ECOLOGICAL IMPACT ASSESSMENT

OF

BARRINGTON CLOSE, KINGSWOOD

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Site Address	Barrington Close and Fairford Close, Kingswood, Bristol, BS15 4QD
Report type	Ecological Impact Assessment
Client	Bromford
Project number	001BROM100

The material and data in this report were prepared under the supervision and direction of the undersigned.

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VALIDITY

Due to the dynamic nature of ecological conditions the results of the survey(s) and related conclusions and recommendations as contained within this report should only be considered valid for up to 12 months from the date the last survey was undertaken.

Any alterations to the site proposals may invalidate the recommendations contained within this report.

Non-Technical Summary

Abricon Ltd. was commissioned by Bromford to undertake update Ecological Impact Assessment in order to establish the likely impacts of the proposed development at “the site” that consists of eleven residential buildings and garages on Barrington Close and Fairford Close, Kingswood, Bristol, BS15 4QD. The assessment was extended to include a desktop study of any nearby statutory and non-statutory sites for nature conservation, as well as an examination of local species records.

An updated Habitat Survey of the land was undertaken in July 2023, with the aim of identifying any features, habitats and rare or protected species which would constitute potential constraints to the development taking place, and assessing the ecological value of the survey area, in order to make recommendations for any further actions which may be required.

The updated Habitat Survey was complimented with the completion of update bat emergence surveys to establish if roosting bats were present/absent from the residential buildings. Buildings B1 – B6, B8, B10 and B11 were assessed as being of ‘low’ potential and B7 and B9 were assessed as being of ‘moderate’ potential for roosting bats (mainly due to additional hanging tile features), due to number and type of roosting features, site’s location and other factors like presence of street lighting, in accordance with the BCT guidelines.

The emergence surveys undertaken in June and July 2023 identified that B1 is being used as a day roost by low numbers of common pipistrelle bats. No bats were observed emerging from the B2 – B11 during the emergence surveys conducted on the site in 2023. It is therefore considered that bats are likely absent from these buildings.

A Bat Mitigation Licence (BML) or Bat [Low Impact] Mitigation Class Licence (BMCL) registration will be required from Natural England, in order to allow demolition of B1 which would otherwise be illegal. The licence must be in place prior to any works being undertaken which could impact on bat roosts, and where consents are required (planning, listed building etc), these must be in place prior to applying.

It is understood that the proposed plans for the site comprise the demolition of the existing eleven residential buildings and then the construction of 85 new homes with associated access, parking, and infrastructure. Site plans are provided in Appendix C at the end of this document.

The results of this ecological impact assessment have highlighted the requirement for further actions, which are summarised in the table below:

Species/Groups	Phase	Action(s) Required
Habitats	Design Stage	The proposal should seek to contain diverse native planting wildlife which will also have wildlife benefits.
	Prior to Planning Determination	A biodiversity net gain (BNG) report should be compiled and submitted alongside the planning application.
Bats	Once Planning Consent is Granted but Prior to Works affecting B1 commence	A BML or BMCL will be required from Natural England once planning consent is granted, in order to enable demolition of B1 to proceed legally (refer to the Outline Mitigation Plan in Appendix E).
	Design	Artificial lighting designed sensitively to minimise impacts of artificial lighting on boundary features and other adjacent habitats of value to foraging/commuting bats.
Birds	Site Clearance	Timing of site clearance and demolition to be undertaken outside of the nesting bird season (generally considered to be between March to August inclusive). If this is not possible, the area will be searched by a suitably qualified ecologist to check for active nests. Should an active nest be found, a suitable buffer will be placed around the nest where no works will

		occur until the chicks have fledged, or the nest is no longer active, as confirmed by the ecologist.
Hedgehogs (and Small Mammals)	Construction	Protocols will be put in place to ensure that any pits or excavations that are left open overnight are suitably prepared to stop animals becoming trapped.
Ecological Enhancements	Design and Construction	Ecological enhancements should be included within new developments in line with requirements set out in the National Planning Policy Framework (NPPF, 2023). Recommendations made in Section 6.6.

1 Introduction

1.1 Survey Background, Aims & Objectives

1.1.1 Abricon Ltd. was commissioned by Bromford to undertake update Ecological Impact Assessment in order to establish the likely impacts of the proposed development at "the site" that consists of eleven residential buildings and garages on Barrington Close and Fairford Close, Kingswood, Bristol, BS15 4QD. The assessment was extended to include a desktop study of any nearby statutory and non-statutory sites for nature conservation, as well as an examination of local species records.

1.1.2 An updated Habitat Survey of the land was undertaken in July 2023, with the aim of identifying any features, habitats and rare or protected species which would constitute potential constraints to the development taking place, and assessing the ecological value of the survey area, in order to make recommendations for any further actions which may be required.

1.1.3 The updated Habitat Survey was subsequently followed up with the completion of update bat emergence surveys to establish if roosting bats were present/absent from the residential buildings.

1.2 Site Location & Description

1.2.1 The site (approximately 2 ha) is located on Barrington Close and Fairford Close, located in the urban area of Kingswood. The site is centred at OS Grid Reference: ST 65649 74551.

1.2.2 The buildings on site comprise eleven residential buildings, garages and associated communal gardens. The site is bordered by Barrington Green Play Area to the south and other residential areas to the east, north and west.

1.2.3 Within the wider landscape, the site is surrounded by residential areas of Kingswood.

1.2.4 The location of each residential block within the site is identified below (Figure 1).

Figure 1 – Site and Building Location (highlighted) – Accessed on 28/09/2023

1.3 Proposed Development

1.3.1 It is understood that the proposed plans for the site comprise the demolition of the existing eleven residential buildings and garages and then the construction of 85 new dwellings with associated access, parking, and infrastructure. Site plans are provided in Appendix C at the end of this document.

2 Methodology

2.1 Desk Study

2.1.1 A desk study of existing ecological records for the site and surrounding land was conducted in August 2021 and July 2023.

2.1.2 Records of protected species and non-statutory sites for nature conservation were received from Bristol Regional Environmental Records Centre (BRERC) from within 2km of the site in August 2021.

2.1.3 Only records from the past ten years (since 2011) were considered within this report, to ensure that the ecological baseline of the site and the surrounding area was established from up-to-date information. Statutory designated sites within 2km of the development site were obtained from the UK Governments Countryside Geographic Information Website (MAGIC). Data was used in conjunction with an assessment of site plans and aerial photographs. In addition, the Natural Environment and Rural Communities (NERC) Act 2006 was consulted.

Table 1 – Consultees for the Desk Study

Consultee	Information Provided
MAGIC Website	Statutory sites for nature conservation (July 2023)
BRERC	Local species records and non-statutory sites for nature conservation (August 2021)
European Protected Species Licences	European Protected Species Licences (EPSL) granted within 2km of the site (July 2023)

2.2 Field Survey

2.2.1 A preliminary ecological appraisal was conducted on 4th July 2023 by Stuart Rowden (Natural England (NE) bat class 2 licenced), Samuel Olney (NE bat class 2 licenced), Jade Lemm and Lainey Wilkinson. The first stage of the assessment was to complete a UK Habitat Classification System (UKHab) survey following the standard methodology (UKHab v1.1, 2020). UKHab is a standard technique for classifying and mapping British habitats, and the aim is to provide a record of habitats that are likely to be ecologically important. Following this, the site and nearby surrounding land (where possible) was assessed for the presence of, or potential for, protected or notable species to be present, and an assessment was made on the likely impacts of the proposed development on such species.

2.2.2 This survey on its own cannot always determine the presence/likely absence of a species, nor does it provide a conclusive list of botanical species. It is intended to inform the requirement for, as well as the details of, Phase 2 surveys for species and important features.

2.2.3 It was 12°C and wet at the time of survey.

2.3 Building Inspections

2.3.1 The buildings on the site were inspected internally and externally on 4th July 2023 by Stuart Rowden (Natural England (NE) bat class 2 licenced), Samuel Olney (NE bat class 2 licenced), Jade Lemm and Lainey Wilkinson in order to identify any evidence of use by bats and nesting birds.

2.3.2 To assist in a thorough search for bats the following equipment was used:

- Binoculars
- Hi-power torch
- Head torch
- Digital camera

Bats

2.3.3 Signs of bats looked for include:

- Bats (alive or dead)
- Droppings
- Staining
- Feeding signs
- Smell
- Social calling

2.3.4 The buildings were also inspected for their suitability to be used by roosting bats in accordance with BCT guidelines (Collins, 2016), with any potential features which could be used by roosting bats being recorded.

