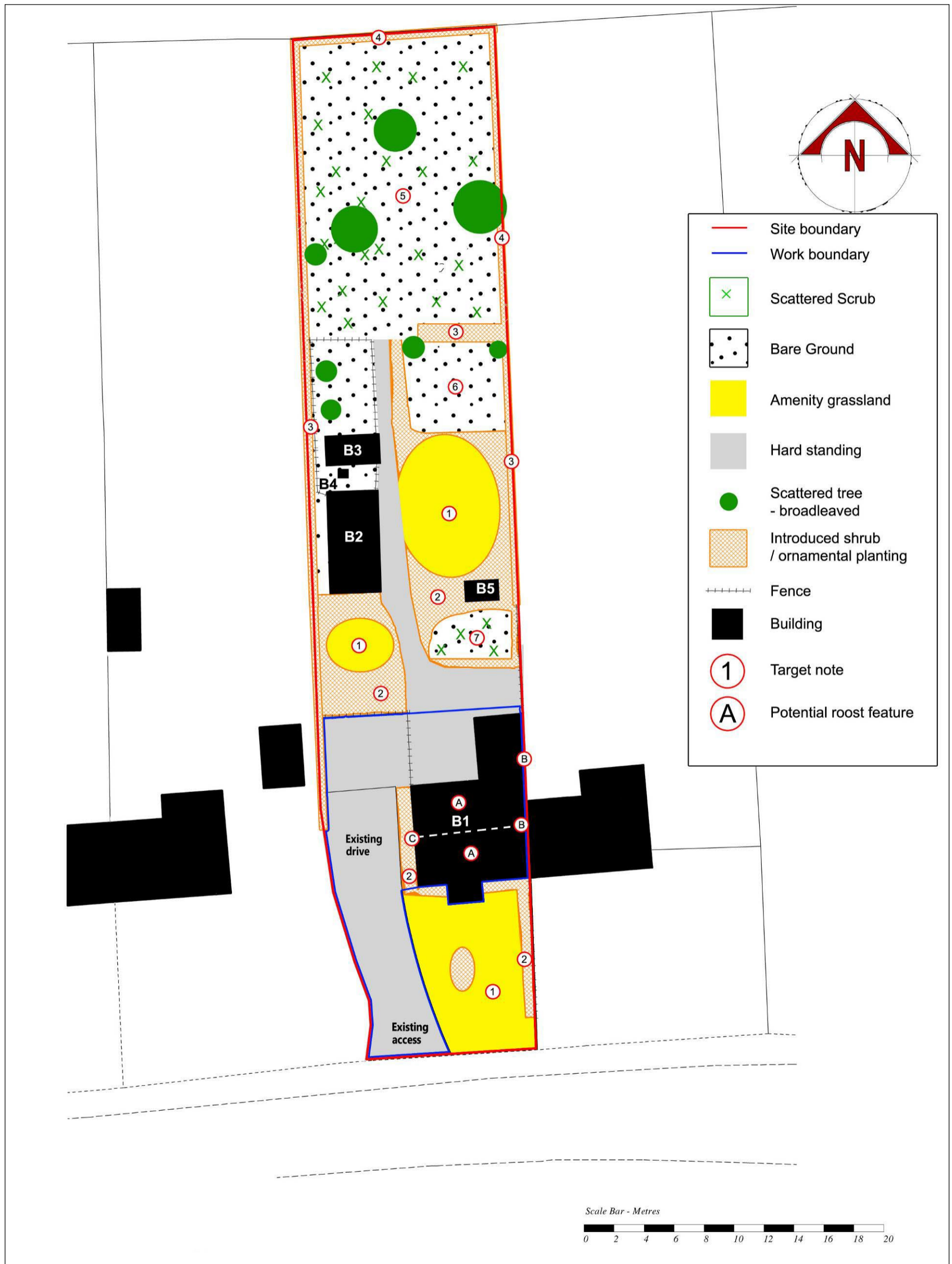


Table 3.3: Target notes

Target Note	Description
	See Figure 3.1 for target note locations
1	Mown amenity grass dominated by creeping bent with frequent common forbs.
2	Ornamental beds within the front and rear gardens of the site containing scattered shrubs and cultivated forbs.
3	Ornamental hedges comprised mainly of non-native species were present along the site boundaries, and within the site.
4	Short native hedges (less than 15m) are present at the boundaries.
5	An area of bare ground with scattered bramble, holly and hazel scrub and scattered mature trees.
6	A vegetable patch.
7	An area of bare ground with scattered bramble scrub.
B1	Two-storey semi-detached brick-built residence with gabled, clay pan-tiled roof. High bat roost potential – features described in Target Notes A – C.
B2	Large wooden garden shed with shallow, gabled, felted roof. No potential bat roost features. Negligible bat roost potential.
B3	Small wooden garden shed with gabled, felted roof. No potential bat roost features. Negligible bat roost potential.
B4	A glass and steel-framed greenhouse. No potential bat roost features. Negligible bat roost potential.
B5	A wooden chicken hutch. No potential bat roost features. Negligible bat roost potential.
A	Gaps under roof tiles – under multiple roof tiles on the southern aspect of the roof but only under a few tiles on the northern aspect.
B	Gaps under lead flashing - around the south side of the chimney and the ridge of the one-storey extension.
C	Gaps at the wall plate of the west facing gable.

3.6 Bat Emergence Survey

Roosting

- 3.6.1 Presence / likely absence surveys were carried out on Building 1 which had high bat roost potential in September and October 2021, and July, August and September 2022. Summary results are provided in Table 3.4 and Figures 3.2 through 3.7, and full results are provided in Appendix B.
- 3.6.2 No bats were recorded emerging from or entering the building on any of the surveys.
- 3.6.3 No bats were seen emerging from or returning to any of the other onsite buildings or the adjacent property during any of the surveys.
- 3.6.4 Common pipistrelle, soprano pipistrelle and brown long-eared bats were each recorded on at least one survey at times within sunset that indicate they were roosting near the site.

Table 3.4. Summary of building emergence survey results

Building	Results	
	Emergence / re-entry	Species recorded foraging/commuting
B1	No emergence or re-entry	Common Pipistrelle Soprano Pipistrelle <i>Pipistrelle</i> sp.* Noctule Leisler's / Serotine** <i>Nyctalus</i> sp. <i>Myotis</i> sp. Brown long-eared Barbastelle

**Pipistrelle* sp. were either Common or Soprano pipistrelle based on call frequency

** based on call parameters the call was attributed to either a Leisler's or Serotine bat.

Activity

- 3.6.5 Seven species of bats were recorded foraging or commuting on or over the site, but only small numbers of each species were seen during any of the surveys. Most of the bat activity recorded was that of common pipistrelle bats. Low amounts of soprano pipistrelle activity was recorded on four of the surveys. Only common and soprano pipistrelle bats were recorded at the north side of the site. Single *Myotis* bats were recorded during the July and August 2022 surveys. Single noctule, Leisler's / serotine, *Nyctalus* sp., brown long-eared and barbastelle bats were recorded on only one survey between 2021 and 2022.
- 3.6.6 Most of the observed bats flew along the hedge at the west property boundary and across the front garden. Only small numbers of common pipistrelles were observed foraging along the western and eastern boundary hedges, and the higher amount of activity by common pipistrelle on some of the surveys was considered to be from these bats foraging along the offsite stream (The Channel) and hedgerow on the opposite side of Bildeston Road on the October 2021, July 2022, and August 2022 surveys and around the trees at the rear of the site on the July and August 2022 surveys.
- 3.6.7 All of the non-pipistrelle bats were recorded at the south of the property. None of these bats were observed during the surveys, and only single contacts of these bats were recorded on any one survey. Thus, it is likely they were commuting offsite, along the stream (The Channel) or hedgerow on the opposite side of Bildeston Road or, in the case of the *Nyctalus* species, higher over site. Bat activity recorded over the course of the presence / absence surveys is shown in Figures 3.2 through 3.7.