Nesting Birds

2.3.5 Signs of nesting birds looked for include:

- Birds (alive or dead)
- Nests (current or disused)
- Droppings
- Feeding signs
- Eggs

2.4 Bats – Ground Level Tree Assessment

2.4.1 The trees on site were subject to a ground level assessment by Stuart Rowden (Natural England (NE) bat class 2 licenced), Samuel Olney (NE bat class 2 licenced), Jade Lemm and Lainey Wilkinson on 4th July 2023. Binoculars and high-powered torches were used to inspect the trees for evidence of bat roosting features, as listed below:

- Natural holes
- Woodpecker holes
- Cracks/splits in major limbs
- Loose bark
- Hollows/cavities
- Dense epicormic growth
- Birds and bat boxes

2.4.2 Each tree was then assigned a value in terms of its suitability for roosting bats, in accordance with the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).

2.5 Bat Emergence/Re-Entry Surveys

2.5.1 Bat emergence/re-entry surveys can aid a building inspection by positive confirmation of access and egress points into and out of a structure. This method also allows recordings of bat echolocation calls for species identification to help determine the use and importance of a roost. Emergence surveys may also identify new roost areas where no evidence of bats was found during the inspection.

2.5.2 The surveys were undertaken by surveyors observing bats and their activity in the field using non-invasive and non-disturbing techniques. Emergence surveys are based on the Bat Conservation Trust's (BCT) survey guidelines 'Bat Survey for Professional Ecologists - Good Practice Guidelines' (Collins, 2016).

2.5.3 The surveyors were situated at key locations to ensure that all aspects of the building were observed at all times, particularly those areas that had the highest potential to be used by bats and/or were evidence of bat use was found. The dusk activity surveys commenced approximately 15 minutes prior to sunset and continued for approximately 1.5 hours after sunset (or until it was too dark to see.

2.5.4 Any bats observed were recorded. Information included;

- Time;
- Emergence or entry points;
- Direction of flight;
- Use of landscape;
- Flight characteristics;
- Size;
- Height above ground and;
- Behaviour.

2.5.5 Two surveyors were present during the bat surveys on B1 – B6 and four surveyors were present during the bat surveys on B7 – B11. At least one licenced/experienced bat surveyor was present on each of the surveys. Surveyor locations are displayed in Figure 2 below.

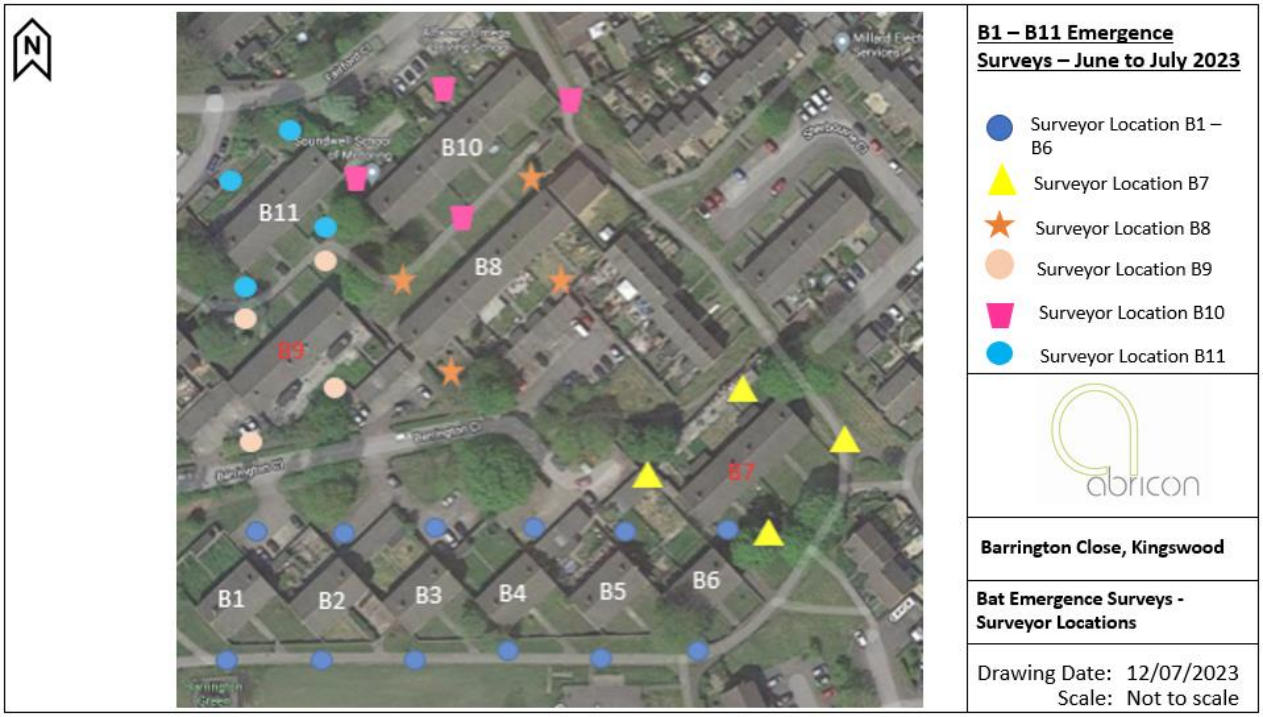

Figure 2 – Bat Emergence/Re-Entry Surveys – Surveyor Locations

2.5.6 The surveys were aided with a night vision cameras to enhance the potential of capturing bats emerging from the buildings. The survey of the buildings was augmented with the use of an infrared camera (NightFox Whisker) with standalone infrared lights (two 12-LED 850nm wide angle infrared floodlights) to illuminate the viewing area. The camera was manned by a suitably experienced surveyor at all times throughout the survey, and recorded footage was subsequently viewed at 1-1.5x speed after the survey was completed.

2.5.7 The bat detectors used during the emergence surveys were: Elekon Batscanners were paired with Anabat Express detectors for recording purposes. Analysis of recorded sound files was subsequently undertaken using AnalookW.

Table 2 – Weather Conditions for Emergence Surveys

Structure	Date	Sunset/Sunrise	Survey Time		Weather
B1 + B2	26/06/23	21:31	**Start**	21:16	17°C, Rain: No, Cloud Cover: 8/8, Wind 3/12
			Finish	23:01	16°C, Rain: No, Cloud Cover: 7/8, Wind: 2/12
B3 + B4	28/06/23	21:31	**Start**	21:16	18°C, Rain: No, Cloud Cover: 8/8, Wind 1/12

			Finish	23:01	16°C, Rain: No, Cloud Cover: 8/8, Wind: 2/12
B5 + B6	03/07/23	21:30	**Start**	21:15	16°C, Rain: No, Cloud Cover: 8/8, Wind 4/12
			Finish	23:00	15°C, Rain: No, Cloud Cover: 8/8, Wind 4/12
B7	05/07/23	21:29	**Start**	21:14	15°C, Rain: No, Cloud Cover: 1/8, Wind 4/12
			Finish	22:59	15°C, Rain: No, Cloud Cover: 1/8, Wind 4/12
B9	11/07/23	21:24	**Start**	21:09	19°C, Rain: No, Cloud Cover: 2/8, Wind 4/12
			Finish	22:54	15°C, Rain: No, Cloud Cover: 3/8, Wind 1/12
B10	12/07/23	21:24	**Start**	21:09	17°C, Rain: No, Cloud Cover: 6/8, Wind 3/12
			Finish	22:54	15°C, Rain: No, Cloud Cover: 7/8, Wind 3/12
B11	13/07/23	21:23	**Start**	21:08	17°C, Rain: No, Cloud Cover: 8/8, Wind 1/12
			Finish	22:53	17°C, Rain: No, Cloud Cover: 8/8, Wind 2/12
B7	18/07/23	21:18	**Start**	21:03	16°C, Rain: Yes, Cloud Cover: 8/8, Wind 1/12
			Finish	22:48	13°C, Rain: No, Cloud Cover: 7/8, Wind 1/12
B1	25/07/23	21:09	**Start**	20:54	17°C, Rain: No, Cloud Cover: 7/8, Wind 1/12
			Finish	22:39	16°C, Rain: No, Cloud Cover: 1/8, Wind 1/12
B8 + B9	27/07/23	21:06	**Start**	20:51	17°C, Rain: No, Cloud Cover: 8/8, Wind 5/12
			Finish	22:36	16°C, Rain: No, Cloud Cover: 7/8, Wind 3/12

2.6 Great Crested Newts

Identification of Suitable Water Bodies

2.6.1 Water bodies occurring within 500m of the site and on the near side of any substantial boundaries (i.e. major roads) were identified using OS maps and aerial photography. A 500m buffer is considered sufficient for the size of the site (approx. 2ha) and scale of the proposals.

2.6.2 One pond was identified within 500m of the site. However, the pond was located on private land so could not be subject to an assessment.