Figure 3.2: Emergence Survey Results – 11th September 2021

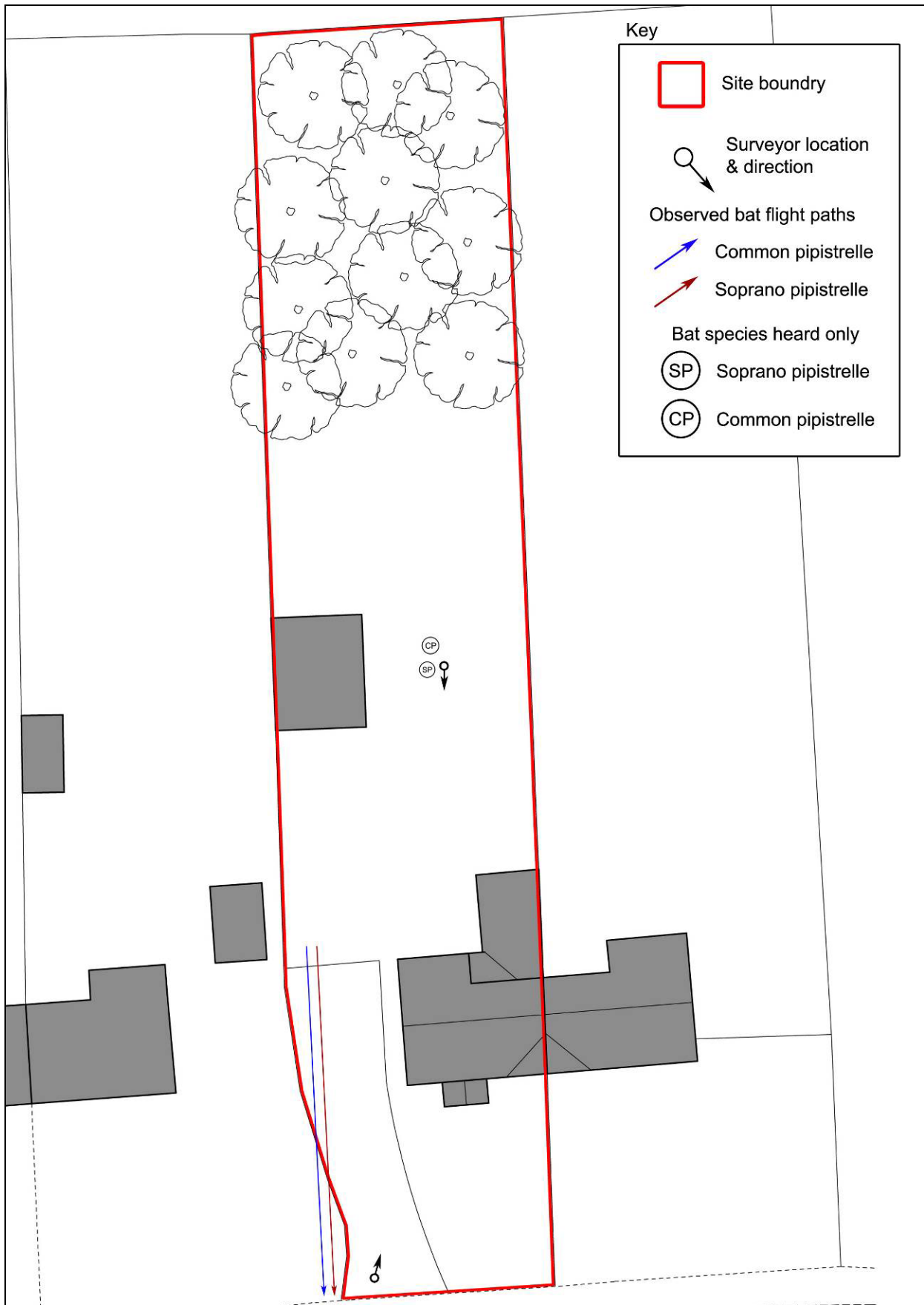


Figure 3.3: Re-entry Survey Results – 19th September 2021



Figure 3.4: Emergence Survey Results – 1st October 2021

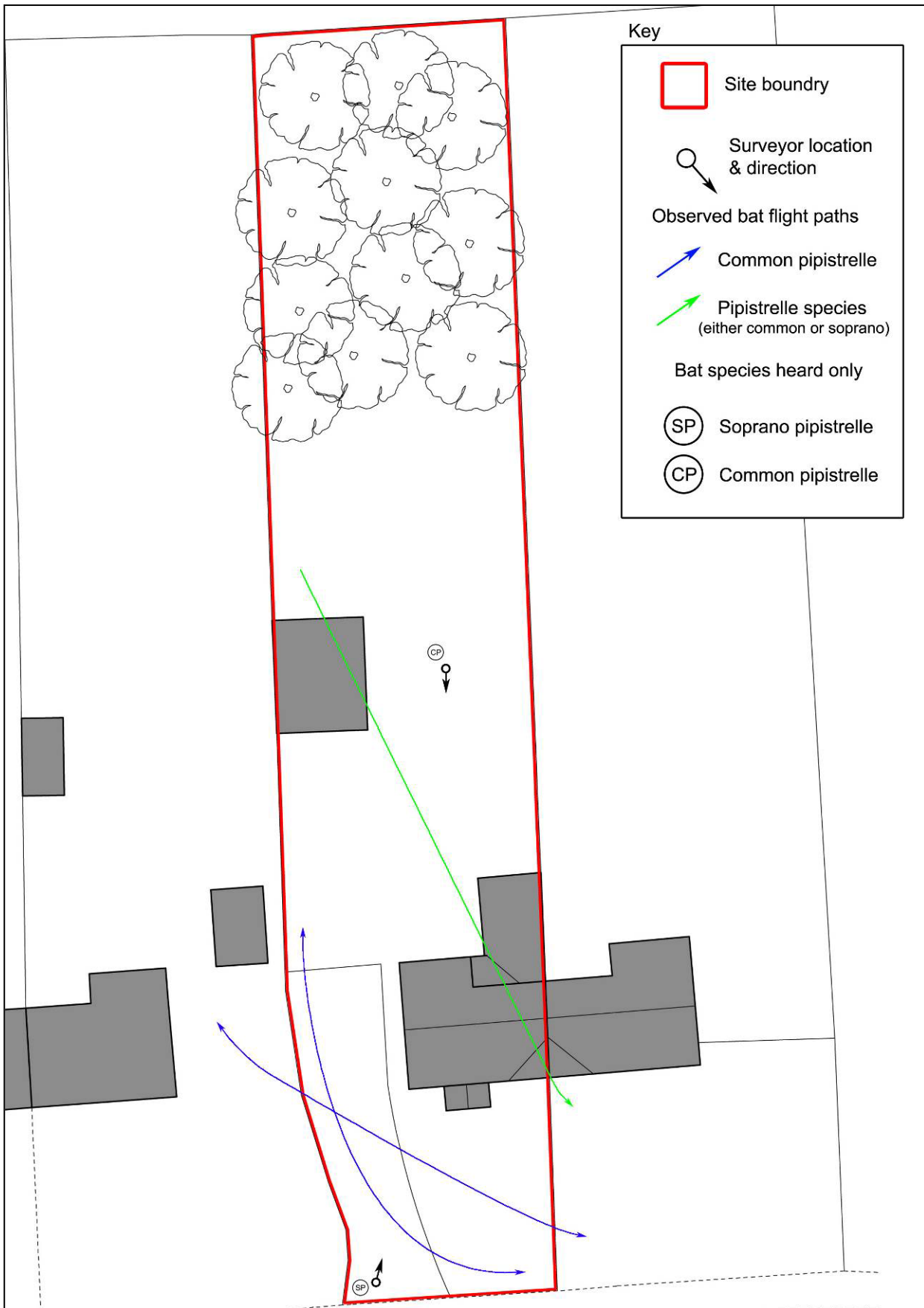


Figure 3.5: Emergence Survey Results – 11th July 2022