2.7 Personnel

2.7.1 Stewart Rowden has worked in the consultancy sector since 2018 with a focus on protected species, particularly bats. Stewart holds NE and NRW Class 2 licences for bats, and NE Level 1 dormice Licence. His primary experience comprises of completion of bat surveys, analysis of bat sound files, report writing and completion of EPS application forms. Stewart has previously worked at NRW assessing planning applications, significant development proposals and SSSI consents, and at NE as a wildlife licensing support officer. Stewart has been surveying for bats for over a decade and has been a Bat Conservation Trust registered bat carer since 2011.

2.7.2 Samuel Olney has been working in environmental consultancy since 2012 and holds a survey licence for great crested newts (NE Class 1 licensed surveyor) and bats (NE Class 2 licensed surveyor). As well as extensive project management, Samuel's primary experience includes numerous preliminary ecological appraisals, phase 1 habitat surveys, protected species surveys and ecological clerk of works.

2.7.3 Jade Lemm BSc, PGDip, has been working in environmental consultancy since 2019. She is a qualifying member of CIEEM and holds a BSc and Postgraduate Diploma in related subjects. Jade's primary experience includes Preliminary Ecological Appraisal, Ecological Assessment, protected species surveys, project and schedule management and Ecological Clerk of Works. Jade holds a Natural England Class 1 licence for Great Crested Newts.

2.7.4 Stephanie Benden BSc, MSc, has been working in environmental consultancy since 2018. Steffi is a qualifying member of CIEEM. Her primary experience comprises Preliminary Ecological Appraisal, Ecological Clerk of Works, report writing, reptile translocations, completion of bat emergence/re-entry and activity surveys and analysis of bat sound files. Steffi is a trainee bat carer working under the supervision of a Bat Conservation Trust registered carer.

2.7.5 Yasmine Garland BSc, MSc, has been working in environmental consultancy since 2021. She holds a BSc and MSc in related subjects. Her primary experience comprises Preliminary Ecological Appraisals, Preliminary Roost inspections, report writing, protected species surveys and analysis of data collection.

2.7.6 Lainey Wilkinson BSc, MSc, has been working in environmental consultancy since 2020. She holds a BSc and MSc in related subjects. Her primary experience comprises Preliminary Roost Assessments and subsequent report writing, completion of bat emergence/re-entry and activity surveys and analysis of bat sound files.

2.7.7 Helen Saunders BSc (Hons), PGDip, MCIEEM has worked in ecological consultancy since 2012 and is an experienced project manager and environmental survey coordinator, including for major infrastructure projects. She is a full member of CIEEM and skilled in undertaking various ecological surveys including Preliminary Ecological Appraisal, protected species surveys and habitat condition assessment for Biodiversity Net Gain. Helen has also provided advice on wildlife legislation and planning policy including commenting on ecological matters regarding planning applications on behalf of local planning authorities.

2.7.8 Jana Prapotnikova has worked in consultancy sector since 2006 with a focus on mammalian ecology, particularly bats and badgers. Jana runs Abricon's Ecology Department as well as being involved in project delivery. She has managed various ecological projects and has expertise in a range of ecological survey techniques including Phase 1 habitat assessments and a variety of protected species surveys (e.g. the aforementioned mammal species as well as reptiles and great crested newts). Jana also devises ecological mitigation schemes for a variety of protected species. She is well versed in producing preliminary ecological appraisals, BREEAM/CSH Ecology Assessments, protected species licences, Ecological Impact Assessments (EcIA), Construction Environmental Management plans, Biodiversity Enhancement Schemes and Ecological Design Strategies. Jana holds Natural England and Natural Resources Wales Class 2 licence for bats as well as Natural England Class and Natural Resources Wales Class 1 licence for great crested newts. She is also a Registered Consultant of the Bat Low Impact Class Licence (BLIC) and holds a CSCS card. Jana is a full member of Chartered Institute of Ecology and Environmental Management (MCIEEM).

2.7.9 Harry Wollacott BSc began working in consultancy in August 2023. He holds a BSc in related subjects. His primary experience consists of protected species surveys, analysis of bat sound files and Ecological clerk of works.

2.7.10 Dan Flew has worked in the consultancy sector since 2011 with a focus on protected species, particularly bats. Dan holds Natural England and Natural Resources Wales Class 2 licence for bats as well as a NE Class 1 licence for great crested newts and a NE barn owl survey licence, and he holds an MSc in related subjects. Dan is subcontracted to Abricon as a licenced bat ecologist.

2.7.11 Aidian Pick, Rhys Webb, David Rocheford, Lucy Goreham, Harry Bailey, Nathan Palmer, Aaron Poole, Millie Williams, Angelica Plumb, Sophie Thompson, Lily Carlisle, and Charlotte Ghali work as Field Surveyors for Abricon Ltd., primarily as assistants on bat emergence/re-entry and activity surveys.

2.8 Limitations

General Ecological Constraints

2.8.1 This survey only offers a “snapshot” of the site conditions and takes no account of seasonal differences, or of any species which may take up residence subsequently.

Site Specific Constraints

2.8.2 One pond within the buffer was not surveyed as it was located on private land.

2.8.3 Internal inspections of all of the voids within each block was not possible due to access restrictions (tenancy related reasons), however inspections of approximately 38% of the voids (21 out of the 54 voids) was carried out.

2.8.4 Internal inspections of all the garages were not possible due to access restrictions (tenancy related reasons), however inspections of approximately 38% of all garages (18 out of 48 garages) were carried out.

3 Desk Study Results

3.1 Statutory and Non-Statutory Designated Sites for Nature Conservation

3.1.1 There are no statutory designated sites and twelve non-statutory designated sites were identified within 2km of the development site. Further details are provided in Table 3 below.

Table 3 - Designated Sites within 2km

Site Name	Designation	Reason for Designation	Approximate Distance from Site
Non-Statutory Sites			
Warmley Brook	Site of Nature Conservation Interest (SNCI)	Flowing open water bank with diverse vegetation including species such as Alder, Reed Mace, Fools Watercress and Canary Reed-grass.	550m east
Siston Common South	SNCI	A neutral grassland and acidic grassland with species including Corky-fruited Water-dropwort and Quaking-grass.	650m east
Siston Common North	SNCI	This site consists of neutral grassland.	650m east
Rodway Common	SNCI	An un-improved acid grassland, marshy grassland and semi-improved grassland with broadleaved woodland.	1,000m north-east
Mangotsfield Golf Course Marsh	SNCI	Semi-improved neutral grassland and marshy grassland with flowing open water and bankside vegetation.	1,350m north-east
Warmley Forest Park	SNCI	A calcareous grassland and neutral grassland with scrub including species such as Rats-tail Fescue, Smooth Brome, Stinking Iris, Sweet-briar and Alder Buckthorn.	1,500m south-east
Land to Rear of Acacia Avenue	SNCI	A broadleaved woodland with semi-improved grassland surrounding the woodland.	1,600m north-west
Easton-Staple Hill Disused Railway	SNCI	This site consists of multiple habitats including grassland, scrub, secondary woodland, tall ruderal vegetation and planted trees.	1,650m north-west
Cock road Ridge	SNCI	This site consists of neutral grassland and scrub.	1,650m south
Potterswood Field	SNCI	This site consists of multiple habitats including neutral grassland, scrub and broadleaved woodland.	1,850m south-west
Magpie Bottom (Bristol)	SNCI	A brook with ruderal vegetation and scrub. This site has importance to breeding birds.	1,900m south-west
Part of Dramway	SNCI	A semi-natural broadleaved woodland with a pond.	2,000m south-east

3.2 Protected Species

3.2.1 The data search identified no protected species records within the site boundary. However, a number of records of protected species were returned from within the 2km search area since 2011. A selection of these considered most relevant are detailed in Table 4 below.

3.2.2 It should be noted that a lack of records does not constitute proof of the absence of a species from an area and can often be put down to a lack of ecological recording.

Table 4 – Protected Species Records within 2km (2011-2021)

Common Name	Scientific Name	Number of Records	Year of Most Recent Record	Additional Information
Bats				
Common Pipistrelle	*Pipistrellus pipistrellus*	6	2017	Closest record is 1,700m west (closest roost record 1,750m west).
Soprano Pipistrelle	*Pipistrellus pygmaeus*	1	2014	Record from 1,700m south-east (roost record).
Noctule	*Nyctalus noctula*	3	2017	Closest record is 1,700m west (no roost records).
Lesser Horseshoe	*Rhinolophus hipposideros*	1	2016	Record from 2,000m south-east (roost record).
Mammals				
Eurasian Badger	*Meles meles*	71	2018	Closest sett record is 500m south-west.
Eurasian Otter	*Lutra lutra*	7	2019	Closest record is 850m north-east.
West European Hedgehog	*Erinaceus europaeus*	2	2018	Closest record is 750m south.
Water Vole	*Arvicola amphibius*	1	2017	Closest record is 750m east.