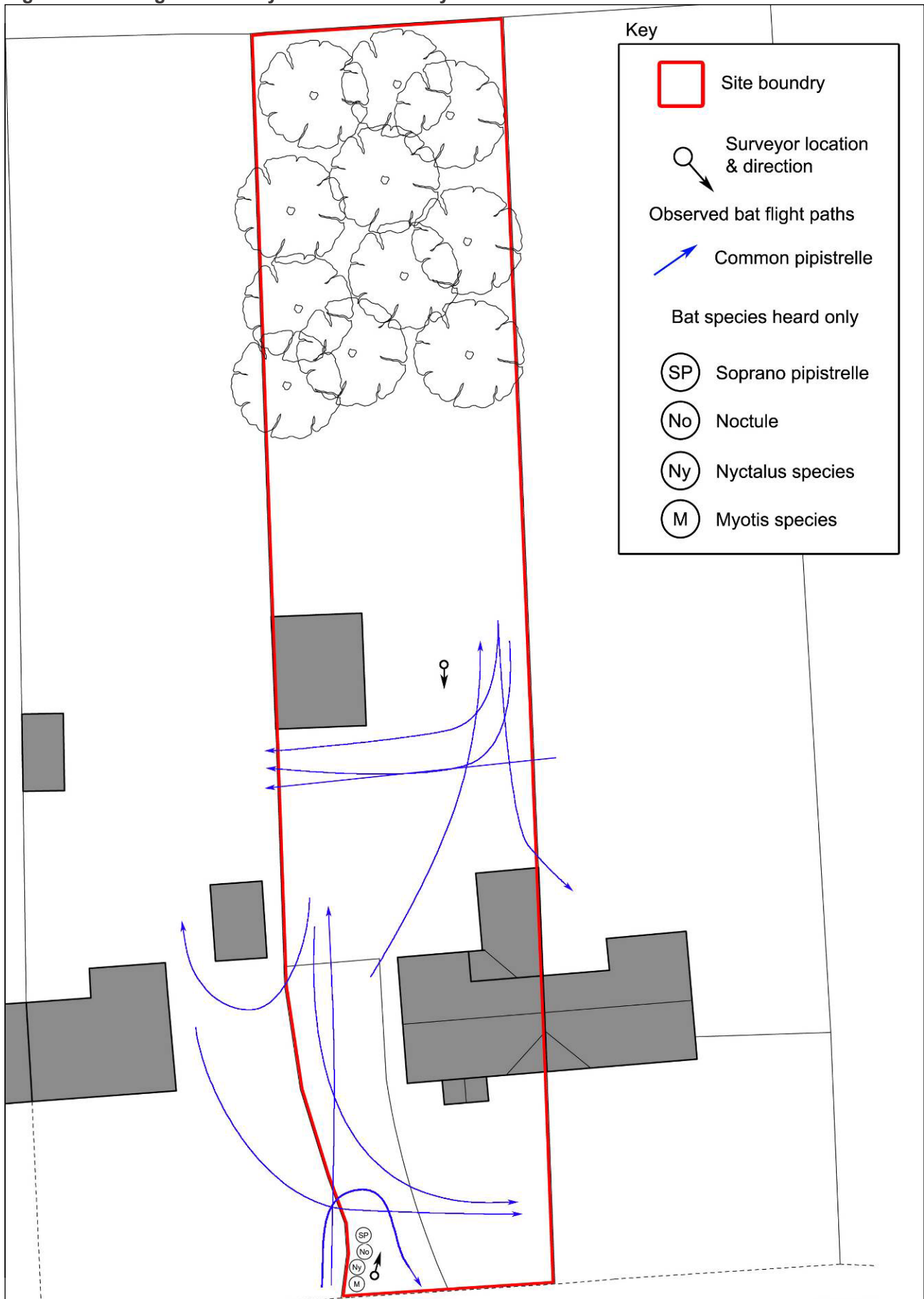


Figure 3.6: Emergence Survey Results – 5th August 2022

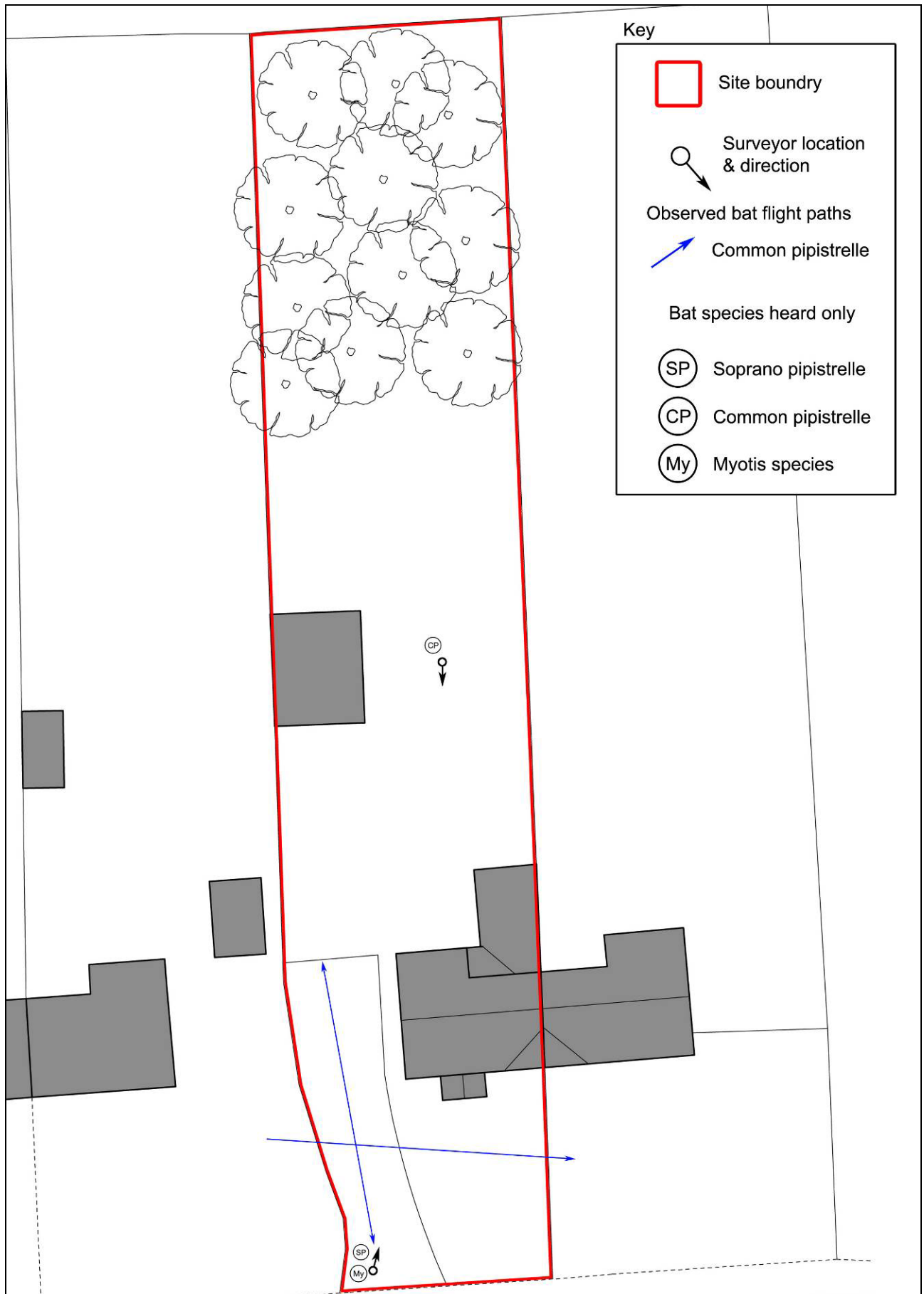
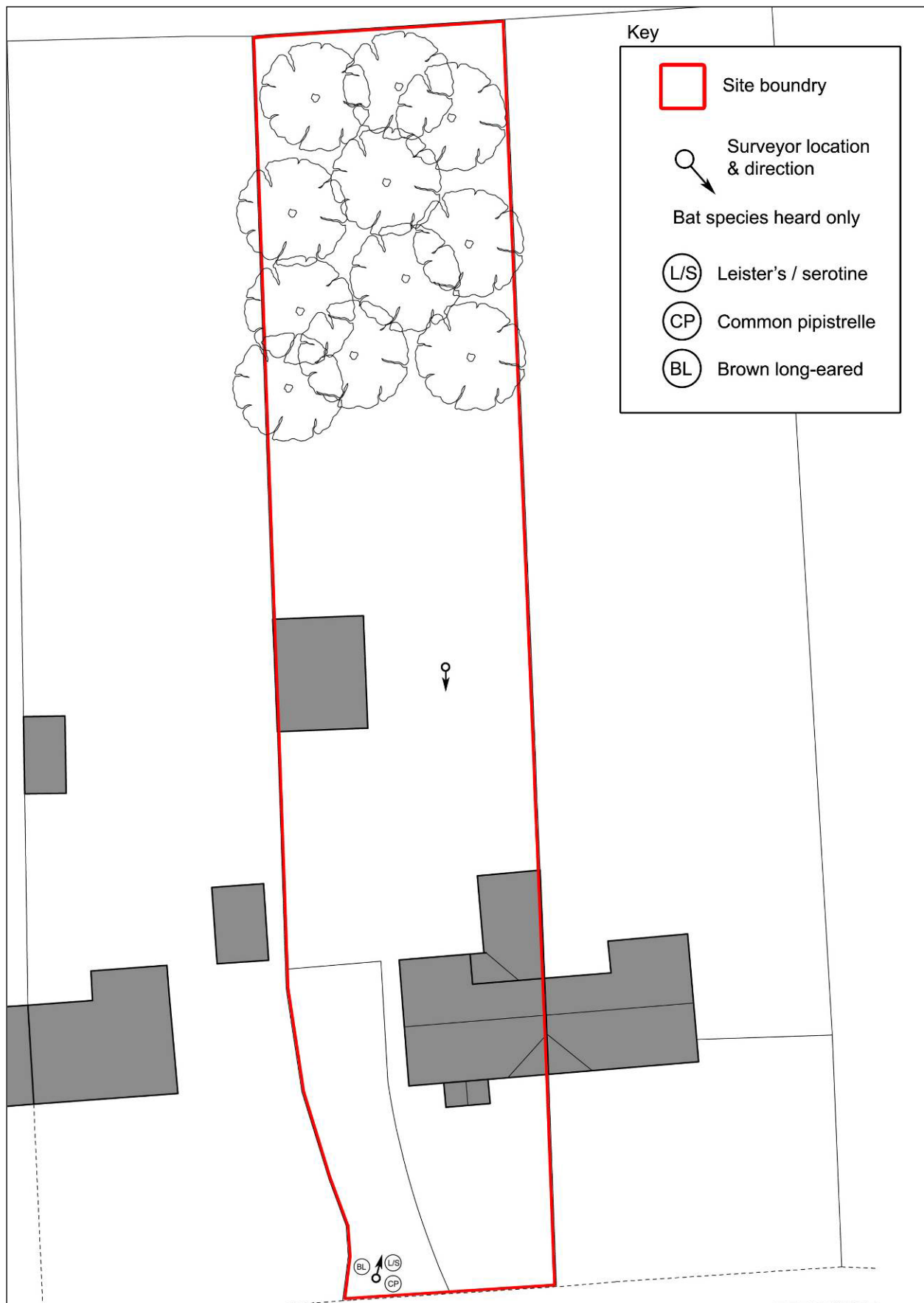


Figure 3.7: Emergence Survey Results – 27th September 2022



4 Evaluation and potential impacts

4.1 Designated Sites

- 4.1.1 There are two statutory designated sites for nature conservation value within 2 km of the site, both of which are Sites of Special Scientific Interest (SSSI).
- 4.1.2 Two non-statutory sites are located within the 2 km search radius of the site, both of which are County Wildlife Sites (CWS).
- 4.1.3 The closest statutory designated site is Middle Wood, Offton (SSSI), 0.09 km north of the site. The closest of non-statutory is Bushey Ley Farm (CWS), located 1.54 km south of the site.
- 4.1.4 The site falls within the SSSI Impact Risk Zones of statutory designated sites greater than 2km from the site. Natural England should be consulted on the likely risks to SSSIs, SACs, SPAs and Ramsar sites from the following if one or more are included in the Planning Proposal:
- All planning applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures;
 - Infrastructure – Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals;
 - Minerals, Oil & Gas – Planning applications for quarries including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction;
 - Residential - Residential development of 100 units or more;
 - Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas;
 - Air pollution - Any development that could cause air pollution or dust either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores);
 - Combustion – All general combustion processes: Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion;
 - Waste – Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management;
 - Composting – Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management; or
 - Water Supply – Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply.
- 4.1.5 The proposed development is a householder planning application and does not fall into any of these categories and thus will not have adverse impacts post-development on statutory sites outside of 2 km.
- 4.1.6 No impacts on designated sites during or post-construction are likely to occur given the nature of the development, being a small homeowner extension of a single residence with the area of works separated from the designated sites.

4.2 Habitats

- 4.2.1 There were no habitats of intrinsic conservation importance present on site. While there are hedges with UK native species at the site boundaries these are both less than 20m long, and thus do not fall under the definition of Hedgerows BAP priority habitat. To be counted as a hedgerow, a boundary line of trees and shrubs needs to be at least 20m long along with other parameters, and to be covered by Hedgerows priority habitat hedgerows need to be comprised of at least 80% of at least one woody UK native species (BRIG, 2008).
- 4.2.2 The scattered trees and ornamental hedges all have a local nature conservation value.
- 4.2.3 The development will retain the onsite trees, hedges and other vegetative habitats, with works restricted to areas of hard standing and Building 1.

4.3 Species

Plants

- 4.3.1 No plant species of significant conservation interest are present. No further surveys for plants are considered necessary.

Invertebrates

- 4.3.2 The invertebrate assemblage present on site is not considered likely to be of significance at more than the site level. No further surveys are therefore considered necessary.

Amphibians and Reptiles

- 4.3.3 There are grass snake within 2km of site and no records of amphibians within 2km of site.
- 4.3.4 There are no ponds within the site, and all ponds within 500m of site are greater than 250m from site and separated from site by large arable fields. The majority of great crested newts stay within 250m of their breeding pond (Langton et al., 2001), and therefore the site is unlikely to support GCN.
- 4.3.5 While some vegetation within the site is considered suitable to support amphibians and reptiles, it is located outside of the proposed works area.
- 4.3.6 Thus, it is unlikely that amphibians or reptiles will be affected by the proposals. No further survey or mitigation is required.