3.3 European Protected Species Licences (EPSL)

3.3.1 A check using the UK Governments Countryside and Geographic Information website (MAGIC) (http://www.magic.gov.uk) was made on 25/10/23. The check identified two previous EPSL applications for bats within 2km of the site (listed below), of which species includes common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auritus*.

3.3.2 Known EPSL within 2km of the site (listed by distance from site – closest first):

- EPSM2010-1871– Licence Start Date: 28/05/2010, License End Date: 30/04/2012, Species covered: Common pipistrelle and Soprano Pipistrelle – Resting places.
- EPSM2010-2372 – Licence Start Date: 12/10/2010, License End Date: 11/10/2012, Species covered: Brown Long Eared – Resting place.

3.4 NERC Species and Habitats of Principal Importance

3.4.1 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 lists a number of species (943) and habitats (56) of principal importance in England; a selection of those considered potentially relevant to the site are detailed in Table 5 and Table 6.

Table 5 – NERC Species of Principal Importance (a selection of 16 species out of 943)

Common Name	Scientific Name
Bats	
Barbastelle Bat	*Barbastella barbastellus*
Bechstein's Bat	*Myotis bechsteinii*
Brown Long-eared Bat	*Plecotus auritus*
Greater Horseshoe Bat	*Rhinolophus ferrumequinum*
Lesser Horseshoe Bat	*Rhinolophus hipposideros*
Noctule Bat	*Nyctalus noctula*
Soprano Pipistrelle Bat	*Pipistrellus pygmaeus*
Reptiles	
Adder	*Vipera berus*
Grass Snake	*Natrix helvetica*
Slow-worm	*Anguis fragilis*
Amphibians	
Great Crested Newt	*Triturus cristatus*
Terrestrial Mammals	
Dormouse	*Muscardinus avellanarius*
Otter	*Lutra lutra*
West European Hedgehog	*Erinaceus europaeus*
Birds	
House sparrow	*Passer domesticus*
Skylark	*Alauda arvensis*

Table 6 – NERC Priority Habitats (a selection of 1 habitat out of 56)

Habitats	
Hedgerows	Ponds

4 Field Survey Results and Evaluation

4.1.1 The following section describes the habitats and notable species (or signs of) recorded during the field survey. Please refer to the following figures and appendices:

- Figure 3 – Phase 1 Habitat Survey Plan
- Appendix A – Wildlife Legislation and Policy
- Appendix B – Site Photographs

4.2 Habitats

Buildings

4.2.1 The site contained eleven residential buildings and six garage blocks. A brief description of these buildings is provided below.

Table 7 - Building Descriptions

Building	Description
B1 – B6, B8, B10 & B11	Nine brick-built buildings (covered with pebble dash render and exposed brick on the gable ends) and PVC fascia and soffit boards. The roofs were pitched with concrete interlocking roof tiles. All buildings have voids lined with bitumen lining and had either unbind cellulose insulation or fibre glass wool insulation.
B7 & B9	Two brick-built buildings (covered with pebble dash render and exposed brick on the gable ends) and PVC fascia and soffit boards. The roofs were pitched with concrete interlocking roof tiles. All buildings have voids lined with bitumen lining and had either unbind cellulose insulation or fibre glass wool insulation. Hanging tiles present on the southern (B7) and northern (B9) elevations (first floor level only).
Garage blocks	Seven terrace style single storey concrete-built garages with flat corrugated metal roof (unlined) were present along Barrington Close.

Developed Land, Sealed Surface – u1b

4.2.2 Hardstanding is present in the form of walkways (mostly concrete) surrounding the buildings. There is a concrete car parking area in the centre and north of the site surrounding the garages.

Modified Grassland – G4

4.2.3 Areas of well managed modified grassland are present in all parts of the site. Most areas (at the time of survey) had an average sward height of approximately 5cm. Species were dominated by rye grass *Lolium poaceae*, common daisy *Bellis perennis* and dandelion *Taraxacum officinale*.

Urban – Vegetated Garden (838)

4.2.4 Areas of well managed garden surrounding each residential block, it consisted of similar species to the modified grassland with some ornamental species including rose *Rosa sp.,* dog rose *Rosa canina* and Hydrangea *Hydrangea cornales*.

Individual Urban Trees

4.2.5 A number of individual trees (mostly semi-mature) were present in various locations throughout the site. Species present included oak *Quercus robur*, ash *Fraxinus excelsior*, hornbeam *Carpinus betulus*, hawthorn *Crataegus monogyna* and lime *Tilia x europaea*.

Native Hedgerow

4.2.6 Species poor defunct native hedgerow was present boarding Barrington Close. The hedgerow was approximately on average 0.5m high and 0.5m wide at the time of the survey.

The hedgerow consisted predominantly of beech *Fagus sylvactica*, but other species were present including bramble *Rubus fruiticosus agg*. and hawthorn *Crataegus monogyna*.

Figure 3 – Baseline Habitats Map

4.3 Badger

4.3.1 The data search identified 71 records of badger *Meles meles* within 2km of the site.

4.3.2 No badger setts, or other field signs indicating the presence of a nearby sett (e.g. latrines, badger hairs, or footprints) were identified within the site boundary. The site offered limited suitability for badgers, although the modified grassland could provide a foraging resource for local badger groups (looking for worms and grubs).

Evaluation

4.3.3 While there is the potential for badgers to utilise the site for foraging/commuting purposes, no setts or evidence of sett building, or evidence of foraging activity was identified onsite. As a result, the site was considered to be of no more than low value for foraging badgers. Taking all factors into account, badgers are highly unlikely to be on site and will not be considered further within this report.

4.4 Bats

Buildings

B1 – B11

4.4.1 No evidence of bats was identified within the buildings during the update internal and external inspections.

4.4.2 Potential Roosting Features (PRF) were present on the interior and exterior of the buildings that were considered to be suitable for use by bats for roosting. These included:

- Roof voids;
- Gaps between the roof tiles and lining;
- Ridge line;
- Gaps underneath the hanging tiles (B7 and B9 only).

4.4.3 Access points to these features included:

- Gaps under/in weather boards;
- Lifted/missing roof tiles and hanging tiles (B7 and B9);
- Lifted lead flashing;
- Gaps under ridge tiles;
- Missing mortar under verge tiles.

Garages

4.4.4 The garages onsite were inspected, and no evidence of bats or suitable roosting features were identified.

Ground Level Tree Assessment

4.4.5 Numerous bat records were identified during the data search from within 2km of the site. The trees onsite were inspected from the ground and no roosting features were identified.

Site

4.4.6 The modified grassland, individual urban trees and areas of vegetated garden likely support a relatively low diversity and abundance of invertebrates, and therefore likely provide some, albeit limited, opportunities for foraging bats.

Evaluation

Buildings

B1 – B11

4.4.7 B1 – B6, B8, B10 and B11 were assessed as being of ‘low’ potential and B7 and B9 were assessed as being of ‘moderate’ potential for roosting bats (mainly due to additional hanging tile features), due to number and type of roosting features, site’s location and other factors like presence of street lighting, in accordance with the BCT guidelines.

Garages

4.4.8 No evidence of bats was identified during the inspection of the garages. The garages have been graded as having negligible potential for roosting bats due to lack of suitable roosting features. The garages will not require further surveys and will not need to be considered further in this report.

Trees

4.4.9 No suitable PRFs were noted on any of the trees on site. All trees within the site were assessed as being of 'negligible' suitability for roosting bats. The site is situated in an urban location with multiple streetlights with bats identified using the streetlights for foraging along Barrington Close. The trees will not require further surveys and will not need to be considered further in this report.

Site

4.4.10 The site is considered to be of negligible value for foraging and commuting bats due to urban setting.

4.5 Bats - Emergence Surveys

Summary

4.5.1 One emergence survey was completed on buildings B1 – B6, B8, B10 and B11 between June and July 2023 which is in line with survey guidelines for buildings with low suitability for roosting bats. Two Emergence/re-entry surveys were completed on buildings B7 and B9 between June and July 2023 which is in line for buildings with moderate suitability for roosting bats. As roosting bats were detected within B1 during the first emergence survey, additional emergence survey was carried out on this building.

4.5.2 Over the course of these surveys a minimum of four bat species were heard passing through, foraging and/or commuting on/near the site, these were: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule* and serotine *Eptesicus serotinus*.

4.5.3 One common pipistrelle was identified emerging from B1 during the first dusk survey and one common pipistrelle was identified emerging from B1 during the second dusk.

4.5.4 No bats were identified emerging from buildings B2 – B11 during the surveys.

26/06/2023 Dusk Emergence Survey – B1 + B2

4.5.5 One common pipistrelle emerged from the gable end from a gap formed by missing mortar under one of the verge tiles on the north-western elevation of B1 at 22:01 (EM1, Appendix B & E).

4.5.6 No bats were identified using buildings B2 as a roost during the dusk survey.

4.5.7 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 164 calls, noctule – 10 calls and serotine – 2 calls.

4.5.8 The common pipistrelles were seen commuting and foraging around the buildings and the southern field.

28/06/2023 Dusk Emergence Survey – B3 + B4

4.5.9 No bats were identified using buildings B3 and B4 as a roost during the dusk survey.

4.5.10 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 66 calls, and serotine – 1 call.

4.5.11 The common pipistrelles were seen commuting and foraging around the buildings and the southern field.

03/07/2023 Dusk Emergence Survey – B5 + B6

4.5.12 No bats were identified using buildings B5 and B6 as a roost during the dusk survey.

4.5.13 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 269 calls, and noctule – 1 call.

4.5.14 The common pipistrelles were seen commuting and foraging around the buildings and the southern field.

05/07/2023 Dusk Emergence Survey – B7

4.5.15 No bats were identified using buildings B7 as a roost during the dusk survey.

4.5.16 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 142 calls, and noctule – 2 calls.

4.5.17 The common pipistrelles were seen commuting and foraging around the buildings.

11/07/2023 Dusk Emergence Survey – B9

4.5.18 No bats were identified using buildings B9 as a roost during the dusk survey.

4.5.19 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 54 calls, and noctule – 6 calls.

4.5.20 The common pipistrelles were seen commuting and foraging around the buildings and trees.

12/07/2023 Dusk Emergence Survey – B10

4.5.21 No bats were identified using buildings B10 as a roost during the dusk survey.

4.5.22 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 17 calls, and noctule – 5 calls.

4.5.23 The common were seen commuting and foraging around the buildings and trees.

13/07/2023 Dusk Emergence Survey – B11

4.5.24 No bats were identified using buildings B11 as a roost during the dusk survey.

4.5.25 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle –69 calls, and noctule – 10 calls.

4.5.26 The common pipistrelles were seen commuting and foraging around the buildings and trees.

18/07/2023 Dusk Emergence Survey – B7

4.5.27 No bats were identified using buildings B7 as a roost during the dusk survey.

4.5.28 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 218 calls, and noctule – 10 calls.

4.5.29 The common pipistrelles were seen commuting and foraging around the buildings.

25/07/2023 Dusk Emergence Survey – B1

4.5.30 One common pipistrelle emerged from underneath a lifted tile on the southern roof elevation of B1 at 21:53 (EM2, Appendix B & E).

4.5.31 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 37 calls, and noctule – 21 calls.

4.5.32 The common pipistrelles were seen foraging around the buildings and the southern field. Noctules were seen commuting through the site.

27/07/2023 Dusk Emergence Survey – B8 + B9

4.5.33 No bats were identified using buildings B8 and B9 as a roost during the dusk survey.

4.5.34 The following bat species were identified commuting over or near to the site during the survey; common pipistrelle – 77 calls, noctule – 71 calls and serotine – 4 calls.

4.5.35 The common pipistrelles were seen commuting and foraging around the buildings and trees.

Evaluation

4.5.36 The emergence surveys undertaken in June and July 2023 identified that B1 is being used as a day roost by low numbers (peak count of 1) of common pipistrelle bats.

4.5.37 The number of roosting bats within B1 is low, therefore it is considered that the individuals are either males or non-breeding females.

4.5.38 Taking into account the species and number of bats identified roosting within the buildings during the update surveys conducted in 2023, it is considered that the site/buildings are generally of low conservation significance (Mitchell-Jones, 2004).

4.5.39 No bats were observed emerging from the B2 – B11 during the emergence surveys conducted on the site in 2023. It is therefore considered that bats are likely absent from these buildings.

4.6 Birds

4.6.1 No birds were encountered during the surveys. The scattered trees, hedgerow and areas of introduced shrubs/soft landscaping within the site provide opportunities for nesting birds. The buildings may also be utilised for nesting/roosting by species such as jackdaws *Corvus monedula*, swallows *Hirundo rustica*, house martin *Delichon urbicum* and tit species *Parus sp.* Although no evidence of these species was recorded during the update building inspection.

Evaluation

4.6.2 The site provides ample nesting opportunities within the scattered trees and buildings.

4.7 Dormouse

4.7.1 The data search identified no records of dormouse *Muscardinus avellanarius* within 2km of the site. No signs of dormice were encountered during the survey and no suitable dormouse habitat was found to be present on site, the site is completely surrounded by residential areas, is well lit by street lighting and is poorly connected to wider landscape.

Evaluation

4.7.2 Taking all factors into account, dormice are highly unlikely to be on site and will not be considered further within this report.

4.8 Great Crested Newt

4.8.1 The data search identified no records of great crested newt *Triturus cristatus* within 2km of the site.

Observation of OS maps and aerial photography show that there is one pond within 500m of the site (285m south shown in

4.8.2 Figure 4). However, there is a busy road (Cheltenham Road) and extensive build-up residential areas between the site and this pond which are both considered to be barriers to newt dispersal. Furthermore, the habitats present on site (in the form of well managed modified grassland and gardens) are considered suboptimal for great crested newts due to lack of shelter.

Evaluation

4.8.3 Despite the one pond being 285m south of the site, it is considered highly unlikely that great crested newts are present onsite, nor will individuals be affected by the proposed development and so they will not be considered further in this report.

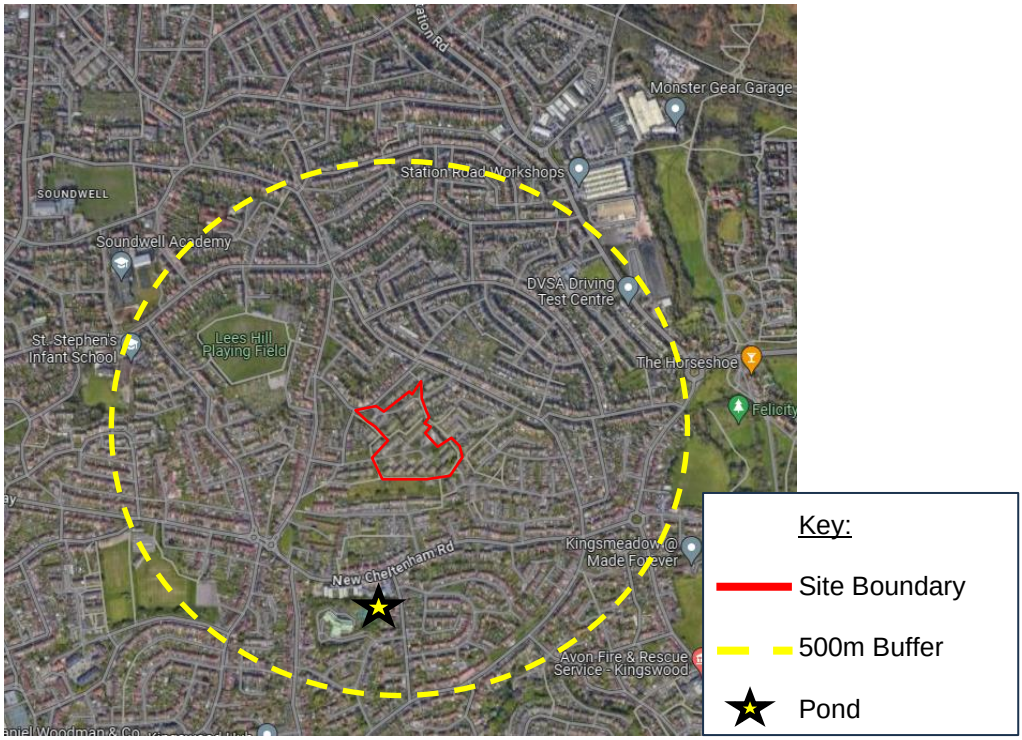

Figure 4 - Pond Location (500m buffer)

4.9 Reptiles

4.9.1 The data search identified no reptile records from within 2km of the site. Similarly, to great crested newts, the site is considered to provide limited habitat for these species within the well managed modified grassland and gardens sections due to lack of shelter.

Evaluation

4.9.2 Given the isolated nature (site is completed surrounded by other well managed residential gardens and modified grassland) and suboptimal quality of habitat on the site, it is considered unlikely that reptiles are present on the site, and they will not be considered further in this report.

4.10 Hedgehog

4.10.1 The records search identified 5 records of hedgehog Erinaceus europaeus.

4.10.2 The site is considered to provide limited habitat for these species within the amenity grassland sections due to lack of shelter. However, it does provide some foraging opportunities in the modified grassland sections as this species is typically found in rural and sub-urban environments.