Birds

- 4.3.7 The onsite scattered trees and hedges provide habitat for a range of common garden bird species, including species of conservation concern (Eaton et al., 2015). These habitats will be retained, and proposed works are highly unlikely to damage nests or disturb any nesting birds using the hedges adjacent to the work zone.
- 4.3.8 No bird surveys are considered necessary. Measures to avoid damage to active bird nests during construction are recommended in Section 5.
- 4.3.9 Further information on the legislation regarding birds is included in Appendix A.

Mammals

Bats

Roosting bats

- 4.3.10 Building 1 has high bat roost potential due to features on its roof. No bats were observed emerging from or returning to Building 1 during presence / absence surveys. The 2022 surveys were undertaken during the optimal time for surveying for bat presence/ absence according to guidance (Collins, 2016). The 2021 surveys provide supplementary data about bat use of the building during the bat transitional season. No further survey or mitigation in relation to this building for day roosting bats is considered necessary.
- 4.3.11 Building 1, could provide roosting opportunities through the year for pipistrelle bats. Due to the structure / location of the features hibernation surveys are not possible. Hibernation surveys were not considered necessary but roofing works will be timed to avoid the hibernation period (November – February inclusive) to avoid potentially impacting hibernating bats.
- 4.3.12 The other buildings and all trees on site are not suitable for use by roosting bats.
- 4.3.13 Further information on the legislation protecting bats is included in Appendix A.

Foraging / Commuting bats

- 4.3.14 Low common and soprano pipistrelle activity was recorded at the site, mainly associated with the boundary hedges and northern trees on site. Common and soprano pipistrelle and occasionally other species were also recorded offsite, likely using the offsite hedgerow and The Channel opposite Bildeston Road.
- 4.3.15 The ability of bats to forage and commute around the site during and post construction and occupation of the proposed development is unlikely to be affected, as works will be conducted during the day and no additional lighting to the building is proposed.
- 4.3.16 Further information on the legislation regarding bats is included in Appendix A.

Badgers and hedgehogs

- 4.3.17 Badgers and hedgehogs are known to be present in the wider area and it is considered possible that both species use onsite vegetation for foraging and / or sheltering. It is possible that they could also use areas of hardstanding within the work zone for commuting. No further surveys are necessary at this stage, but recommendations to protect hedgehogs and badgers during construction are made in Section 5.
- 4.3.18 Further information on the legislation regarding badgers and hedgehogs (a Section 41 species (NERC Act)) is included in Appendix A.

Other animals

- 4.3.19 No other protected animal species are considered likely to be a constraint to the development as works will be restricted to built areas and hardstanding.

5 IMPACTS, MITIGATION AND ENHANCEMENT

5.1 Designated sites and habitats

- 5.1.1 No impacts on designated sites during construction or post-development are anticipated.
- 5.1.2 All vegetation will be retained and will not be impacted by the proposed works.

5.2 Species

Birds

- 5.2.1 In the unlikely event active bird nests are discovered, appropriate measures will be put in place to ensure that any nest is not disturbed. This will involve placing a buffer around the nest, within which no works will be undertaken until the nest has been judged, by a suitably qualified ecologist, to no longer be in use (i.e. fledged young have left the nest, or the nesting attempt has failed).
- 5.2.2 The radius of the protective buffer will be dependent on the species present and stage of breeding (i.e. with eggs, chicks, etc.) and will be determined by an ecologist.

Roosting bats

- 5.2.3 Surveys showed no bat using Building 1 for roosting.
- 5.2.4 As Building 1 has hibernation potential for bats, the sections of roof requiring removal will need to be removed outside of bat hibernation season, which is November – February inclusive, to avoid potentially impacting bats.

Bat activity

- 5.2.5 Seven species of bats were recorded during the surveys, with common and soprano pipistrelle recorded on site. Observed bat commuting activity on site was mainly associated with the boundary hedgerows.
- 5.2.6 Bats are nocturnal and adapted to roost and forage in low light conditions therefore increases in artificial lighting can cause disturbance or disrupt existing flight paths and roosting, even with more light tolerant bats such as *Pipistrellus* and *Nyctalus* species.
- 5.2.7 Works will only take place during day light hours and no additional lighting is proposed post construction, thus foraging and commuting bats will not be impacted by the proposed development.

Badgers and hedgehogs

- 5.2.8 No further surveys are necessary for hedgehogs or badgers. However measures should be undertaken to avoid any risk to these species on site. This would comprise ensuring that any excavations for foundations or service connections are covered overnight to prevent these species from becoming trapped. Alternatively, ramps (e.g. planks) can be provided in excavations to allow badgers and hedgehogs to escape.
- 5.2.9 The mitigation measures proposed above would also protect other wildlife on site.

5.3 Enhancement opportunities

- 5.3.1 In addition to the mitigation measures outlined above, one bat box will be installed on a retained mature tree onsite to provide additional roosting opportunities for bats.