Evaluation

4.10.3 While no evidence of hedgehog was identified onsite, the site may support populations of hedgehogs in combination with neighbouring greenspaces.

4.11 Other Protected or Notable Species

4.11.1 There were no indications during the survey or from the information gathered during the desk study that any other protected or notable species may be using the site or may be impacted by the development.

5 Assessment of Impacts

5.1 Statutory and Non-Statutory Sites for Nature Conservation

5.1.1 There are no statutory designated sites for nature conservation and 12 non-statutory designated sites for nature conservation within 2km of the development site. The closest of these sites to the proposed development area is Warmley Brook, which is located 550m east of the surveyed land.

5.1.2 The projected works are confined within the site boundary: therefore, it is anticipated that the proposed development will have no direct impact on the non-statutory designated sites within 2km.

5.1.3 The proposed development site is situated on a site that is currently occupied by a residential development. The site currently supports 11 residential flat blocks (4 – 8 flats within each block) which are proposed for demolition and replacement with 85 dwellings which may result in a slight increase in the number of occupants and subsequent increase recreational pressure on nearby designated sites (Warmley Brook SNCI).

5.2 Habitats

5.2.1 All the habitats on site are common and widespread. The botanical species found in the habitats on site are also common and widespread. The proposed development includes the loss of most habitats on site. Only outline landscape plans were available at the time of writing this report, therefore an accurate assessment on biodiversity and green infrastructure cannot be provided.

5.2.2 Also, in line with new legislation (Environment Act, 2021), from January 2024 a Biodiversity Net Gain assessment will be required to quantify the loss the baseline habitat units and provide recommendations to achieve the mandatory *minimum* 10% biodiversity net gain.

5.3 Bats

5.3.1 All bat species within the UK are protected by national and international legislation.

Habitat Losses, Fragmentation and Increases in Artificial Lighting

5.3.2 The proposed development could result in the loss of the existing habitats within the site (predominately scattered trees, modified grassland and hardstanding), which is believed to be replaced by relatively similar habitats associated with a residential development, such as gardens, hardstanding and small areas of modified grassland.

5.3.3 As the site comprises eleven residential blocks, the habitats within the site are already subject to a significant degree of artificial light spill at night and during the surveys common pipistrelle bats were observed feeding around the streetlights. It is assumed that the proposed development will likely result in the same level of light spill although no lighting plans were available at the time of writing.

5.3.4 Although lighting plans were not available at the time of writing, a significant increase in external or street lighting levels may deter bats from utilising the site in the future for commuting and foraging purposes. In the absence of mitigation, this could constitute a minor adverse impact at a site/ local level.

5.3.5 With mitigation, through the implementation of a sensitive lighting and landscaping plan, indirect impacts of the development can be minimised and a positive impact for commuting and foraging bats could be achieved.

Roosting Bats

Building B1

5.3.6 Common pipistrelle day roost was identified to be present in B1 during the 2023 emergence surveys.

5.3.7 In the absence of mitigation, it is considered that the proposed demolition of B1 will result in the loss of common pipistrelle day roost, and potentially the disturbance and accidental killing and/or injury of bat/s during the demolition phase. This would be considered a significant adverse impact on bat species.

5.3.8 With mitigation including preparation of mitigation strategy and obtaining a Bat Mitigation License, it is considered that after an initial short-term adverse impact, a long-term, positive impact can be achieved by securing and increasing the number of bat roosting features available on the site.

Buildings B2 – B11

5.3.9 No roosting bats were found to be present within building B2 – B11 during emergence surveys. It is therefore considered that the planned demolition will have no impact on bats.

Garages

5.3.10 No evidence of bats was identified during the inspection of the garages.

5.3.11 The garages have been graded as having negligible potential for roosting bats due to lack of suitable roosting features, it is therefore considered that the removal of the garages will have no impact on bats.

5.4 Birds

5.4.1 All birds within the UK are protected whilst nesting.

5.4.2 The site provides ample nesting opportunities within the scattered trees and buildings.

5.4.3 It is assumed that some suitable nesting bird habitat will be impacted by the development, however there is a ready availability of optimal habitat for nesting birds nearby. No nesting bird evidence found during the survey suggests that the habitats and buildings are unlikely to be of more than a low local value to birds.

5.4.4 Without mitigation, the proposed works may result in the destruction of nests and possible killing, injury, and disturbance of birds and/or dependent young. This would therefore constitute a certain long-term adverse impact.

5.4.5 With mitigation, impacts upon birds can be avoided.

5.5 Hedgehog

5.5.1 The removal of a small area of species-poor modified grassland and vegetated gardens within the site is considered unlikely to result in any significant impacts upon local hedgehog populations.

5.5.2 The risk of accidental killing/injury of hedgehogs within this habitat during site clearance is considered to be negligible, due to the relatively short sward height which is regularly maintained throughout the year. However, given that hedgehogs are a wide-ranging species frequently found in suburban environments, recommendations are made within Section 6.3 below to avoid any residual risk.

5.5.3 The development provides an opportunity to make enhancements which would improve the site's potential as a habitat for local hedgehog populations.

6 Recommendations

6.1 Further Actions

6.1.1 The results of this ecological impact assessment have highlighted the requirement for further actions.

Species/Groups	Phase	Action(s) Required
Habitats	Design Stage	The proposal should seek to contain diverse native planting wildlife which will also have wildlife benefits.
	Prior to Planning Determination	A biodiversity net gain (BNG) report should be compiled and submitted alongside the planning application.
Bats	Once Planning Consent is Granted but Prior to Works affecting B1 commence	A BML or BMCL will be required from Natural England once planning consent is granted, in order to enable demolition of B1 to proceed legally (refer to the Outline Mitigation Plan in Appendix E).
	Design	Artificial lighting designed sensitively to minimise impacts of artificial lighting on boundary features and other adjacent habitats of value to foraging/commuting bats.
Birds	Site Clearance	Timing of site clearance and demolition to be undertaken outside of the nesting bird season (generally considered to be between March to August inclusive). If this is not possible, the area will be searched by a suitably qualified ecologist to check for active nests. Should an active nest be found, a suitable buffer will be placed around the nest where no works will occur until the chicks have fledged, or the nest is no longer active, as confirmed by the ecologist.
Hedgehogs (and Small Mammals)	Construction	Protocols will be put in place to ensure that any pits or excavations that are left open overnight are suitably prepared to stop animals becoming trapped.
Ecological Enhancements	Design and Construction	Ecological enhancements should be included within new developments in line with requirements set out in the National Planning Policy Framework (NPPF, 2023). Recommendations made in Section 6.6.

6.1.2 below provides a summary of the works required, whilst details are provided in the following paragraphs.

Table 8 – Table of Further Actions

Species/Groups	Phase	Action(s) Required
Habitats	Design Stage	The proposal should seek to contain diverse native planting wildlife which will also have wildlife benefits.
	Prior to Planning Determination	A biodiversity net gain (BNG) report should be compiled and submitted alongside the planning application.
Bats	Once Planning Consent is Granted but Prior to Works affecting B1 commence	A BML or BMCL will be required from Natural England once planning consent is granted, in order to enable demolition of B1 to proceed legally (refer to the Outline Mitigation Plan in Appendix E).

	Design	Artificial lighting designed sensitively to minimise impacts of artificial lighting on boundary features and other adjacent habitats of value to foraging/commuting bats.
Birds	Site Clearance	Timing of site clearance and demolition to be undertaken outside of the nesting bird season (generally considered to be between March to August inclusive). If this is not possible, the area will be searched by a suitably qualified ecologist to check for active nests. Should an active nest be found, a suitable buffer will be placed around the nest where no works will occur until the chicks have fledged, or the nest is no longer active, as confirmed by the ecologist.
Hedgehogs (and Small Mammals)	Construction	Protocols will be put in place to ensure that any pits or excavations that are left open overnight are suitably prepared to stop animals becoming trapped.
Ecological Enhancements	Design and Construction	Ecological enhancements should be included within new developments in line with requirements set out in the National Planning Policy Framework (NPPF, 2023). Recommendations made in Section 6.6.

6.2 Habitats

6.2.1 It is recommended that a biodiversity net gain calculation and report is submitted alongside the planning application in attempt to achieve a no net loss in biodiversity as a minimum. For any habitats lost (if applicable), replacement planting should be considered.

6.2.2 Some grassland areas should be planted with a native flowering mix as opposed to monoculture rye grass; this mixture should contain at least ten different herb and grass species. Similarly, any proposed street trees or hedgerows should, where possible, comprise native species, or species of known value for wildlife such as pollinating insects.

6.2.3 Good horticultural practices should be used when managing any vegetation on site. This would include the use of peat-free composts, mulches and soil conditioner, and avoiding the use of herbicides, pesticides and fertilisers within landscape planting areas. In the event that the use of pesticides is unavoidable, those used should be non-residual.

6.3 Bats

Roosting Bats

Buildings B1

6.3.1 The emergence surveys identified that the building is being used as a day roost by low numbers of common pipistrelles. A Bat Mitigation Licence (BML) or Bat Low Impact Mitigation Class Licence (BMCL) registration will be required from Natural England, in order to allow works which would otherwise be illegal. The licence must be in place prior to any works being undertaken which could impact on bat roosts, and where consents are required (planning, listed building etc), these must be in place prior to applying.

6.3.2 Mitigation for the loss of day roosts will be required and an outline mitigation strategy for bats is included in Appendix E of this report. A detailed mitigation statement will be formulated concurrently with the final site designs, work plan and schedule, and will form the basis of the Natural England licence application.

6.3.3 Natural England take a minimum of 30 working days (10 working days for low impact licenses) to assess an application.

Buildings B2 – B11 and Garages

6.3.4 Roosting bats are considered to be likely absent from B2 - B11 and garages, and therefore no further works are considered necessary.

6.3.5 In the unlikely event that bats, or evidence of bats are found during the demolition of the buildings, all works must immediately cease and a bat licenced ecologist must be contacted for further advice. The bat licenced ecologist will inform NE and advice on the necessarily actions required to enable the development to proceed. This would either involve a modification to the EPS mitigation licence submitted for the known roosts, or a separate licence application. Works cannot proceed until the licence is granted.

Foraging/Commuting Bats

6.3.6 It is anticipated that the proposed development will receive some form of external night-time illumination, although information and plans to this end have not been produced at the time of writing. Best practice measures to minimise light spill from the proposed development should be adopted in order to prevent the exclusion of light-sensitive species from the site and immediate surroundings. External lighting within the development should adhere to overarching principles in order to minimise the potential impact of artificial lighting on bats in the surrounding area, beyond that which is necessary. These principles include the following:

- Height of security or other external luminaires (if required) will be carefully considered to ensure minimal light spill on to adjacent habitats is achieved;
- A warm white spectrum (<2700 Kelvin) will be adopted on all external lighting, as this will reduce the potential impacts of blue light upon wildlife;
- If/where external security lighting is required, these should be set on motion-sensors and/or timers to minimise unnecessary artificial lighting at night. These lights should also be directed away from adjacent hedgerows and trees (where relevant), and be of the lowest intensity/brightness necessary for their purpose.

6.4 Birds

6.4.1 Suitable habitat for nesting birds on the site is present within hedgerows, trees, shrubs and buildings. Therefore, any works to these habitats, including demolition of the buildings and removal of woody vegetation should be undertaken outside of the nesting bird season. The breeding season is influenced by the climatic conditions of a given year but is generally taken to be between March and August inclusive.

6.4.2 Should the removal of suitable nesting bird habitat or demolition of the buildings be required between March and September inclusive, affected areas should be subject to a nesting bird check by a suitably experienced ecologist immediately prior to the commencement of works, in order to establish whether any active nests are present. A suitable buffer (minimum of 5m) around the nest would be implemented where no works can be undertaken until such time as the chicks have fledged or it is no longer active, as confirmed by the suitably experienced ecologist.

6.5 Hedgehogs (and Small Mammals)

6.5.1 Although hedgehogs and other small mammals will not be directly affected by the proposed development, the following precautionary measures will be adopted during the construction phase of the scheme to prevent harming hedgehogs and other small animals that may forage/commute through the site:

- Any trenches or excavations over 1m in depth will be covered overnight to prevent badgers (and other mammals) from becoming trapped. Alternatively, a piece of wood or similar will be placed within each uncovered trench/excavation at a shallow angle to provide any trapped animals a means of escape.
- Any temporarily exposed open pipe system larger than 100mm in diameter should be capped overnight to prevent badgers and other mammals gaining access when contractors are off-site.

6.6 Enhancements and Planning Policy

6.6.1 Enhancement features for wildlife should be included in new developments to meet the recommendations contained within the National Planning Policy Framework 2023.

6.6.2 At the time of writing, exact locations of mitigation and enhancement features cannot yet be given due to the lack of proposed building elevation plans. Ecological Enhancement Plan should be prepared for the site once the plans have been finalised.

6.6.3 Additional ecological enhancements (as well as the mitigation outlined in Appendix E) on the site will include features for roosting bats, nesting birds, hedgehogs and invertebrates.

6.6.4 In addition to the bat mitigation features noted in Appendix E, a minimum of ten built-in bat boxes (Vivara Pro Build-In Woodstone Bat Box or similar) should be installed as high as possible on the southern elevation/gable ends of new residential dwellings. Boxes should be located close or immediately adjacent to vegetation.

6.6.5 A minimum of five house sparrow boxes (Vivara Pro Woodstone Sparrow Nest Box or Similar) and five swift boxes (Vivara Pro Woodstone Swift Nest Box or similar) should be installed as high as possible on the northern elevation/gable ends of some of the new dwellings. House sparrow and swift boxes will be located beneath an overhang, soffit or eaves.

6.6.6 Where possible, new boundary walls and fences of new dwellings will either have a hedgehog gravel board or a 13x13cm gaps installed at their base to enable hedgehog to move throughout the site. Hedgehog highway signs should be placed above each hole in the fence/wall, so residents understand the reasoning for the gaps.

6.6.7 Furthermore, ten bee bricks (Bee Brick or Bees Block) should be installed on the southern or eastern elevations facing adjacent to existing/ new vegetation.

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UK Governments Countryside Geographic Information website: www.magic.*gov.uk*

Appendix A – Wildlife Legislation & Policy

The Conservation of Habitats and Species Regulations 2017

Certain species are known as European Protected Species (EPS) and these are fully protected under The Conservation of Habitats and Species Regulations (2017). The Conservation of Habitats and Species Regulations (2017) is the transposition of the European Habitats Directive (1992) to UK legislation. Species protected under this legislation include (but is not limited to) bats, dormice *Muscardinus avellanarius*, great crested newts *Triturus cristatus*, otter *Lutra lutra*, sand lizard *Lacerta agilis*, and smooth snake *Coronella austriaca*.

For European Protected Species, it is a criminal offence to:

- Deliberately capture, injure or kill any such species;
- Deliberately disturb wild animals of any such animal;
- Deliberately take or destroy their eggs;
- Damage, destroy, or obstruct access to a breeding site or resting place, whether the animal is present or not;
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European Protected Species, or any part of, or anything derived from, such an animal.

Operations which will affect European Protected Species may require a development licence from the relevant national statutory body for nature conservation, which provides a derogation for an otherwise unlawful activity.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) makes it a criminal offence to:

- Kill, injure, or take any wild bird (with exceptions to species listed in Schedule 2);
- Take, damage or destroy the nest of any wild bird while in use or being built;
- Take or destroy an egg of any wild bird;
- Intentionally kill, injure or take any wild animal listed on Schedule 5;
- Interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places.

Protected Sites

Within the UK, certain sites are afforded protection measures based on their level of importance to wildlife. They fall into two categories; statutorily designated sites and non-statutorily designated sites.

Statutorily designated sites are typically of national or international importance and as such are afforded the greatest levels of protection under various pieces of legislation. Statutory sites include Special Areas of Conservation (SAC), Special Protection Areas (SPA), National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) and RAMSAR sites.

Non-statutorily designated sites are normally designated by local authorities or nature organisations and are typically of local or county wide importance for their conservation interest. Non-statutory sites include Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Importance for Nature Conservation (SINC), Sites of Nature Conservation Importance (SNCI).

Properties of non-governmental organisations such as Wildlife Trusts may also be managed for their importance to biodiversity. These areas often have no statutory basis, but often comprise part of a designated site.

National Planning Policy Framework (2023)

National Planning Policy Framework (NPPF) (2023) sets out Government Policy on Biodiversity and Nature Conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications. NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

The Natural Environment and Rural Communities Act (2006)

Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006) sets out a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) drawn up in consultation with Natural England, provides a guide to local and regional authorities when implementing their duty as defined in Section 40 of the NERC Act 2006;

- “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.” - Section 40(1).
- “Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat”. - Section 40(3).

Appendix B – Site Photographs

Photograph 1: Example of void interior buildings B1 – B11.

Photograph 2: Example of void insulation, unbind cellulose insulation buildings B1 – B11.

Photograph 3: Example of void insulation, fibre glass wool insulation buildings B1 – B11.

Photograph 4: Example of building B1 – B6 southern and western elevations (using B1 as an example) with emergence feature details.

Photograph 5: Example of Building B1 – B6 northern and eastern elevations.

Photograph 6: B7 southern and eastern elevations.

Photograph 7: B7 northern elevation.