6 Conclusions

- 6.1 There are two statutory and two non-statutory designated sites for nature conservation value within 2 km of the site.
- 6.2 The site falls within the SSSI Impact Risk Zones of statutory designated sites greater than 2 km from the site, but the development does not meet the thresholds requiring consultation with Natural England, and therefore adverse impacts on these statutory sites are ruled out.
- 6.3 No impacts on designated sites would occur from construction of the proposed development or post-development.
- 6.4 There were no habitats of intrinsic conservation importance present on site. Plant species and habitats that are present are mostly introduced species or ornamental planting and are not considered to be of intrinsic ecological interest.
- 6.5 The scattered trees and ornamental hedges all have a local nature conservation value. The development will retain the onsite trees, hedges and other vegetative habitats, with works restricted to areas of hard standing and Building 1.
- 6.6 Building 1 has high bat roost potential due to features on its roof. Surveys showed no bat using Building 1 for roosting. As this building has hibernation potential for bats, the sections of roof requiring removal will need to be removed outside of bat hibernation season, which is November – February inclusive, to avoid potentially impacting bats.
- 6.7 The other buildings and all trees on site are not suitable for use by roosting bats.
- 6.8 Seven species of bats were recorded during the surveys, with common and soprano pipistrelle recorded on site. Observed bat commuting activity on site was mainly associated with the boundary hedgerows. Works will only take place during day light hours and no additional lighting is proposed post construction, thus foraging and commuting bats will not be impacted by the proposed development.
- 6.9 Measures should be undertaken during the construction phase to avoid harming breeding birds, badgers and hedgehogs which could use vegetation adjacent to the work zone for sheltering, nesting and foraging and which may commute across the hardstanding within the work zone.
- 6.10 As an enhancement measure, one bat box will be installed on a retained mature tree onsite to provide additional roosting opportunities for bats.

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Appendices

Appendix A: Relevant Legislation

Birds

All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. It is an offence to:

-intentionally kill, injure or take any wild bird;
-intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
-intentionally take or destroy the egg of any wild bird.

Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Licences can be issued to visit the nests of such birds for conservation, scientific or photographic purposes but not to allow disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Bats

All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 as European Protected Species. It is an offence to:

-intentionally or recklessly kill, injure or capture bats;
-deliberately or recklessly disturb bats (whether in a roost or not); and
-damage, destroy or obstruct access to bat roosts

A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.

A licence will therefore be required by those who carry out any operation that would otherwise result in offences being committed.

The following bat species are listed as being of principal importance for the conservation of biodiversity in England, (commonly referred to as UKBAP Priority species): Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe, and Lesser Horseshoe.

Badger

Badgers are protected under the Protection of Badgers Act 1992. This act is based on the need to protect badgers from baiting and deliberate harm or injury. The act makes it an offence to:

-Wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
-Intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access routes.

A sett is defined as "any structure or place that displays signs indicating current use by a badger".

Other NERC S41 species

Species listed as Priority Species on the Natural Environment and Rural Communities Act Section 41 (2006) (NERC S41) have been listed by the secretary of state as the species which are of principal importance for the conservation of biodiversity in England.

The list is used to guide decision making such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act (2006) to have regard to the conservation of biodiversity in England.

Appendix B: Bat emergence survey results

1st survey results – 11.09.21

Surveyor Location	Species	Time of first call	minutes past sunset	Total contacts
North	Common pipistrelle	20:06	45	3
	Soprano pipistrelle	19:54	33	1
South	Common pipistrelle	20:07	46	1
	Soprano pipistrelle	19:54	33	1
No bat emergence				

2nd survey results – 19.09.21

Surveyor Location	Species	Time of lat call	minutes before sunrise	Total contacts
North	No bats			
South	Barbastelle	05:20	77	1
No bat emergence				

3rd survey results – 01.10.21

Surveyor Location	Species	Time of first call	minutes past sunset	Total contacts
North	Common pipistrelle	19:16	42	2
	<i>Pipistrelle</i> sp.*	19:11	37	1
South	Common pipistrelle	19:09	35	30
	Soprano pipistrelle	19:01	27	2
No bat emergence				

* *Pipistrelle* sp. were either Common or Soprano pipistrelle based on call frequency.

4th survey results – 11.07.22

Surveyor Location	Species	Time of first call	minutes past sunset	Total contacts
North	Common pipistrelle	21:21	7	20
South	Common pipistrelle	21:21	7	91
	Soprano pipistrelle	22:32	78	6
	Noctule	22:23	69	1
	<i>Nyctalus</i> sp.	21:56	42	1
	<i>Myotis</i> sp.	22:18	64	1
No bat emergence				

5th survey results – 05.08.22

Surveyor Location	Species	Time of first call	minutes past sunset	Total contacts
North	Common pipistrelle	20:59	19	62
South	Common pipistrelle	21:30	50	53
	Soprano pipistrelle	22:02	82	1
	<i>Myotis</i> sp.	21:55	75	1
No bat emergence				

6th survey results – 27.09.22

Surveyor Location	Species	Time of first call	minutes past sunset	Total contacts
North	No bats			
South	Common pipistrelle	19:18	35	2
	Leisler's/Serotine	19:27	44	1
	Brown long-eared	19:29	46	1
No bat emergence				

Appendix C: Photographs



Photo 1. South face of Building 1 .



Photo 2. North face of Building 1



Photo 3. Building 1 loft



Photo 4. Rear garden