Photograph 8: B8 northern and western elevation.

Photograph 9: B8 southern elevation.

Photograph 10: B9 southern elevation.

Photograph 11: B9 northern elevation.

Photograph 12: B10 southern elevation.

Photograph 13: B10 northern elevation.

Photograph 14: B11 southern and western elevation.

Photograph 15: B11 northern elevation.

Photograph 16: Exterior of garages.

Photograph 17: Interior of garages.

Photograph 18: Hedgerow along Barrington Close, hardstanding and individual trees.

Photograph 19: Managed modified grassland and individual trees.

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Rev.	Date	Notes	Init.
1	10.11.23	First Issue	PM
2	29.11.23	Planning Issue	RB
3	04.12.23	Planning Issue	PM

CDM Regulations

Drawing Scale 1:500 @ A1

0 25 50m

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File Name: 21027-NP-XX-XX-DR-A-1002

PLANNING

Job Number	Originator	Zone	Level
21027	NP	XX	XX

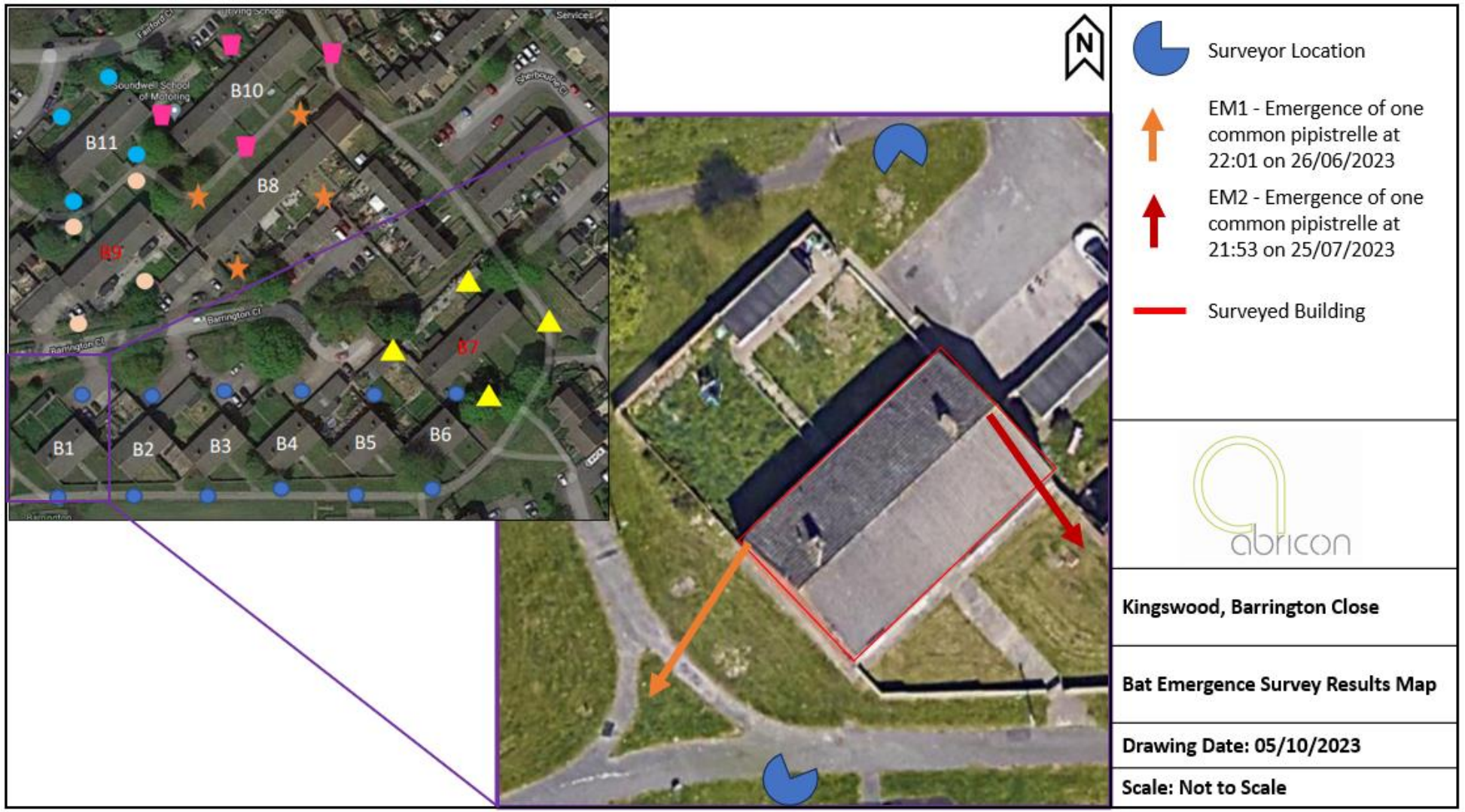
Type	Role	Drawing Number	Revision
DR	A	1002	3

Project
Barrington Close & Fairford Close Kingswood Regeneration

Title
Proposed Site Plan

Drawn by	Project Manager	Scale
PM	AT	1:500 @ A1

Appendix D – Bat Emergence Results



Appendix E – Outline Mitigation plan

Below is an outline mitigation plan that will form the basis for the method statement which will be put forward to Natural England in the BML application.

Please note that this Method Statement is subject to approval by the Local Planning Authority and Natural England.

Proposed works

It is understood that the proposed plans for the demolition of the existing residential dwellings and the construction of new residential dwellings with associated access, parking, and infrastructure.

Demolition of B1 will need to be carried out under BML.

Order of mitigation works

Installation of mitigation on the site prior to start of works;

- Temporary mitigation and BML must be in place before demolition of B1;
- Works can begin under supervision (i.e. check of crevices followed by removal of any bargeboard and fascia boards, lifted lead flashing and roof tiles);
- Unsupervised works can continue once signed off by supervising ecologist;
- Installation of all permanent mitigation features;
- Compliance check.

Timings of works

Temporary mitigation (to be used if bats are found during roof strip) and BML must be in place prior to start of demolition.

B1 is being used as a day roost by low numbers of common pipistrelles bats and therefore no timing constraints are considered necessary to the proposed works.

Mitigation

Temporary Mitigation

To provide a roosting space for bats during the development or if bats are discovered during the roof works, temporary mitigation will be put in place.

One General Purpose Bat Box (or similar woodcrete bat boxes) will be placed as high as possible on retained mature tree on site. This box will be used as temporary mitigation should bats be found during the roof works, however this bat box will remain in place even after development works have been completed as a permanent enhancement feature.

Permanent mitigation

As permanent mitigation for the loss of the common pipistrelle bat roost, one integrated bat boxes (i.e. Integrated Eco Bat Box or similar integrated design) will be installed into the southern or western elevation of one of the new Plots (Plot 73 or 74 for example) as high as possible away from windows.

Supervised works

Certain aspects of the works will be supervised by a suitably licensed and experienced ecologist, to ensure that no harm comes to any bats that may be present.

A tool-box talk will be given to contractors at the start of the works on how to recognise a bat, where they might be found and what to do in the event of finding one.

Removal of the roof, and soffit/fascia boards will be supervised by a licensed bat ecologist. These features will be removed individually by hand and will be checked underneath before discarding.

If bats are found under the roof, they will be captured by the licensed bat ecologist supervising the works and assessed for their potential for release. It is possible (although unlikely) that torpid bats may be encountered during the works. If found bats are in torpor, they will be assessed by the supervising ecologist and if considered suitable for release, they will be placed immediately (great care will be taken not to arouse bats by minimal handling) in woodstone bat box on site.

If during roof works, the weather is mild and the found bats are active (not in torpor) and suitable for release, they will also be placed in general purpose bat box on the oak tree (north of the site).

If bats (torpid or active) are considered unsuitable for release (i.e. injured), they will receive veterinary care as required and be kept in care until they are suitable for release at an appropriate time of year.

If any crevices are discovered in the walls during the works, they will be inspected by a licensed ecologist with the use of an endoscope prior to removal of the feature to establish whether bat(s) are roosting in any of the crevices. The crevice check will take place the same day as the removal works.

If bats are discovered to be roosting in any of the walls or timber cracks or crevices, a decision on how to deal with them will be made on site by the supervising ecologist in light of the conditions on site at the time and the state of the animals themselves. There are a number of options for dealing with them:

- One-way gates will be installed on the opening/s by the ecologist, left in place for a minimum of two weeks and then rechecked to see if bats have left;
- The bat/s will be removed and placed in a bat box on site or in care;
- The gap/crevice will be left undisturbed until a later date and removal re-scheduled.

Monitoring

A compliance check will be completed by a licensed bat ecologist following completion of all the mitigation works. As the site is used by low number of common species of bat, no monitoring is considered necessary.